



# 10<sup>TH</sup> INDERCOS

International Dermatology and Cosmetology Congress

**17 - 20 April 2025**



**Radisson Blu Şişli Hotel  
Türkiye**

**Scientific Program  
Lecture Summaries  
Oral Presentations  
Poster Presentations**

**Allergy and  
Cosmetology  
in Dermatology**





Allergy and Cosmetology in Dermatology

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## INVITATION

**Dear Colleagues,**

We will organize the 10<sup>th</sup> International Dermatology and Cosmetology Conference on April 17 - 20, 2025.

Our file containing detailed sponsorship participation information about the congress is presented to your attention.

We would like to thank you for your ongoing valuable support and we look forward to taking our congress one step further with your support.

we hope to be able to carry it.

Best regards

**Prof. Dr. Ümit Türsen**  
Co-President

**Prof. Dr. Kemal Özyurt**  
Co-President

**Prof. Dr. Katlein Franca**  
Co-President

**Prof. Dr. Şule Güngör**  
Co-President



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Nursel Dilek  
Oktay Taşkapan  
Oleg Pankratov  
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Ömer Kutlu  
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Özge Karstarlı  
Özgür Timurkaynak  
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Pelin Üstüner  
Rafet Koca  
Rafle Fernandez  
Ragıp Ertas  
Recep Dursun  
Roxanna Sadoughifar  
Sanan Kerimov  
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\*Listed alphabetically





# SCIENTIFIC PROGRAM





Allergy and Cosmetology in Dermatology

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## 18 April 2025, Friday

### 07:00-08:00 ORAL PRESENTATION - 1

**Chairs: Erdinç Terzi, Habib Aktaş, Özge Karstarlı**

OP-20, OP-02, OP-03, OP-04, OP-05, OP-06, OP-07, OP-08, OP-09, OP-21, OP-22, OP-34, OP-35, OP-36

### 08:00-08:15 OPENING SPEECH

**Belma Türsen**

### 08:15-09:15 Session: Investigative Dermatology

**Chairs: Tamer İrfan Kaya, Ayşın Köktürk, Engin Şenel**

Tfh and Bfh cells in dermatology	Özgür Gündüz
Molecular characterizations of xerosis cutis	Işıl Bulur
New nanocarrier topicals in dermatology	Zeynep Altan Ferhatoğlu
Acid mantle of skin; What we need to know?	Tahsin Çağdaş Akaslan
Pesticide/Insecticides associated skin diseases	Deniz Demirseren
Timic stromal lymphopoietin in allergy	Hande Arda
Scarring dermatoses and skin cancer association; What is the mechanism?	Serkan Yazıcı

### 09:15-09:45 COFFEE BREAK

### 09:45-11:05 Session: Psycho-Dermatology

**Chairs: İlknur Kıvanç Altunay, Mohammad Jafferany, Belma Türsen, Katlein Franca**

Psychodermatology in allergic diseases	Katlein Franca
Exhaustion-burnout-fatigue in dermatology	İlknur Altunay
Antihistaminics, pruritus and insomnia	Mohammad Jafferany
Suicide risk in dermatologic treatments	Asude Kara Polat
The most important psychophysiologic disorders	Gül Şekerlisoy Tatar
How to deal with an aggressive dermatology patient?	Hilal Kaya Erdoğan
Bullying in patients with skin disease	Vildan Manav
Onychophagia and trichotillomania. Whats new?	Sibel Mercan
Insomnia as a side effect of dermatologic treatment	Ayberk Aktaran
Is cosmetic use a substance use disorder?	İlayda Esna Gülsunay

### 11:05-11:35 COFFEE BREAK



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### 11:35-13:20 Session: Rational Drug Uses Session

**Chairs: Emel Bülbül Başkan, Zafer Türkoğlu, Monika Fida**

Preventing spondyloarthritis

*Emel Bülbül Başkan*

Strong bidirectional relationships in dermatologic comorbidities

*Aylin Türel Ermertcan*

Higher hospitalization risks in dermatology

*Zeynep Topkarcı*

Pain associated dermatoses; How can we manage?

*Mustafa Tunca*

Prevention of weight gain in dermatologic therapy

*Şirin Yaşar*

Rational biologics/small molecules selection for palmoplantar psoriasis

*Özge Akbulak*

Rational biologics/small molecules selection for scalp and nail psoriasis

*Gizem Pehlivan Ulutaş*

Pustular psoriasis; Best treatment options for dermatologist

*Asude Kara Polat*

Anti-IL17 and small molecules for HS

*Monika Fida*

Non-surgical treatment of hidradenitis suppurativa

*Laura Atzori*

Surgical treatments of HS

*Aslı Tatlıpırmak*

Cosmetic and aesthetic dermatology procedures for HS

*Selami Aykut Temiz*

Cardiovascular risks in allergic and inflammatory skin diseases

*Rafle Fernandez*

### 13:20-14:20 LUNCH and SATELLITE SYMPOSIUM

**Effective Protection Against Shingles: Recombinant Innovative Shingles Vaccine**

**Moderator: Ümit Türsen**

**Speakers: Gül den Ersöz, Bilal Doğan**

**GSK**





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### 14:20-16:35 Session: What is New in Dermatologic Treatments - 1 Chairs: Leon Kircik, Ayşenur Botsalı, Katlein Franca, Belma Türsen

Biologics for allergic skin diseases: Which one is good?	Leon Kircik
Evaluation of the use of anti-IL-17A/F blockers in dermatology	Leon Kircik
FDA/EMA approved biologics in pediatric psoriasis	Arzu Kılıç
H4 inhibitors; A new hope in allergy?	Nagihan Sahillioğlu
Topical retinoids in dermatology: What's new?	Ayşenur Botsalı
Phosphodiesterase inhibitors in dermatology	Leon Kircik
Jakinib in Dermatology	Suzanna Ljubojevic
mTOR inhibitors in dermatology	Eda Tiftikçi
Current Jak inhibitors in alopecia areata	Tea Rosovic
The role of anti-OX40 pathway in the pathogenesis of allergy	Elif Yıldırım
Use of anti-IL17 therapies in psoriasis	Neslihan Öğüt
Use of anti-IL23 therapies in psoriasis	Özge Karstarlı
Biologics for erythrodermic psoriasis	Laura Atzori
Improving quality of life in dermatologic treatments for atopic dermatitis	Katlein Franca

### 17:15-18:15 Session: What is New in Dermatologic Treatments - 2 Chairs: Leon Kircik, Stefano Veraldi, Emel Fetil

The place of Jak inhibitors in atopic dermatitis guidelines in dermatology	Leon Kircik
Opening hidradenitis suppurativa centers of excellence in hospitals: What can we do?	Angelo Marzano
Syndromic Hidradenitis Suppurativa	Angelo Marzano
Topical antifungal-corticosteroid combination therapy for superficial mycoses: Expert results	Stefano Veraldi
New skin diseases and rare sexually transmitted diseases	Stefano Veraldi
Future treatments for acne vulgaris	Stefano Veraldi





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## 19 April 2025, Saturday

### 07:00-08:30 ORAL PRESENTATION - 2

**Chairs: Nazlı Caf, Mustafa Tümtürk**

OP-23, OP-24, OP-10, OP-11, OP-12, OP-13, OP-25, OP-26, OP-28, OP-29, OP-31, OP-32, OP-33, OP-14, OP-15, OP-16

### 08:30-10:30 Session: Dermoscopy

**Chairs: Ömer Faruk Elmas, Verce Todorovska, Pınar İnandioğlu Kurtuluş**

Dermoscopic analyses for scalp dermatitis	Asmahane Souissi
Inflamscopy; Enhancing the Diagnosis of Clinically Similar Skin Lesions	Verce Todorovska
Dermoscopy of palisaded neutrophilic and granulomatous dermatitis	Tuğba Kevser Üstünbaş Uzunçakmak
Dermoscopy of Inflammatory Genital Diseases: Practical Insights	Tubanur Çetinarslan
Clinical value of dermoscopy in psoriasis	Çiğdem Oba
Dermoscopy in Monitoring and Predicting Therapeutic Response in inflammatory Dermatology (atopic dermatitis etc)	Tubanur Çetinarslan
Utility of Dermoscopy in the Diagnosis of Erythroderma	Çiğdem Oba
Dermoscopy in Patch Testing	Pelin Eşme
Dermoscopy of early stage mycosis fungoides	Natalia Salwowska
UV florescence and subUV reflectant dermoscopy for inflammatory skin disease	Pawel Pietkiewicz

### 10:30-11:00 COFFEE BREAK

### 11:00-12:30 Marcus Maurer Session: Dermato-Allergy - 1

**Chairs: Esen Özkaya, Kemal Özyurt**

Allergic Contact Dermatitis: Challenging Cases	Esen Özkaya
Standardization problems in allergic skin test	Cahit Yavuz
Allergy testing in serious cutaneous drug reactions harmful or beneficial?	Tunç Özen
What is new in treatment of pruritus?	Aslan Yürekli
An update on chronic pruritus: insights and management	Neha Gupta
Delphi consensus for allergic skin diseases	Mahmut Sami Metin
How can we open UCARE/ADCARE Centers?	Natasha Teovska Mitrevska
Sodium Lauryl Sulfate; What is problem in dermatology?	Zuhal Metin
Chlorhexidine allergy.	Sıla Kılıç Sayar
Pollen allergy; What is new?	Bensu Önentaşçı
Milk associated with Skin Diseases	Bodo Melnik

### 12:30-13:30 LUNCH



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## 19 April 2025, Saturday

### 13:30-14:45 Marcus Maurer Session: Dermato-Allergy - 2 Chairs: Oktay Taşkapan, Ragıp Ertaş, Murat Türk

Exercises related food allergies	Burak Yücel
Alcohol and nonsteroidal antiinflammatory drugs associated foods in Allergy	Burak Yücel
Food immunotherapy; Does it work?	Murat Türk
Gradual introduction of allergic foods; egg ladder and other immunotherapies	Murat Türk
Anti-allergic diet; What is new?	Ragıp Ertaş
Anaphylaxis: What is new?	Güzin Özden
Angioedema; How can we approach?	Oktay Taşkapan
Alpha gal syndrome: Is it common?	Ahmet Metin
An era of Psycho and Neuro dermatology: impacts and advances in management	Neha Gupta
Cinnamaldehyde related skin diseases-	Esranur Ünal
Jewellery associated skin problems	Esranur Ünal

### 14:45-16:15 Marcus Maurer Session: Dermato-Allergy - 3 Chairs: Rafet Koca, Zafer Türkoğlu, Serhat İnalöz

Atopic dermatitis and essential fatty acid metabolism.	Bodo Melnik
Atopic dermatitis and the metabolic syndrome.	Ahmet Uğur Atılan
Atopy and alopecia areata; Can we kill 2 birds with one stone?	Rafet Koca
Atopy and cutaneous lymphoma; What is connection?	Caterina Ferreli
State of the art overview on biologic/small molecule treatment in atopic dermatitis	Zafer Türkoğlu
State of the art overview on biologic/small molecule treatment in urticaria	Zafer Türkoğlu
Treatment emergent anti-drug antibodies in biologic therapy	Ozan Yıldırım
New anti-allergic drugs in dermatology	Özlem Su Küçük
What is new in drug allergies?	Simin Ada
Omalizumab resistance; What is problem?	Özlem Su Küçük
The Use of Bruton's Tyrosine Kinase Inhibitors to Treat Allergic Disorders	Nazlı Caf



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16:15-16:45 COFFEE BREAK

16:45-18:30 Session: General Dermatology

*Chairs: Habib Aktaş, Selami Aykut Temiz, Belma Türsen*

Bromelain in dermatology	Ömer Kutlu
Methylene blue in dermatology	Habib Aktaş
Antiseptics in dermato-surgery	Amor Khachemoune
Acne, rosacea related skin sensitivity	Jelena Stojkovic Filipovic
Gluten associated skin aging; How can we prevent	Zennure Takçı
Contact sensitivity in aesthetic dermatology	Şükran Sarıgül
Histopathological manifestations in common dermatitis	Yasemin Yuyucu Karabulut
Histopathological clues for bullous allergic dermatoses	Yasemin Yuyucu Karabulut
Atopy related-STIs	Bilal Doğan
Proactive treatments in STIs	Mihael Skerlev
Geriatric Zona; How can we prevent?	Kenan Aydoğan
Small molecules in vitiligo	Abdullah Demirbaş
Genital lesions through the eyes of dermatovenereologist	Oleg Pankratov
Resistant fungal infections; what is best treatment	Nursel Dilek
Basic science of wound healing	Sanan Kerimov
Melasma; An update	Ivana Binic



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## 20 April 2025, Sunday

### 07:00-08:00 ORAL PRESENTATION - 3

**Chairs: Ayşegül Botsalı, Özgür Gündüz, Ragıp Ertay**

OP-17, OP-18, OP-19, OP-27, OP-37, OP-38, OP-39, OP-40, OP-41, OP-42, OP-43, OP-44, OP-45, OP-46

### 08:00-09:30 Clinical-Pathologic Correlation For Skin Malignancies

**Chairs: Amor Khachemoune, Mustafa Atasoy, Necmettin Akdeniz, Ayşe Serap Karadağ**

Common skin appendageal tumors	Berna Solak
Malignant appendageal skin tumors - clinical-pathologic correlation	Amor Khachemoune
Common lymphoproliferative disorders	Müge Göre Karaali
Skin appendage involvement in mycosis fungoides	Burcu Bektaş
Rare and unusual skin malignancies	Amor Khachemoune
Melanoma staging	Ömer Faruk Elmas
Spitzoid-looking Lesions	Ömer Faruk Elmas
Cutaneous Lymphoma mimicking inflammatory reactions	Necmettin Akdeniz
The importance of Clinico-pathological Correlation in Cutaneous lymphoid infiltration for correct diagnosis	Mustafa Atasoy
Skin appendageal involvement in melanoma	Burcu Bektaş
Clinicopathologic features between different viral epidemic outbreaks involving the skin	Caterina Ferrelli
Skin cancer treatments for dermatologists	Zoran Nedic

### 09:30-10:00 COFFEE BREAK

### 10:00-11:20 IJAC (International Jordanian Aesthetic Conference) Session: 1

**Chairs: Medhat Abdalmalek, Yasemin Oram, Belma Türsen**

Cosmetic products storage in aesthetic dermatology (PRP, Btx, Stem cells etc)	Munise Daye
Microtoxin strategy for facial aesthetic, skin lifting and skin quality	Ceyda Çaytemel
Aesthetic Dermatology in inflammatory skin diseases	Banu Ertekin Taşkın
Facial cleansing products in aesthetic dermatology	Gül Şekerlisoy Tatar
Facial Hydration Agents in aesthetic dermatology	İlayda Esna Gülsunay
Syndets; What is new?	Defne Özkoca
Decorative cosmetics in aesthetic dermatology	Demet Akpolat
Antisepsis and disinfection for aesthetic dermatology procedures	Cahit Yavuz
Sonophoresis in aesthetic/clinical dermatology	Ayşe Akman
Acne vaccines; Do they work?	Gözde Emel Gökçek





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## 20 April 2025, Sunday

### 11:20-12:55 Aesthetic Dermatology - 2

**Chairs: Medhat Abdalmalek, Yasemin Oram. Belma Türsen**

Complications and Emergency Management of Sedo-analgesia in dermatologic aesthetic procedures	Nihat Müjdat Hökenek
Evidence based treatment of atrophic/hypertrophic scars	Bachar Memet
Sildenafil/Tadalafil uses in dermatology	Pelin Üstüner
Sleep and aging	Ahu Birol
Lifestyle changes for antiaging	Aslı Feride Kaptanoğlu
Emergency and Nonemergency Use of Hyaluronidase in Aesthetic Dermatology	Emel Çalıkoğlu
Aesthetic Dermatologic emergencies (Acute allergies)	Meltem Önder
Late onset hypersensitivity reactions in aesthetic dermatology	Didem Kazan
Facial vascular danger zones for filler injections	Nida Kaçar
Pressure alopecias; What is new	Mehmet Melikoğlu

### 13:00-14:00 LUNCH

### 14:00-15:40 Aesthetic Dermatology - 3

**Chairs: Medhat Abdalmalek, Yasemin Oram. Belma Türsen**

Can we obtain immortality with exosomes?	Kansu Büyükaşar
Body contouring with Botulinum toxins	Assel Markabaeva
Which botulinum toxins are better?	Filiz Kuşak
Umbilical cord exosome uses in dermatology	Zekai Kutlubay
Fillers, filler degradation and Facial Fat Pads	Pınar İnandoğlu Kurtuluş
Animal derived exosomes for antiaging	Dilek Başaran
Autologous exosome treatment in dermatology	Hüray Hügül
Polynucleotides in skin care: Regeneration for enhanced skin health and anti-aging	Atula Gupta
HIFU skin tightening and lifting solutions in aesthetic dermatology	Atula Gupta
Microneedling RF and its combination with other modalities for scar management	Atula Gupta
Combination therapies with Exosome in aesthetic dermatology	Sevda Demirbulak
Exosome combination with stem cell therapy	Mustafa Tümtürk
Tactics of using intralesional glucocorticosteroid injection in dermatology and cosmetology	Natalia Kruk
Steroid induced rosacea - what we shouldn't do.	Natalia Kruk

### 15:40-16:00 CLOSING SPEECH AND LECTURE

Targeting the immune pathways in alopecia areata:	Roxanna Sadoughifar
The role of JAK inhibitors in precision dermatology	Şule Güngör



# LECTURE SUMMARIES





## T FOLLICULAR HELPER CELLS IN DERMATOLOGY

Özgür Gündüz

T follicular helper cells (Tfh) are a specific group of CD4<sup>+</sup> T cells that help B cells produce antibodies against foreign pathogens. Tfh are located in secondary lymphoid organs (SLOs), including the tonsil, spleen, and lymph nodes. Although these organs contain numerous lymphocytes, separated into defined T and B cell zones, Tfh are found in the B cell zone and spend most of their time in close interactions with B cells. In addition to SLOs, Tfh can also be found in circulation.

T follicular helper cells were initially described in humans in 2000 (1,2). They have been identified as a distinct T helper cell subset, according to their unique combination of surface markers [abundant expression of chemokine (C-X-C motif) receptor 5 (CXCR5) (1), downregulation of C-C chemokine receptor type 7 (CCR7), and expression of the co-stimulatory molecules inducible co-stimulator (ICOS) (1) and programmed cell death protein-1 (PD-1)], cytokine production [expression of high levels of interleukin 21 (IL-21)], and specific transcription factor [expression of the nuclear transcriptional repressor B cell lymphoma 6 (Bcl-6)].

Tfh plays an essential role in forming germinal centers (GCs) within the B cell zones of SLOs during an ongoing immune response. B cells within GCs are known as GC B cells and undergo rapid proliferation and antibody diversification, allowing the production of many types of antibodies with greater affinity for their targets. GCs are also the site where B cells can differentiate into antibody-secreting plasma and memory B cells, producing long-lasting antibodies. Tfh directs this process by directly providing co-stimulation to the B cells via the co-stimulatory molecule CD40 interacting with CD40-ligand (CD40-L) on the B cell and producing the cytokine IL-21, which drives B cell proliferation. Additional cytokine production by Tfh can determine the type of antibody produced. The relationship between Tfh and GC B cells is positively correlated. Without Tfh, GCs do not form, and antibody defects are observed in typical situations.

The role of Tfh in the production of specific antibodies has drawn researchers' attention, and in the last decade, many research groups have evaluated its possible role in autoimmune diseases. There is circumferential evidence that Tfh may participate in the pathogenesis of some dermatologic diseases, such as Pemphigus Vulgaris, Bullous Pemphigoid, Atopic Dermatitis, and Psoriasis (3-6).

1. Breitfeld D, Ohl L, Kremmer E, Ellwart J, Sallusto F, Lipp M, et al. Follicular B helper T cells express CXC chemokine receptor 5, localize to B cell follicles, and support immunoglobulin production. *J Exp Med* (2000) 192:1545–52. doi:10.1084/jem.192.11.1545
2. Gensous N, Charrier M, Duluc D, Contin-Bordes C, Truchetet ME, Lazaro E, Duffau P, Blanco P, Richez C. T Follicular Helper Cells in Autoimmune Disorders. *Front Immunol*. 2018 Jul 17;9:1637. doi: 10.3389/fimmu.2018.01637. PMID: 30065726; PMCID: PMC6056609.
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Allergy and Cosmetology in Dermatology

# 10<sup>TH</sup> INDERCOS

International Dermatology and Cosmetology Congress  
17 - 20 April 2025 | Radisson Blu Şişli Hotel-İstanbul, Türkiye

## MOLECULAR CHARACTERIZATION OF XEROSIS CUTIS

**Assoc. Prof. Dr. Işıl Bulur**

*Private Clinic*

Xerosis cutis or dry skin is a highly prevalent dermatological disorder. It is characterized by clinical signs such as small to large scales, cracks, and inflammation. It is especially seen in the elderly and in patients with underlying health conditions..

Xerosis Cutis is associated with external causes, environmental triggers and endogenous causes. Endogenous causes associated with xerosis cutis are categorized in dermalogical and internal diseases, psychiatric, dietary and drug related causes. External causes of xerosis cutis are environmental and occupational factors, and skin cleansing habits.

Stratum corneum consists of terminally differentiated and unnucleated keratinocytes, namely corneocytes. The lipid matrix surrounding the cells contains cholesterol, ceramides, fatty acids, cholesterol sulfate, glucosyl ceramides, phospholipids, proteins and enzymes.<sup>1,2</sup> Natural moisturizing factors (NMFs), mainly located in corneocytes, contribute to maintaining stratum corneum hydration.<sup>3</sup> Changes in the structure, arrangement or composition of any of these components may lead to decreased stratum corneum hydration. In the past decades, numerous molecular markers have been investigated for their association with the occurrence or severity of skin dryness. Molecular markers of xerosis cutis are categorized lipids, natural moisturizing factors, proteins and metabolic products. Seventy-two molecular markers for measuring xerosis cutis were identified. However only total free fatty acids, total ceramide, ceramide (NP), ceramide (NS), triglyceride, total free amino acids and serine are the most frequently studied markers associated with xerosis cutis.<sup>1</sup> It is currently unclear which molecules work best in xerosis cutis.

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## THE ACID MANTLE OF THE SKIN AND ITS IMPORTANCE

**Tahsin Çağdaş Akaslan, MD, Dermatologist**

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The human skin is the largest organ of the body, serving as a protective shield against external aggressors. The skin consists of various physical, chemical, and biological barriers, one of which is the “acid mantle,” a thin, protective film covering the skin’s surface. The acid mantle plays a crucial role in maintaining skin health. But what exactly is the acid mantle, and why is it so important?

### What is the Acid Mantle?

The acid mantle is a fine layer formed by the mixture of sebum (oils secreted by sebaceous glands) and sweat from the sweat glands. This protective film helps maintain the skin’s pH between 4.5 and 6.5, creating a mildly acidic environment. The normal pH of the skin is around 5.5, and maintaining this level is essential for the proper functioning of the skin barrier.

### Functions of the Acid Mantle

1. **Defense Against Microorganisms:** The acidic pH inhibits the growth of harmful bacteria, fungi, and other pathogens on the skin’s surface, reducing the risk of infections. It particularly prevents the overgrowth of organisms such as *Staphylococcus aureus* and *Candida* species, which can cause skin infections.
2. **Maintaining Moisture Balance:** The acid mantle helps prevent transepidermal water loss (TEWL), keeping the skin hydrated. It supports the retention of natural moisturizing factors (NMFs) in the epidermis, preventing dryness and dehydration.
3. **Strengthening the Skin Barrier:** The outermost layer of the skin, known as the stratum corneum, serves as a protective shield against environmental stressors. The acid mantle helps preserve the integrity of this barrier, making the skin more resilient to external damage.
4. **pH Balance and Skin Health:** Disruptions in the skin’s pH can damage the acid mantle, leading to issues such as sensitivity, acne, eczema, and other dermatological problems. Maintaining an optimal pH level is crucial for the overall health and function of the skin.

### How to Protect the Acid Mantle

1. **Use pH-Balanced Cleansers:** Harsh soaps and facial cleansers can disrupt the skin’s natural pH. Opt for pH-balanced skincare products to preserve the acid mantle.
2. **Avoid Overwashing:** Frequent washing with hot water can strip the skin of its natural oils, weakening the acid mantle. It’s best to cleanse the skin gently with lukewarm water.
3. **Support Natural Oils with Moisturizers:** Hydrating products help maintain the skin’s lipid balance and assist in the regeneration of the acid mantle. Look for products containing ceramides, hyaluronic acid, and natural oils.
4. **Adopt a Healthy Diet:** Consuming antioxidants, omega-3 fatty acids, and staying well-hydrated supports skin health and helps maintain the acid mantle.
5. **Avoid Chemical and Environmental Stressors:** Excessive sun exposure, pollution, and harsh chemicals can weaken the acid mantle. Using sunscreen and protecting the skin from environmental pollutants is essential.

### The Impact of Acid Mantle Disruption

When the acid mantle is compromised, the skin becomes more susceptible to irritation, inflammation, and infections. Some of the common skin issues that arise from acid mantle damage include:

- **Acne:** An imbalanced pH allows bacteria like *Propionibacterium acnes* to thrive, leading to breakouts.
- **Eczema and Dermatitis:** A weakened skin barrier can trigger inflammatory skin conditions, causing redness, itching, and dryness.



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- Premature Aging: Increased exposure to environmental aggressors and dehydration due to a disrupted acid mantle can accelerate skin aging.
- Sensitivity and Redness: A compromised acid mantle can result in increased sensitivity, making the skin prone to irritation from skincare products and environmental factors.

## How to Restore a Damaged Acid Mantle

If the acid mantle has been disrupted, it is possible to restore it with proper skincare and lifestyle choices:

- Switch to Gentle Cleansers: Avoid foaming or highly alkaline cleansers and opt for hydrating, pH-balanced options.
- Use Barrier-Repairing Products: Look for ingredients like niacinamide, ceramides, and fatty acids that help restore the skin's protective function.
- Limit Exfoliation: Over-exfoliating can strip away essential lipids, so reduce the frequency of chemical or physical exfoliation.
- Increase Hydration: Use humectants like glycerin and hyaluronic acid to replenish moisture levels.
- Allow Time for Recovery: It may take a few weeks for the acid mantle to restore itself, so consistency in skincare routines is key.

## Conclusion

The acid mantle is a fundamental part of the skin's natural defense system. Maintaining the correct skin pH ensures protection against harmful microbes, moisture retention, and overall skin health. However, improper skincare habits and external aggressors can compromise the acid mantle, leading to various skin issues. By adopting the right skincare practices and a healthy lifestyle, we can preserve the acid mantle and promote long-term skin wellness. A well-maintained acid mantle not only ensures the skin remains healthy but also enhances its natural beauty and resilience.

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## THYMIC STROMAL LYMPHOPOIETIN IN ALLERGY

**Hande Arda**

*Dr Hande ARDA Kliniği, İstanbul*

### Introduction

Thymic stromal lymphopoietin (TSLP) is a cytokine produced by epithelial cells, particularly keratinocytes in the skin. It plays a pivotal role in initiating type 2 immune responses by activating dendritic cells, innate lymphoid cells, and other immune players. TSLP is significantly implicated in the pathogenesis of atopic dermatitis (AD), linking epidermal barrier dysfunction to chronic inflammation and pruritus.

### Methodology

A structured literature review was conducted focusing on studies published from 2010 to 2024. Databases such as PubMed, Scopus, and Web of Science were searched using keywords including 'TSLP', 'atopic dermatitis', 'skin inflammation', 'type 2 immunity', and 'tezepelumab'. Clinical trials, mechanistic studies, and translational research articles relevant to dermatological conditions were prioritized.

### Results

Elevated TSLP expression was consistently observed in lesional and non-lesional skin of patients with AD. TSLP upregulation was triggered by allergens, Staphylococcus aureus, proteases, and mechanical damage. Functionally, TSLP promoted Th2-skewing via dendritic cells, activated ILC2s and mast cells, and induced itch through sensory neurons. Recent trials involving tezepelumab demonstrated its capacity to reduce pruritus and inflammatory biomarkers in AD patients.

### Discussion

TSLP serves as a master switch in cutaneous type 2 inflammation. Its dual role—modulating immune pathways and neural activation—positions it as a highly promising therapeutic target. Compared to IL-4/IL-13 inhibitors, TSLP blockade may offer broader upstream inhibition. Ongoing questions include long-term efficacy, ideal patient selection, and combination strategies with existing therapies.

### Conclusion

TSLP represents a central therapeutic target in atopic dermatitis and related skin diseases. Targeting TSLP has the potential to disrupt both inflammation and pruritus, addressing major unmet needs in dermatology. Further clinical evidence will refine its application in personalized skin care.

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**Title: Scarring dermatoses and skin cancer association; What is the mechanism?**

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Skin cancers are the most common malignancies worldwide with increasing incidence. Ultraviolet radiation (UVR) exposure is the most important environmental cause of skin cancer, but cutaneous malignancies have also been reported to result from scars caused by vaccinations, burns, and other injuries. Of malignancies arising in scars, SCCs are reportedly the most common. Burn scar carcinomas (known as Marjolin's ulcers) appear to constitute the majority of all recorded scar neoplasms. The etiopathogenesis of scar carcinomas is not fully understood, although the proposed hypotheses include prolonged proliferation due to chronic inflammation and irritation of tissue, ongoing exposure of tissues to toxins and co-carcinogens after the injury, and poor vascularization of the scar tissue resulting in impaired immunological defence on genetically prone individuals (mutations in the p53 and Fas12 genes).<sup>1,2</sup>

Many skin conditions are characterized by chronic inflammatory processes. These conditions may be particularly susceptible to malignant transformation and predispose patients to develop skin malignancies. As more pathophysiology of chronic inflammatory skin conditions is unveiled, we find that many of these conditions are characterized by immune dysregulation and signalling that result in chronic activation and upregulation of pro-inflammatory chemokines and cytokines, leading to downstream processes that further exacerbate inflammatory processes and cause abnormal cell growth and apoptosis.<sup>3,4</sup> Patients with HS have a higher risk of cancer compared to the general population. Untreated, long-standing HS lesions can lead to complicated malignant degeneration resulting in cutaneous squamous cell carcinoma. The mechanisms underlying this malignant degeneration are not fully understood. Genetic alterations in Hidradenitis suppurativa (HS) and comorbid smoking lead to impairment of the NOTCH signaling pathway, which activates the expression of proto-oncogenes (POs) and suppresses that of the tumour suppressor gene 53 (TP53). Locoregional infections with high-risk human papillomaviruses (HPV) support the genetic effects of malignant development. Increased expression of undifferentiated cytochromes can be observed in keratinocytes. Chronic wounds can promote degeneration through recruitment and activation of fibroblasts, deposition of extracellular matrix components, infiltration of immune cells and hyperinflammation, neovascularisation and cell lineage plasticity.<sup>5</sup>

Clinicians regularly monitor and perform skin exams on patients with chronic inflammatory diseases, and scarring dermatoses (new orolabial DLE, chronic HS, or chronic wound), and should keep the biopsy threshold low.

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## ANTI-HISTAMINES, ITCH AND INSOMNIA

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Antihistamines play a role in treating pruritus and insomnia by targeting histamine receptors. First-generation antihistamines like Diphenhydramine and Hydroxyzine reduce itch and cause sedation, while second-generation antihistamines like Loratadine and Cetirizine reduce itch with less sedation. Antihistamines block H1 and H2 receptors. H1-antihistamines treat allergies, pruritus, and insomnia by inhibiting histamine binding. First-generation H1-antihistamines cross the blood-brain barrier causing sedation, while second-generation do not, making them non-sedating. H2-antihistamines reduce gastric acid secretion. H3 and H4 antihistamines are experimental, focusing on neurodegenerative disorders and immune modulation. Histamine receptors have distinct characteristics and functions. H1 receptors are involved in pruritus and vasodilation, H2 in gastric acid secretion, H3 in neurotransmission, and H4 in immune modulation. Each receptor has specific expression patterns and roles in allergic inflammation, immune modulation, and the central nervous system. Antihistamines are classified by chemical and functional classes. First-generation drugs often cause drowsiness and cognitive impairment, while second-generation drugs have minimal CNS effects. Adverse effects include CNS effects, cardiac issues, and other systemic effects. Overdose can lead to severe CNS effects, and some antihistamines have teratogenic risks. First-generation antihistamines provide effective relief for itching and short-term insomnia but have sedative properties. Second-generation antihistamines are better for long-term management due to their non-sedative nature. Choosing the appropriate antihistamine depends on symptoms, severity, and pre-existing health conditions.

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## SUICIDE RISK IN DERMATOLOGIC TREATMENTS

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Dermatological disorders such as acne vulgaris, psoriasis, vitiligo and atopic dermatitis are chronic diseases and are also closely associated with significant psychosocial burdens. There has long been concern about a possible association between certain dermatological drugs.

This presentation presents the link between dermatological drugs and mental health outcomes.

The most recent literature on the risk of suicide with systemic dermatologic treatments, particularly isotretinoin, methotrexate, cyclosporine, acitretin, and biologic agents, is reviewed.

The meta-analysis, which included 25 studies with 1,625,891 participants, aimed to evaluate the risk of suicide and psychiatric disorders in isotretinoin users (16-38 years of age). The pooled 1-year absolute risk of suicide, suicidal ideation, and self-harm was consistently <0.5%, while depression risk was estimated at 3.83%. Notably, isotretinoin users showed *lower* suicide attempt rates at 2, and 4 years post-treatment compared to non-users. A global, population-based, retrospective cohort study was conducted to assess the risk of psychiatric outcomes in patients with acne treated with isotretinoin versus oral antibiotics. Patients treated with isotretinoin had lower risks for anxiety, depression, and other psychiatric disorders (post-traumatic stress disorder, bipolar disorder, schizophrenia, and adjustment disorder).

In a study conducted, methotrexate reduce the symptoms of depression and anxiety in patients with psoriasis. In 2006, a single case of acitretin and suicidal tendency was shared. However, the authors stated that it was not possible to reach a definitive conclusion based on a single case, and recommended careful psychiatric analysis of patients who would be prescribed acitretin, and if necessary, these patients should receive psychiatric consultation throughout the treatment process. No comparative studies or evidence that methotrexate, cyclosporine and acitretin increase the risk of suicide. Psychiatric symptoms, when present, were generally attributed to underlying disease severity rather than medication effects.

Biologic agents (anti-TNF, IL-17, IL-23 inhibitors) used for psoriasis and other inflammatory dermatoses were not linked to an increased risk of suicide or psychiatric illness. Dupilumab, used in moderate-to-severe atopic dermatitis, demonstrated a favorable neuropsychiatric safety profile.

Dermatologic treatments do not independently increase suicide risk. Suicide risk is more related to the underlying disease burden. Patient-centered care, regular follow-up, and psychosocial support are essential.

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### THE MOST IMPORTANT PSYCHOPHYSIOLOGIC DISORDERS

**Dr. Gül Şekerlisoy Tatar**

*LIV HOSPİTAL SAMSUN/ TURKIYE*

#### 1. Introduction

Psychodermatology is an interdisciplinary field focusing on the complex interaction between psychological factors such as stress, emotional states, and dermatological symptoms. (1) In a classification system introduced in 2007, psychodermatological diseases were broadly divided into four categories: psychophysiological diseases, psychiatric diseases with dermatological symptoms, dermatological diseases with psychiatric symptoms, and a miscellaneous group. A revised classification proposed in 2023 reorganized these disorders into two main categories—one associated with primary mental disorders and the other associated with primary skin disorders—and then further subdivided them based on pathophysiological and phenomenological features, fundamental aspects of dermatological examination (such as the presence of primary and secondary skin lesions), and related psychopathological factors. Within this new framework, psychophysiological diseases are now classified among primary skin disorders that are associated with mental health. (2)

These psychophysiological dermatological disorders feature genuine dermatological pathologies that are influenced or made worse by psychological stressors. The proportion of patients reporting emotional triggers is highly variable, ranging from around 50% in acne to more than 90% in rosacea, alopecia areata, neurotic excoriations, and lichen simplex; in some cases, such as hyperhidrosis, the rate can approach 100%. (3) There is a bidirectional relationship between mind and skin: psychological stress can precipitate or aggravate skin diseases, and chronic skin conditions can, in turn, lead to considerable emotional distress. These interactions often involve neuroendocrine-immune pathways wherein stress-induced hormonal changes and immune modulation intensify inflammation or compromise the skin barrier.

#### 2. Psychophysiological Dermatological Diseases

Psoriasis is an inflammatory disorder characterized by well-demarcated, scaly plaques typically on the elbows, knees, and scalp. Stress is often associated with the onset and attacks of psoriasis. Studies indicate that stress serves as a precipitating factor in 31–88% of psoriasis cases, and major stressful events in the prior year have been linked to a heightened likelihood of disease onset in susceptible individuals. Stress can also occur as a result of psoriasis flares, highlighting the importance of stress management interventions in patient care. Studies have shown that relaxation techniques, hypnosis, biofeedback, and behavioral and cognitive stress management therapies can benefit individuals with psoriasis. (4)

Alopecia areata is an autoimmune disease with patchy, non-scarring hair loss, often affecting the scalp but sometimes involving other body hair. Many patients recount significant life stress before disease onset or progression, and approximately 60% of them exhibit depression and anxiety. (5) Cortisol-mediated immune dysregulation may contribute to disruptions in the hair follicle cycle, and the emotional distress caused by visible hair loss can intensify the psychological burden. Therapeutic approaches often include corticosteroid injections or topical immunotherapy, along with counseling, psychotherapy, or support groups to address the mental health components of the condition.

Acne vulgaris is a common skin condition. Emotional stress affects the chronic course and exacerbation of acne by changing the production of hormones (such as CRH, melanocortins, and substance P) neuropeptides, and inflammatory cytokines, and altering the activity of the pilosebaceous unit. On the other hand, emotional distress and dysmorphic tendencies may develop as a result of this disease. This creates a vicious cycle. Therefore, dermatologists and psychiatrists should be able to recognize psychological factors that contribute to acne exacerbation or affect the self-perception of acne patients. (6) Standard treatment protocols may involve topical or systemic medications such as retinoids and antibiotics. However, patients may also benefit from mental health support when stress is implicated in flare-ups.

In the case of urticaria (hives), patients often present transient, itchy wheals. Although several factors can trigger acute urticaria, chronic urticaria has been strongly associated with high levels of stress. High levels of psychological stress may trigger chronic urticaria by causing an imbalance in the neuroimmune-cutaneous circuit. It is still unclear whether any psychological stress, in addition to a pre-existing neuroimmune dysregulation, causes or triggers the onset of chronic urticaria. (7) The unpredictability of flare-ups tends to trigger or worsen anxiety, resulting in a two-way interaction. Interventions focused on stress reduction and antihistamines may improve the frequency and severity of flare-ups.

Hyperhidrosis, which may localize to the palms, soles, and axillae or manifest in a generalized form, often stems from



excessive activation of sympathetic nerve fibers under conditions of emotional stress. The resulting embarrassment and social anxiety can perpetuate a cycle of stress and sweating. Treatment may involve topical agents such as aluminum chloride or botulinum toxin injections, as well as psychological therapies aimed at mitigating stress and anxiety.

Atopic dermatitis (eczema) also demonstrates the importance of psychosomatic factors in dermatological conditions. Pruritic, eczematous lesions characterize this chronic inflammatory skin condition and may be part of the atopic triad, including allergic rhinitis and asthma. Stressful experiences frequently exacerbate flares, while the associated pruritus–scratch cycle and sleep disturbances amplify overall stress and anxiety. psychosocial support and stress-reduction techniques combined with medical treatment (such as topical or systemic therapies) may be more effective in controlling the disease

### 3. Management Strategies

A multidisciplinary approach is crucial in treating psychophysiological dermatological disorders. Medical therapies—topical to systemic treatments—address the primary dermatological presentation. However, they are often most effective when coupled with psychological interventions, such as psychotherapy, stress management, mindfulness-based practices, and relaxation training. Encouraging patients to make lifestyle modifications that support adequate sleep, balanced nutrition, and regular exercise can further reinforce their resilience against stress. Providing education on how stress and emotional states can affect skin conditions allows patients to participate actively in their treatment plans. Collaboration between dermatologists, psychiatrists, and psychologists should provide a holistic approach considering each patient's psychosocial context, disease severity, and treatment preferences.

### 4. Conclusion

Psychophysiological dermatological disorders include real dermatological pathologies that are affected or worsened by psychological stressors. In clinical practice, this dynamic requires simultaneous consideration of dermatological manifestations and the patient's emotional well-being. Combining stress reduction protocols, psychotherapy, and appropriate medical treatments can disrupt the exacerbation cycle and improve patients' quality of life. References:

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## BULLYING IN PATIENTS WITH SKIN DISEASE

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Bullying is a complex construct encompassing elements of verbal aggression, physical aggression, and social exclusion. It is proposed as being aggressive behavior or intentional “harm-doing” that is carried out repeatedly and over time. A defining feature is that it occurs in an interpersonal relationship characterized by an imbalance of power in which the victim finds it difficult to defend himself or herself.

Distinction can be made between bullying that is “direct,” “indirect,” and “relational.”

- Direct bullying involves physical or verbal attacks or aggression.
- Indirect bullying involves rumor-spreading and gossiping and will often rely on a third party.
- Relational bullying (sometimes considered a subcategory of indirect bullying) involves behaviors such as hurtful manipulation of peer relationships through social exclusion and ignoring.

Bullying is particularly common and problematic among children and adolescents.

### **Bullying in skin diseases**

A feature of bullying, both in nonmedical (including weight-related bullying) and in these particular health-related settings is that it is frequently appearance-related. Thus, It would be surprising if bullying were not associated with skin diseases, given the high visibility of skin diseases.

There is limited literature on bullying in skin diseases; therefore, it is difficult to compare the prevalence of bullying in skin disease sufferers with prevalence in other situations. There is abundant evidence in the dermatological literature of an association of skin disease with psychological morbidity and impairment of quality of life . An area that has previously received little specific research attention is the role of taunting, teasing or bullying in the aetiology of psychological sequelae in skin disease. This is, perhaps, surprising given the attention that has been afforded the broad construct of stigmatization in the psychodermatological literature

The European Academy of Dermatology and Venereology (EADV) supported project ‘Bullying among Dermatologic Patients’ aimed to study prevalence and nature of bullying in patients

with skin diseases from different countries and the attitude of people without skin diseases to persons with visual lesions and the improvement of this attitude where necessary.

Bullying was reported in 1016 patients with 36 different skin diseases: acne, allergic dermatitis, alopecia areata, androgenetic alopecia, atopic dermatitis, bullous pemphigoid,

chronic urticaria, contact dermatitis, dermatitis herpetiformis,

epidermolysis bullosa, folliculitis, rosacea, hand eczema, haemangioma, herpes simplex, hidradenitis suppurativa, keloid scars, lichen planopilaris, lipoma, lupus erythematosus,

melanocytic nevus, molluscum contagiosum, morphea, onychomycosis, pemphigus vulgaris, psoriasis, pyoderma, scabies, seborrheic keratosis, seborrheic dermatitis, telogen effluvium, tinea corporis, tinea manuum, urticaria, vitiligo and warts.

The most prevalent forms of bullying were verbal abuse and social isolation. Physical abuse was the least often reported form of bullying.

Many patients rather than stating the exact age at which they were bullied reported less precise time-periods. For example, 71 patients reported bullying ‘during school years’, 11 ‘during teenage years’, two ‘in college’ and six ‘during study at university’, all without exact age ranges. The peak age of bullying prevalence was ages of 13–15. The earliest case of self-reported bullying was at the age of seven and the latest at 36 years old.

Of those who talked with anyone about bullying, 66.7% informed their parents, 17.5% informed their teachers, 12.3% talked to their friends and 3.5% talked to siblings.



Adults made aware of bullying, 38.9% took no action, 37.0% informed school authorities, 18.52% took measures to stop the bullying and 5.56% punished bullies. Negative long-term

effects of bullying were reported by 63.0% of respondents. Parents of children with skin diseases can be the best intermediary between patients, school authorities and other officials including health care professionals.

Some patients in our study reported bullying because of contagious skin diseases (infections and infestation) and, in this context, avoidance and unsolicited advice to visit a doctor may be appropriate. However, the majority of reported cases of skin disease-related bullying were manifested in patients with non-contagious skin diseases.

Parents of children with skin disease should inform teachers and other school authorities, where appropriate, about diagnoses of skin disease. Early action on the presence of skin disease may decrease the risk of bullying.

In most cases bullying has long-term social and psychological consequences. It has been consistently reported that anxiety disorder and depression in young adulthood and middle adulthood. Moreover, victimized children were found to have lower educational qualifications, be worse at financial management and to earn less than their peers.

In a randomized controlled trial of acne treatments, 5.4% of subjects at baseline reported teasing to be the worst aspect of having acne.

In a sample of patients with psoriasis recruited from inpatient and outpatient sources in the United States, 51.27% reported that strangers had made rude or insensitive remarks about their appearance in the past month. A study of congenital melanocytic nevi reported 8% of participants had been bullied.

A major limitation of all these quantitative findings are that they are based on response to a single questionnaire item rather than on results from validated bullying or victimization instruments or scales as are many of the findings from studies in other contexts.

Thus, it is difficult to compare prevalence in skin disease with that from studies of bullying in other settings.

### **The nature of bullying in skin diseases**

Three qualitative studies have explored bullying and teasing in patients with skin disease. All used semistructured interviews; one with patients with epidermolysis bullosa, 48 one with patients with congenital ichthyosis, and one with patients with acne, psoriasis, or atopic dermatitis.

In the studies that have been mentioned, teasing and bullying were appearance-based, and in addition to the usual forms of teasing and bullying (mainly verbal but also physical), respondents were upset by the “staring” of strangers at their appearance and “insensate” teasing.

Insensate teasing consisted of insensitive or unthinkingly hurtful, rather than deliberately hurtful comments. Teasing and bullying did not correlate well with skin disease severity in these respondents’ accounts, especially in epidermolysis bullosa. 48 A feature of teasing related to skin diseases noted in one study 40 was that there was a conspicuous lack of playful or “pro-social” teasing. Teasing was universally negative and hurtful.

One substrate for teasing and bullying in two of these qualitative studies was the lack of knowledge of the teasing and bullying perpetrators concerning the contagious potential of

epidermolysis bullosa, psoriasis, and atopic dermatitis.

In these studies, there was limited scope to explore a further feature in the general bullying literature— that those bullied may themselves also be perpetrators of bullying.

But one respondent noted that on being the subject of contagion-related teasing she had threatened to touch (and thus contaminate) her tormenter.

### **Psychologic and psychiatric sequelae of bullying**

In other settings, bullying and teasing have been associated with mental health morbidity among the target of the bullying. This has included effects on general psychiatric morbidity, depression, anxiety, loneliness, and self esteem, psychosomatic complaints, suicide, suicidality, and selfharm, and, in women, psychiatric hospital treatment and use of antipsychotic, antidepressant, and anxiolytic drugs.

It is important to recognize that the effects of bullying can be long-lasting, with psychiatric caseness, anxiety or depres-



sion, or both, body dissatisfaction, poor self-image, and low self-esteem persisting into adulthood.

It is also important to recognize that children who are bullied may themselves be involved in bullying behavior as the bully as well as the victim, and that having been bullied is associated with later violence-related behaviors such as carrying a weapon and being involved in fights.

In other settings, having a psychologic disorder such as low self-regard or depression has been predictive of being bullied later. In the qualitative acne, psoriasis, and eczema study, respondents felt the direction of causality was solely of bullying causing psychologic morbidity, and not the reverse.

### What can clinicians do about bullying in their patients?

The position paper of the Society for Adolescent Medicine on bullying and peer victimization states:

*“Health care providers should be familiar with the characteristics of youth that may be involved in bullying, either as aggressors or victims. They need to be sensitive to signs and symptoms of bullying, victimization, their influences and their sequelae”*

This advice may be especially pertinent in the case of skin disease where doctors (both family physicians and dermatologists) have been reported as having poor comprehension of the psychologic implications of skin diseases and being insensitive to their patients’ emotional suffering.

### Key Interventions for Physicians

Recognizing the psychological impact of skin diseases and understanding that appearance-related bullying can exacerbate this burden is a crucial step for dermatologists and primary care physicians.

- **Developing an Empathetic Approach:**

Dermatologists and other healthcare professionals should provide a **safe and supportive environment** where patients feel comfortable sharing their experiences with bullying.

- **Assessing Patients’ Psychological Well-being:**

Physicians should not only focus on **physical symptoms** but also consider their patients’ **mental health and emotional well-being**, as this can help mitigate the long-term effects of bullying.

- **Referring to Specialized Mental Health Support:**

Patients experiencing significant emotional distress due to bullying should be referred to **mental health professionals** when appropriate.

- **Encouraging Patient and Family Education Programs:**

Raising awareness among **patients and their families** about skin diseases can help combat misconceptions, reduce stigma, and ultimately minimize bullying associated with these conditions.

### Conclusions:

Dermatologists and other clinicians should be aware of this and of the potential for bullying and teasing to effect their patients’ psychological well-being.

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## INSOMNIA AS A SIDE EFFECT OF DERMATOLOGIC TREATMENT

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Sleep is a naturally occurring state of decreased mental and physical activity, an altered state of consciousness, and inhibition of sensory activity. It is essential, restorative, and crucial for numerous physiological processes. Sleep is regulated by biological processes known as circadian rhythm and influenced by several hormones that regulate and affect sleep patterns. The most well-known of these is melatonin. Insomnia is a persistent difficulty with sleep initiation, duration, consolidation, or quality that occurs despite adequate sleep circumstances. (1) Three components imply insomnia: ongoing sleep difficulty, unpleasing sleep environment, and associated daytime dysfunction. Daytime symptoms are fatigue, decreased mood or irritability, general malaise, and cognitive impairment.

Sleep disturbances may not only present as symptoms but also as triggering factors for various dermatological diseases. A bidirectional and deleterious cycle exists between insomnia and skin disorders, in which each can exacerbate the other. (2) Underlying psychological factors such as depression and anxiety perpetuate this circle since these states are known to worsen dermatoses such as psoriasis and urticaria. (2) Clinicians should thus be aware of the multifaceted interaction between psychological well-being, dermatological health, and sleep to address skin disease in an integrated way. Even dermatological therapies are the mainstay for managing skin symptoms, their potential to impair sleep quality represents an underappreciated but clinically relevant issue. (3)

Although beneficial due to their anti-inflammatory and immunosuppressive properties, systemic corticosteroids are commonly accompanied by adverse effects (AEs), especially sleep disturbances. (4) Insomnia is a well-recognized side effect of systemic glucocorticoids such as prednisone, prednisolone, and dexamethasone. A systematic review reported sleep disturbances in  $\geq 30\%$  of patients of patient populations. Short-term exposure to high-dose corticosteroids acutely disturbs the sleep of both children and adults.

The pathophysiology of steroid-induced sleep disturbance is multifactorial. Corticosteroids dysregulate the hypothalamic-pituitary-adrenal (HPA) axis and suppress the normal nocturnal melatonin surge, making it difficult to fall asleep and increasing nighttime awakenings. They may also deplete central serotonin and melatonin levels and alter sleep architecture by disrupting sleep architecture by reducing REM sleep. (5) To counteract these effects, administering the entire daily steroid dose in the morning can limit nighttime steroid levels and reduce sleep disruption. When it is practical, the lowest dose and the minimum duration of therapy are advised. Early initiation of steroid-sparing agents for chronic conditions may reduce long-term steroid exposure. In addition, low-dose melatonin at bedtime is a relatively safe option to reverse corticosteroid-induced suppression of melatonin and has shown potential in animal models. (5)

Isotretinoin, a commonly used and effective systemic treatment for severe acne vulgaris, has been increasingly associated with sleep disturbances, particularly insomnia. (6) Evidence suggests several underlying mechanisms: isotretinoin may upregulate 5-HT<sub>1A</sub> receptors and serotonin reuptake transporters in vitro, interfere with retinoic acid signaling in circadian rhythm control, and reduce the level of melatonin. (7) A pharmacovigilance analysis (2004–2019) revealed 1,095 cases of insomnia out of ~218,600 isotretinoin reports with a significantly high odds ratio of nearly 2.19 vs other acne treatments. (8) Regular screening for psychiatric status and sleep quality is recommended during therapy. (6)

Biologic drugs in dermatology mainly enhance sleep quality through effective management of inflammation and itch, although some cases of insomnia have been reported. The drugs act on immune cytokines like TNF- $\alpha$  and IL-6; their inhibition can enhance wakefulness. Large-scale studies indicate net benefit. A Taiwanese cohort demonstrated decreased use of depression and insomnia drugs in biologic-treated psoriasis. (9) Uncommon sleep disturbances are seen, such as 1.4% of dupilumab reports in the WHO repository and sporadic cases of insomnia with secukinumab and TNF inhibitors, which are rare and outweighed by the net sleep-enhancing effect of biologics in inflammatory cutaneous diseases.

Calcineurin inhibitors (CNIs) are large molecules and are substrates of p-glycoprotein with generally limited penetration into the CNS. (10) In vitro studies indicate that they might increase the permeability of the BBB with penetration into the CNS to reduce GABA levels and modulate the NMDA receptor with neuropsychiatric manifestations such as insomnia, agitation, and anxiety. Insomnia has been reported in up to 30–32% of patients. Tacrolimus was found to be more neurotoxic with generally greater hypomagnesemia. In dermatology practice, tacrolimus is less frequently used than cyclosporine and generally in lower doses that might suppress the side effects in the CNS and even offer potential benefits on sleep





by avoiding higher excitatory thresholds seen with tacrolimus. (10)

Off-label use of drugs in dermatology can causally contribute to insomnia through multiple mechanisms. Low-dose naltrexone used in inflammatory and pruritic dermatoses has, in some cases, been related to transient insomnia and anxiety. Antidepressants such as SSRIs and SNRIs in cases of chronic itch and psychodermatologic disease can lead to sleep disturbances during the initial stages of treatment. Beta-blockers like propranolol used in hemangiomas can lead to sleep disturbances or nightmares in an occasional patient. Lastly, polypharmacy can augment the risk of insomnia through drug interaction.

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### IS COSMETIC USE A SUBSTANCE USE DISORDER?

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The increasing demand for cosmetic dermatologic procedures and cosmetic product overuse has sparked interest in the psychological mechanisms that drive this behavior. Recent studies propose that, for certain individuals, repeated cosmetic procedure use may resemble behavioral patterns seen in substance use disorders (SUDs). This includes compulsive behavior, tolerance (needing more procedures for the same level of satisfaction), withdrawal-like symptoms (distress when procedures are delayed), and continued use despite negative consequences. The DSM-5 (Diagnostic and Statistical Manual of Mental Disorders, 5th ed.) defines Substance Use Disorder as a maladaptive pattern of substance use leading to significant impairment or distress, with 11 criteria indicating loss of control, social impairment, risky use, and physiological dependence. Notably, DSM-5 also acknowledges behavioral addictions in a limited way – gambling disorder is officially recognized, and internet gaming disorder is listed as a condition for further study. Other compulsive behaviors (e.g. food bingeing, sexual behavior, etc.) are often compared to substance addictions but are not formally codified in DSM-5. While no “cosmetic use disorder” is officially in DSM-5, we can draw analogies. Many researchers suggest that behavioral addictions operate via similar reward and compulsion pathways as substance addictions.

One pivotal study applied modified versions of the DSM-5 criteria and the CAGE questionnaire to assess cosmetic procedure use and found that 22.2% of participants met criteria similar to SUDs. These findings support the notion that cosmetic behavior may, in some cases, become maladaptive and addictive in nature. Body Dysmorphic Disorder (BDD) adds a crucial dimension to this discussion. BDD is characterized by an excessive preoccupation with perceived appearance flaws, often leading individuals to seek dermatologic or surgical solutions. However, multiple studies confirm that cosmetic procedures rarely resolve the distress caused by BDD and may exacerbate symptoms. This underscores the importance of identifying psychological comorbidities in aesthetic dermatology settings. The concept of “cosmetic procedure addiction” is not yet formally recognized in the DSM-5, but the behavioral similarities with known addictive disorders warrant further exploration. Patients may exhibit impaired control over cosmetic behaviors, prioritize procedures over social or occupational responsibilities, and experience emotional dysregulation if denied access to treatment. Additionally, in recent years, the rise of multi-step skin care regimens and internet communities has shone light on obsessive skincare routines. While the name “Skincare Addiction” for a forum is tongue-in-cheek, observers note there is a “darker side” where individuals can develop unhealthy obsessive behavior around their skin-care practices, also known as dermorexia. Another concern is when compulsive buying disorder and OCD-like rituals merge in the cosmetic domain. In all these scenarios, the common thread is psychological dependence on cosmetic routines or products. People may feel that their self-worth or emotional stability hinges on adhering to these beauty behaviors. The behaviors relieve anxiety (e.g. the anxiety of “looking ugly” or not being in control), which reinforces them, similar to how a substance might relieve stress temporarily but reinforce its own use.

In conclusion, while compulsive cosmetic use is not officially classified as a Substance Use Disorder, it undeniably shares many features with addictive disorders. Repeated cosmetic procedures and obsessive use of beauty products can fulfill analogous criteria of loss of control, continuation despite harm, and intense preoccupation – especially when driven by conditions like Body Dysmorphic Disorder. The DSM-5 framework provides a useful lens: one can map cosmetic behaviors onto the 11 SUD criteria and often find surprising alignment in the psychological domain. Dermatologists must adopt a multidisciplinary approach to aesthetic care, recognizing the psychological dimensions of cosmetic behavior and collaborating with mental health professionals when necessary.

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## PAIN ASSOCIATED DERMATOSES; HOW CAN WE MANAGE?

Mustafa Tunca

### Abstract

Pain is frequently encountered in dermatologic practice and may significantly impair patients' quality of life. A comprehensive understanding of different types of pain and the mechanisms involved in various painful dermatological conditions is essential for effective pain management in dermatology.

In this review the pathophysiology, clinical manifestations, and current management strategies for various painful skin conditions will be discussed. Emphasis is placed on both pharmacological and non-pharmacological interventions, highlighting recent advancements and evidence-based approaches.

### Introduction

Pain is defined as “an unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage.” by the International Association for the Study of Pain. (1) Pain is a prevalent symptom in numerous dermatological conditions.

Pain can be classified in multiple ways depending on the perspective. According to duration, pain may be acute or chronic. According to mechanism pain may be visceral nociceptive, somatic nociceptive, and neuropathic pain. According to intensity pain may be mild, moderate or severe.

Effective management necessitates a thorough understanding of the mechanisms involved, the type of pain as well as underlying disease processes and the implementation of tailored therapeutic strategies.

### Pain management in various dermatological conditions:

**Pyoderma Gangrenosum:** Pyoderma gangrenosum (PG) is a rare inflammatory neutrophilic dermatosis characterized by painful ulcers that rapidly expand peripherally. The pathophysiology of PG is complex and not fully understood, often associated with systemic conditions such as inflammatory bowel disease.(2) Treatment remains challenging due to the lack of standardized guidelines, focusing primarily on anti-inflammatory and immunosuppressive therapies.(3)

**Herpes Zoster and Postherpetic Neuralgia:** Pain due to herpes zoster can be treated with conventional analgesics prescribed according to European consensus and the three-step WHO pain ladder, based on the severity of pain may be followed. Since there is a neuropathic component of pain, tricyclic antidepressant or antiepileptic drugs (gabapentin, pregabalin etc.) may be added.(4,5)

Postherpetic neuralgia (PHN) is a chronic neuropathic pain condition that persists for three months or more following herpes zoster. PHN results from nerve damage due to varicella-zoster virus reactivation, leading to persistent and often refractory neuropathic pain.(6) First-line treatments include tricyclic antidepressants, gabapentin, pregabalin, and topical lidocaine 5% patches. Opioids, tramadol, and capsaicin cream are considered second- or third-line therapies.(7)

**Leg Ulcers:** Chronic leg ulcers, often resulting from venous insufficiency or diabetes, are associated with significant pain. Effective management focuses on wound care, infection control, and addressing the underlying cause. Analgesics, including nonsteroidal anti-inflammatory drugs (NSAIDs) and opioids, are used based on pain severity. Topical agents like lidocaine/prilocaine cream and ibuprofen foam have been shown to provide effective pain relief.(8) Compression therapy is also important in the management of venous ulcers, while offloading techniques are crucial for diabetic foot ulcers.

**Hidradenitis Suppurativa:** Hidradenitis suppurativa (HS) is a chronic inflammatory skin condition causing painful nodules and abscesses, primarily in intertriginous areas.(9) Pain management involves a combination of medical and surgical approaches. Systemic antibiotics are commonly used to control infection and inflammation. Hormonal therapies, such as oral contraceptives and anti-androgens, may be beneficial, particularly in female patients. Biologic agents targeting inflammatory pathways, like TNF- $\alpha$  inhibitors, have shown efficacy in reducing disease severity and associated pain. Analgesics are employed for pain relief, and surgical interventions may be necessary for severe or refractory cases.

**Prurigo Nodularis:** Prurigo nodularis (PN) is a chronic dermatologic condition characterized by intensely pruritic nodules. However there is a pain component in most patients. Treatment aims to break the itch-scratch cycle and alleviate pain.(10) Topical corticosteroids are commonly used to reduce inflammation and pruritus. Calcineurin inhibitors, such as tacrolimus and pimecrolimus, may be employed as steroid-sparing agents. Topical capsaicin has shown efficacy in de-





creasing pruritus by desensitizing sensory neurons.(10) Systemic options include antihistamines, gabapentins, and antidepressants. Phototherapy, especially narrowband ultraviolet B (NB-UVB), may also be used to treat this condition. Recent advancements include the use of biologic agents targeting interleukin-31 receptors, offering a new therapeutic option for refractory cases.

### Non-Pharmacological Interventions

In addition to pharmacological treatments, non-pharmacological interventions may also be used for managing pain associated with dermatoses. Techniques such as transcutaneous electrical nerve stimulation (TENS) can provide pain relief through neuromodulation. Cognitive-behavioral therapy (CBT) is effective in addressing the psychological components of chronic pain, helping patients develop coping strategies. Patient education programs focusing on skin care, trigger avoidance, and lifestyle modifications can help patients better cope with pain and may improve adherence to treatment.

### Conclusion

Effective management of pain in dermatological conditions requires a comprehensive approach that addresses both the underlying disease and the pain itself. A combination of pharmacological and non-pharmacological strategies, tailored to the individual patient's needs, is essential for optimal outcomes. Ongoing research and a multidisciplinary approach are vital to advancing pain management in dermatology.

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## RATIONAL BIOLOGICS AND SMALL MOLECULES SELECTION FOR SCALP AND NAIL PSORIASIS

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### Introduction

Scalp and nails are commonly affected in psoriasis; scalp involvement is reported in 50-80% and nails in 10-50% of patients (1) (2) (3). These manifestations are even more common in patients with psoriatic arthritis or more severe disease (4) (2). They are listed among special areas, as they are frequently associated with physical and emotional implications, reduced quality of life and self-confidence, social isolation, and work disability (1) (2). Also, special areas are more resistant to standard treatments, and even though significant progress has been made in the treatment of psoriasis in recent years, these areas remain challenging to treat (2). Moreover, data on difficult-to-treat sites remains limited, with few predefined studies specifically focusing on these areas (3) (4). The variability in baseline disease severity and scoring systems across studies further complicates direct comparisons (2) (3).

### Treatment of scalp psoriasis with biologics and small molecules

A 24-week, double-blind, placebo-controlled study evaluating the efficacy of secukinumab in moderate-to-severe scalp psoriasis in patients with or without plaque psoriasis elsewhere on the body demonstrated significant efficacy. By week 12, 35% of patients treated with secukinumab achieved complete resolution compared to 0% in the placebo group (5).

In phase 3 studies, ixekizumab demonstrated superior efficacy to etanercept for scalp psoriasis (6). In the UNCOVER-3 study, the median time to achieve PSSI (Psoriasis Scalp Severity Index) 75, 90, and 100 was 2.1, 4.1, and 4.3 weeks, respectively, highlighting the rapid onset of action of ixekizumab. Furthermore, its efficacy was sustained through 60 weeks (6).

A large international, prospective, non-interventional study (N=1987) compared the efficacy of IL-17A inhibitors (secukinumab and ixekizumab) with other approved biologics (adalimumab, ustekinumab, guselkumab, risankizumab) (7). The scalp was the most frequently involved special area, affecting 66.7% of the patients. At week 12, IL-17A inhibitors achieved an 8.9% higher scalp clearance rate than other biologics. Moreover, patients on ixekizumab had a 10-20% higher response rate and were 1.8-2.3 times more likely to achieve complete clearance.

Post hoc analyses of five phase 3/3b trials of bimekizumab showed that 83.7% of patients with moderate to severe scalp psoriasis (IGA (Investigator's Global Assessment)  $\geq 3$ ) achieved complete clearance, with these high response rates maintained through the end of the second year (8). A retrospective study further supported its real-world efficacy, with 93.9% of patients achieving a scalp-specific PGA (Physician's Global Assessment) score of 0 or 1 at week 24 (9).

Guselkumab, an IL-23 inhibitor, was superior to adalimumab in phase 3 trials, with a higher proportion of patients achieving a scalp-specific IGA score of 0 or 1 (81.8% vs. 69%) at week 16 and (85% vs. 68.5%) at week 24 (10).

In the open-label phase 3 extension study of risankizumab, among the 477 patients with scalp psoriasis at baseline, more than 78% achieved complete clearance at week 16, and more than 73% of the patients preserved their response through 256 weeks (11). While IL-17 inhibitors have a faster onset, IL-23 inhibitors may offer sustained long-term benefits.

Small molecules like apremilast and deucravacitinib provide alternative options to biologics. In phase 3 clinical trials, apremilast demonstrated superiority over placebo in achieving a scalp specific PGA score of 0/1 at week 16 in patients with moderate to very severe scalp psoriasis at baseline (12). Moreover, apremilast showed sustained efficacy, with more than half of the patients maintaining a scalp specific PGA score of 0/1 at week 104 (13). In two Phase 3 trials (POETYK PSO-1 and PSO-2), 64% of patients treated with deucravacitinib achieved significant scalp clearance at week 16, outperforming apremilast (14). This high response rate was sustained through 52 weeks. Small molecules remain valuable while not as potent as newer-generation biologics.

### Treatment of nail psoriasis with biologics and small molecules

A 24-week, open-label study evaluating the efficacy of TNF-alpha inhibitors—namely adalimumab, etanercept, and infliximab—in the treatment of nail psoriasis demonstrated significant improvement with all three drugs (15). Notably, infliximab exhibited a faster onset of action compared to the other treatments.

The TRANSFIGURE study demonstrated both the efficacy and long-term sustainability of secukinumab in treating nail



psoriasis (16) (17). At week 16, both the 300 mg and 150 mg doses of secukinumab showed significant superiority over placebo, with NAPSI (Nail Psoriasis Severity Index) improvements of  $-45.3\%$ ,  $-37.9\%$ , and  $-10.8\%$ , respectively ( $P < 0.001$ ) (16). The efficacy of secukinumab was progressively sustained over 2.5 years, with mean NAPSI improvements of  $-73.3\%$  and  $-63.6\%$  for the 300 mg and 150 mg doses, respectively (17).

Ixekizumab also showed significant improvements in nail psoriasis (18), outperforming etanercept regarding mean percent NAPSI improvement at week 12. This improvement continued through week 60, with more than half of the patients achieving complete resolution (18).

Bimekizumab demonstrated noteworthy efficacy, achieving complete clearance of nail psoriasis in 63.4% of patients, and a 90.0% reduction in the mNAPSI (modified NAPSI) score at 1 year (8). At 2 years, complete clearance was observed in 68.5% of patients, with a 90.7% reduction in the mNAPSI score (8). These high response rates may be attributed to bimekizumab's dual inhibition of both IL-17A and IL-17F.

Post-hoc analyses of phase 3 VOYAGE 1 and 2 trials revealed that a significantly higher percentage of patients achieved complete fingernail clearance in the guselkumab group compared to placebo at week 16 ( $12.4\%$  vs.  $3.8\%$ ,  $P < 0.001$ ) (10). By week 24, the proportions of patients achieving complete clearance were comparable between guselkumab and adalimumab groups, with no statistically significant difference ( $27.4\%$  vs.  $29.9\%$ ,  $P = 0.63$ ) (10). When the efficacy of ixekizumab and guselkumab in nail psoriasis was compared in a 24-week, randomized, double-blind trial, ixekizumab was found superior to guselkumab in achieving complete clearance of nail psoriasis at week 24 ( $52\%$  vs.  $31\%$ ,  $P = 0.007$ ) (19).

The efficacy of risankizumab in the treatment of nail psoriasis in patients with active psoriatic arthritis was demonstrated in the randomised, double-blind, placebo-controlled KEEPSAKE 1 trial. In this study, the mean mNAPSI score improved from 18.1 at baseline to 9.8, while the F-PGA score decreased from 2.1 to 0.8, indicating significant clinical improvement (20). Furthermore, in the phase 3 open-label extension study, more than 66% of patients achieved complete nail clearance at week 256, highlighting its long-term and sustained efficacy in managing nail psoriasis (11).

Apremilast has also demonstrated efficacy in the treatment of nail psoriasis, as evidenced by the findings from the ESTEEM 1 and 2 randomized controlled trials. In these studies, apremilast led to significantly greater improvements in mean NAPSI scores compared to placebo:  $22.5\%$  vs  $-6.5\%$  ( $P < 0.001$ ) in ESTEEM 1 and  $29.0\%$  vs  $7.1\%$  ( $P = 0.0052$ ) in ESTEEM 2 (12). Furthermore, in the LIBERATE study, which evaluated the long-term efficacy of apremilast, the change in mean NAPSI score was  $48.1\%$  at 104 weeks, supporting its sustained benefit (13).

In conclusion, multiple therapeutic agents have demonstrated efficacy for the treatment of scalp and nail psoriasis. However, the treatment selection should be based not only on the severity of the disease and the efficacy of the available options but also on additional factors such as comorbid conditions, prior treatment history, and patient preferences should be considered. There is a need for more data, especially from head-to-head clinical trials focusing on these challenging areas, to improve treatment strategies.

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## PUSTULAR PSORIASIS; BEST TREATMENT OPTIONS FOR DERMATOLOGIST

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Generalized pustular psoriasis (GPP) is a rare, life-threatening subtype of psoriasis characterized by the sudden appearance of widespread sterile pustules on erythematous skin.

Recent research has significantly improved our understanding of the disease, particularly implicating interleukin-36 (IL-36) signaling in its pathogenesis. There are a number of treatment goals for GPP such as, control of fever, pain and prevention of new eruptions.

The most notable breakthrough in recent years is spesolimab, a first-in-class monoclonal antibody targeting the IL-36 receptor. Approved by both the EMA and FDA for the treatment of GPP flares, spesolimab demonstrated rapid and sustained disease control in the EFFISAYIL-2 clinical trial. Etanercept has shown good efficacy in managing GPP in pediatric populations.

Ixekizumab, an anti-IL-17A monoclonal antibody, has shown clinical efficacy and a favorable safety profile across multiple psoriasis subtypes, including GPP. Risankizumab, targeting IL-23, has shown promising results in early real-world applications in GPP. Imsidolimab, an anti-IL-36 receptor antibody, directly addresses the central role of IL-36 signaling in GPP pathogenesis. Phase II trials have reported significant clinical improvements during acute flare-ups, positioning it as a targeted option for severe cases. Furthermore, IL-1 inhibitors have been employed successfully in GPP cases associated with systemic autoinflammatory conditions, underscoring their potential as adjunctive therapies in selected patients.

Despite the rise of biologics, **conventional systemic therapies** remain integral, especially in resource-limited settings or when rapid access to biologics is not feasible. **Methotrexate, cyclosporine, and acitretin** are commonly used, either as monotherapy or in combination. These agents can reduce pustulation and systemic inflammation but often require close monitoring due to cumulative toxicity and variable efficacy in GPP. **Systemic corticosteroids**—while controversial in psoriasis due to the risk of rebound and pustular flare upon withdrawal—are still used in clinical practice for acute, severe flares when immediate immunosuppression is required.

Beyond biologics, granulocyte-monocyte adsorption apheresis (GMA) has emerged as a non-pharmacologic approach that reduces circulating inflammatory cells, offering potential benefit in biologic-resistant or contraindicated cases.

Overall, the evolving therapeutic landscape in GPP highlights the growing role of precision medicine, with targeted agents against IL-17, IL-23, IL-36, IL-1, and TNF-alpha pathways. These therapies provide clinicians with expanded options to individualize care based on disease severity, comorbidities, and treatment response, marking a shift toward mechanism-driven management in this challenging condition.

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## TITLE: ANTI INTERLEUKIN 17 AND SMALL MOLECULES FOR HIDRADENITIS SUPPURATIVA

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HS is a chronic inflammatory skin condition that affect apocrine gland and hair follicles characterized by painful nodules, abscesses, and scarring. HS prevalence rates of 0.3-4.2 % were reported in the Germany and Denmark population.<sup>1</sup> Hidradenitis suppurativa can negatively affect social interactions because of its physical manifestations. Individuals with HS are at an increased risk of experiencing mental health disorder such as anxiety and depression. Clinically it is manifested as a recurrent inflammation occurring more than 2×/6 months or 3×/6 months in the inverse regions of the body, presenting with nodules, sinus-tracts and/or scarring. HS pathophysiology is thought to be initiated by obstruction of the duct of apocrine gland by keratin leading to a perifollicular lympho-histiocytic inflammation followed by follicle rupture and abscess formation. The cytokine-mediated pathophysiology of hidradenitis suppurativa (HS) is characterized by an exaggerated inflammatory response driven by key pro-inflammatory cytokines. TNF- $\alpha$  plays a pivotal role in this process by activating immune cells like neutrophils and promoting the release of additional inflammatory factors, which sustain the cycle of inflammation. IL-17, produced by Th17 cells, further exacerbates chronic inflammation by stimulating keratinocytes, leading to worsened follicular blockage and inflammation. Additionally, cytokines such as IL-12 and IL-23 facilitate the activation and differentiation of Th1 and Th17 cells, which amplify the inflammatory response. This dysregulated immune system creates a feedback loop, where the continuous production of these cytokines contributes to the hallmark features of HS, such as abscess formation, sinus tracts, and scarring.<sup>2</sup>

Hidradenitis suppurativa (HS) is a complex and multifactorial disease that presents a challenge for both patients and clinicians in determining the most effective and optimal treatment approach. This difficulty often leads to increased morbidity and significant patient suffering.

Currently, there are several available treatment options for HS. Topical treatments with systematic therapies and surgical approaches were the only therapeutic options before the biologic era. Nowadays, various biologics and immunomodulators are used and researched for HS. TNF inhibitors have been widely used in the treatment of HS. Immunomodulation is rapidly becoming the essential therapy for moderate-to-severe HS. Actually there is interest in targeting the interleukin 1 (IL-1), IL-12/type 1 helper T-cell, and IL23/type17 helper T-cell pathways as potential therapies. Anti-interleukin-17 (IL-17) therapies have become an important treatment option for hidradenitis suppurativa (HS) due to the central role of IL-17 in the disease's pathogenesis. By inhibiting IL-17, these therapies help modulate the exaggerated immune response that underlies HS, leading to reduced inflammation, fewer abscesses and painful nodules, and enhanced skin healing. Anti-IL-17 treatments offer a targeted strategy by directly disrupting the IL-17/Th17-driven inflammatory pathway, which can be particularly beneficial for patients with severe or treatment-resistant forms of the disease.<sup>3</sup>

Currently, biologic drugs approved for HS are Adalimumab, Secukinumab and Bimekizumab and the results of several studies on different biologics are promising (Bermekimab)<sup>4</sup>. A study of Kimball et al resulted that Secukinumab every 2 weeks was clinically effective and rapidly improving signs and symptoms of hidradenitis suppurativa with a favourable safety profile and with sustained response up to 52 weeks of treatment. Also, secukinumab may be safe and effective in patients with severe Hidradenitis who failed adalimumab (Marteora et al).

Infliximab as an anti TNF alfa is recommended for moderate-to-severe disease, especially to patients with high BMI scores however, dose-ranging studies are needed to determine the optimal dosage for management.

Ustekinumab, 45 to 90 mg administered every 12 weeks, may be effective for HS, especially as a preferred biologic agent in IBD patients with HS failing anti-TNF therapy. Advances in understanding HS pathogenesis are leading to the future expansion of the disease treatment armamentarium.

With phase III trials ongoing, the anti-IL-17 agents Bimekizumab (which blocks IL-17 A and F) is in the most advanced stage of clinical development showing promising results, based on the extensive evidence of the activation and upregulation of the IL-17 pathway in HS inflammation (Scala et al)<sup>4</sup>.



Presently, small molecule inhibitors are being evaluated in clinical trials for treatment. Small molecules (SMIs) are organic compounds and act by modulating specific biochemical pathways, to target inflammatory pathways and control disease progression. Selective SMIs are further subdivided into kinase and nonkinase SMIs. Currently, there are five selective SMIs available in the United States with demonstrated efficacy for HS in clinical studies including apremilast, topical ruxolitinib, upadacitinib, fostamatinib, and sirolimus. ( Jaguan et al)<sup>5</sup>

Tofacitinib and Upadacitinib are JAK inhibitors and act by blocking the activity of JAK enzymes, which play a key role in the signaling of several inflammatory cytokines like IL-6, IL-12, and IL-23.<sup>6</sup> Apremilast, a phosphodiesterase 4 (PDE4) inhibitor, is another small molecule used for inflammatory conditions. It modulates the cyclic AMP (cAMP) pathway, reducing the production of pro-inflammatory cytokines, thus potentially improving HS symptoms.

In summary, new knowledge on HS pathogenesis is leading to the development of new selective and effective drugs. Biologic drugs are revolutionizing HS management. Currently, biologic drugs approved for HS are Adalimumab , Secukinumab and Bimekizumab, but results of several studies on different biologics are promising (Bermekimab) . More data are needed to elucidate a standardized therapeutic algorithm for patients with severe HS.

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## NON-SURGICAL TREATMENT OF HIDRADENITIS SUPPURATIVA

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The non-medical non-surgical management of hidradenitis suppurativa is a niche topic, involving general supportive measures in low-to-moderate severity or, conversely, very severe forms in non-operable patients or those refusing surgery. The choice of treatments is most often based on the personal experience of the clinicians, with a low level of evidence, and reporting retrospective observational studies. Major evidence includes biotherapy, dynamic phototherapy, and non-surgical laser. However, no single treatment is effective for all patients, and usually, a combination of medical, surgical and physical procedures is provided. The presentation will discuss current options and reports the personal experience with cryotherapy on persistent HS nodules, to reduce the burden of local disease. Liquid nitrogen cryotherapy is usually available in the majority of medical clinics, is cheaper than laser and less time-consuming in respect to photodynamic therapy.

A total of 23 patients were included in a single center trial, with a total of 71 persistent nodules treated with a single cryotherapy session. The treatment was effective in 63 out of 71 nodules treated (88.7%), Persistence of the nodules occurred in 11.3% lesions overall, with the groin and gluteal regions confirming themselves as most resistant areas. However, a second session of treatment was provided to those residual nodules, with complete recovery. Patients attested that discomfort during recovery was minimal, not different from periods of flares and the management was not different from daily routine, with consistent improvement also in the quality of the skin texture.

In our experience, cryotherapy is a simple and effective procedure for the treatment of persistent nodules of HS not responding to medical therapy, and it is a valid alternative to local surgery or laser ablation.



## COSMETIC AND AESTHETIC DERMATOLOGY PROCEDURES FOR HIDRADENITIS SUPPURATIVA

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Hidradenitis Suppurativa (HS) is a chronic, recurrent, inflammatory skin disease characterized by painful nodules, abscesses, fistulas, sinus channels, and cicatris. Lesions are frequently found in the axillary, inguinal, submammary, and perianal regions (1). The disease can negatively affect the quality of life of patients by causing both physical and psychosocial discomfort (2).

Aesthetic and cosmetic procedures applied in Hidradenitis suppurativa are complementary to medical treatment and are especially useful when systemic treatments and lifestyle changes are insufficient to control the disease. Aesthetic and cosmetic procedures used in HS in the literature: 1. Injections; intralesional triamcinolone injection, botulinum toxin injection, incision and drainage. 2. Surgical procedures; deroofting (unroofing and marsupialization), deroofting variants, excisional surgery, cryoinsufflation. 3. Laser and light treatments; laser epilation, intense pulsed light (IPL), CO<sub>2</sub> laser, photodynamic therapy (3).

Intralesional triamcinolone injection; triamcinolone acetonide, a widely used corticosteroid, exhibits anti-inflammatory effects by suppressing local immune responses. The mechanism of action of botulinum toxin is thought to be to reduce local sweat gland activity, modulate inflammation, and prevent follicular occlusion and bacterial overgrowth. Incision and drainage is performed to drain purulent material, reduce bacterial load, accelerate the healing process of inflammatory lesions, and control pain (4). Deroofting is a procedure that aims to eliminate chronic inflammation by removing tunnels containing gelatinous debris. This method is considered for abscesses that recur despite medical treatment or tunnels that are constantly inflamed and draining. Cryoinsufflation offers a minimally invasive solution for recurrent abscesses and tunnels. This procedure involves applying the cryogenic agent liquid nitrogen directly to the affected tissue. The extremely low temperatures cause controlled tissue destruction, allowing the abscesses and tunnels to close by forming scar tissue (5). Laser hair removal is a treatment approach that targets the follicular component of HS pathology. The Nd:YAG laser is safe and effective for all Fitzpatrick skin types, but is more suitable for types IV-VI skin types (6). CO<sub>2</sub> laser surgery can be used for tunnel deroofting and excision of scars and tunnels (7). Photodynamic therapy (PDT) is a method that targets inflammatory nodules and tunnels while minimizing systemic side effects (8).

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## JAKS IN DERMATOLOGY

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JAK inhibitors work by blocking the activity of Janus kinases, a family of enzymes involved in signaling within the immune system. The JAK-STAT signaling pathway plays a central role in the immune response, influencing various cytokines that contribute to inflammation. By inhibiting this pathway, JAK inhibitors can reduce the inflammatory processes that drive many chronic dermatologic conditions, offering a highly effective therapeutic option.

In dermatology, the most commonly targeted JAK enzymes are JAK1, JAK2, and JAK3. These enzymes play a role in transmitting signals for various cytokines, such as interleukin-4 (IL-4), interleukin-13 (IL-13), interferons, and interleukin-31 (IL-31), all of which are involved in inflammation, itching, and the progression of skin diseases. By selectively inhibiting these JAK enzymes, JAK inhibitors reduce these signals, ultimately leading to a reduction in skin inflammation and associated symptoms.

The main advantage of JAK inhibitors lies in their ability to target specific immune pathways that drive disease. Unlike traditional systemic therapies, which affect the entire immune system, JAK inhibitors offer a more targeted approach, minimizing off-target effects. They are also available in oral formulations, making them more convenient for patients compared to topical treatments or injectable biologics.

Additionally, JAK inhibitors tend to act quickly, often providing faster symptom relief compared to traditional therapies. This rapid onset of action is particularly beneficial for patients with severe or refractory forms of dermatologic conditions.

This oral medication has been approved for the treatment of moderate to severe atopic dermatitis, hidradenitis suppurativa, alopecia areata, and vitiligo. In patients with psoriasis, the TYK2 inhibitor deucravacitinib has been approved for once-daily use, demonstrating superior efficacy over apremilast and placebo with a tolerable safety profile. Additionally, the JAK-1 inhibitor ruxolitinib has been approved as a topical treatment for vitiligo, helping with repigmentation. Several other JAK inhibitors have shown positive results in clinical trials for conditions such as systemic lupus erythematosus, hidradenitis suppurativa, dermatomyositis, lichen planus, lichen planopilaris, sarcoidosis, and graft-versus-host disease. However, long-term clinical trials are necessary to fully establish their utility and safety in these diseases.

Despite their efficacy, JAK inhibitors are not without risks. Common side effects include an increased susceptibility to infections, as they can suppress certain aspects of the immune system. Other potential side effects include elevated blood pressure, dyslipidemia (elevated cholesterol and triglyceride levels), and hematologic abnormalities, such as changes in blood cell counts. Therefore, patients on JAK inhibitors require regular monitoring to ensure their safety during treatment.

The introduction of JAKs into dermatologic practice marks a new era in the personalized treatment of chronic inflammatory dermatoses. Its efficacy, rapid onset of action, and ability to provide long-term disease control make it a valuable therapeutic option for patients who have not responded adequately to conventional treatments. Further research will help define its role in a broader range of dermatologic conditions.

The future of dermatologic care continues to evolve, with JAK inhibitors like upadacitinib leading the way in offering more effective, targeted treatments for a broad spectrum of challenging dermatological conditions.

JAK inhibitors are revolutionizing the treatment of chronic inflammatory skin diseases by offering targeted, effective therapies that can provide rapid relief and long-term disease control.

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Allergy and Cosmetology in Dermatology

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## THE USE OF ANTI-IL17 THERAPIES IN PSORIASIS

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### Introduction

Psoriasis is a chronic inflammatory skin disease characterized by immune system dysregulation and the interleukin-17 (IL-17) pathway is a crucial player in psoriasis pathogenesis. Consequently, anti-IL17 therapies have been developed and approved for the treatment of moderate-to-severe psoriasis. This presentation provides an overview of the role of IL-17 in psoriasis, available anti-IL17 treatments, and their efficacy, safety, and drug survival profiles.

### Role of IL-17 in Psoriasis Pathogenesis

IL-17 is a pro-inflammatory cytokine that plays a crucial role in the immune response. It is produced by IL-23 dependent T-helper 17 (Th17) cells as well as IL-23 independent-innate immune cells and contributes to the inflammatory cascade in psoriasis by activating keratinocytes, which then release further inflammatory mediators. This leads to increased proliferation of skin cells and the characteristic plaques observed in psoriasis.<sup>1</sup>

Several IL-17 family members have been implicated in psoriasis which are named from IL-17A to IL-17F. IL-17A is the most studied and the most potent subgroup of IL-17s, but it has been shown that IL-17F is the most abundant cytokine in psoriatic lesions. Blocking these cytokines has been shown to reduce inflammation and improve psoriasis symptoms significantly.<sup>2</sup>

#### Anti-IL17 Therapies

Several biologic therapies targeting IL-17 have been developed and approved for psoriasis treatment:<sup>3</sup>

- **Secukinumab:** A fully human monoclonal antibody that targets IL-17A, reducing inflammation and improving skin lesions. It has been extensively studied and has demonstrated long-term efficacy in maintaining disease control.
- **Ixekizumab:** Another IL-17A inhibitor, similar to secukinumab, with proven efficacy in clearing psoriatic plaques. Clinical trials have shown a rapid onset of action, with some patients achieving near-complete clearance within 12 weeks.
- **Brodalumab:** A monoclonal antibody that targets the IL-17 receptor A (IL-17RA), effectively blocking IL-17 signaling. Unlike secukinumab and ixekizumab, brodalumab blocks multiple IL-17 family cytokines, which can lead to a broader effect but also an increased risk of suicidal ideation, necessitating careful patient monitoring.
- **Bimekizumab:** A novel dual inhibitor that targets both IL-17A and IL-17F, offering broader suppression of IL-17-mediated inflammation. IL-17F, like IL-17A, contributes to inflammation and keratinocyte activation, and by blocking both, bimekizumab has demonstrated superior efficacy compared to IL-17A inhibitors alone. Clinical studies have shown that bimekizumab can achieve higher skin clearance rates, with a greater proportion of patients achieving PASI 100 compared to other IL-17 inhibitors. However, its use has been associated with an increased risk of oral candidiasis due to broader immunosuppression in mucosal surfaces.

### Drug Survival and Long-Term Efficacy

Drug survival refers to the length of time patients remain on a specific therapy before discontinuation due to inefficacy, side effects, or other factors. Studies on anti-IL17 therapies indicate:<sup>4</sup>

- **Secukinumab and ixekizumab** have demonstrated high long-term drug survival rates due to sustained efficacy and tolerability. However, some patients may experience secondary loss of response over time, ne-





cessitating dose adjustments or therapy switching.

- **Brodalumab**, despite its efficacy, has lower drug survival rates compared to other IL-17 inhibitors. The risk of psychiatric side effects and the need for frequent monitoring contribute to higher discontinuation rates.
- **Bimekizumab** has shown promising drug survival rates in early studies, particularly due to its enhanced efficacy in skin clearance. However, long-term real-world data is still being collected.

Factors influencing drug survival include baseline disease severity, previous biologic exposure, patient adherence, and tolerability. Combination therapies and proactive management of side effects may improve long-term treatment adherence.<sup>4</sup>

**Clinical Guidelines and Considerations** Clinical guidelines recommend anti-IL17 therapies for patients with moderate-to-severe psoriasis who do not respond adequately to conventional systemic treatments. Additionally, these therapies are effective in specific manifestations of psoriasis, including:<sup>5</sup>

- Scalp psoriasis
- Nail psoriasis
- Palmoplantar psoriasis
- Psoriatic arthritis (PsA)
- Erythrodermic psoriasis
- Pustular psoriasis

However, some considerations must be taken into account before prescribing anti-IL17 therapies:<sup>6</sup>

- **Inflammatory Bowel Disease (IBD):** There is a potential risk of exacerbating conditions such as Crohn's disease and ulcerative colitis.
- **Candidiasis:** Patients on IL-17 inhibitors may have an increased risk of recurrent fungal infections, particularly those receiving bimekizumab.
- **Tuberculosis and Viral Infections:** These therapies are generally safe, but screening for latent infections is recommended before treatment initiation.
- **Pregnancy and Pediatric Use:** While secukinumab and ixekizumab have been approved for children over six years, their safety in pregnancy remains uncertain. Bimekizumab's use in pregnant women is still under evaluation, and caution is advised.

## Conclusion

Anti-IL17 therapies have revolutionized the treatment landscape for psoriasis, offering highly effective and targeted solutions for patients with moderate-to-severe disease. These biologics provide significant clinical benefits while maintaining a relatively safe profile. However, careful patient selection and monitoring are necessary to mitigate potential risks. Drug survival data suggests that while most IL-17 inhibitors are well-tolerated, differences in long-term adherence exist among these therapies. Future research will further refine these therapies and explore their broader applications in immune-mediated diseases.

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## BIOLOGICS FOR ERYTHRODERMIC PSORIASIS

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Guidelines for erythrodermic psoriasis treatment include two biologics: the use of infliximab as first-line therapy in acute and unstable cases, and etanercept as second-line options in more stable cases. However, since guidelines publications, new biologics have been approved for the treatment of plaques psoriasis, and off-labeling use in erythrodermic psoriasis has been reported with higher efficacy scores and over-all safety, especially with regards to ustekinumab, secukinumab, ixekizumab and guselkumab. Unfortunately, the rarity of EP makes head-to-head Phase III trials challenging, and data are limited to spontaneous case series or clinical trials sub-analysis. More recently, risankizumab has been licensed in Japan for generalized pustular and erythrodermic psoriasis, in adult patients.

The presentation will report the personal experience in the use of anti-IL 17, together with a review of other options from current literature in order to offer a wide perspective on biologics application in EP management.



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## SYNDROMIC HIDRADENITIS SUPPURATIVA

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### Syndromic HS

Hidradenitis suppurativa (HS) is an autoinflammatory skin disorder of the terminal hair follicle, manifesting with painful nodules, abscesses, draining tunnels, and hypertrophic scarring, typically occurring in apocrine gland bearing skin. Besides common comorbidities, in a few patients, HS may occur in association with specific immune-mediated autoinflammatory diseases or inherited conditions, defining the setting of “syndromic” HS (sHS). Among these cases, HS-related autoinflammatory syndromes represent a unique group that is simultaneously classified within neutrophilic dermatoses and is hallmarked by the refractoriness to standard management strategies.

The term encompasses the following entities: pyoderma gangrenosum (PG), acne and HS (PASH); PG, acne, pyogenic arthritis and HS (PAPASH); psoriatic arthritis (PsA), PG, acne and HS (PsAPASH); pustular psoriasis, arthritis, PG, synovitis, acne and HS (PsAPSASH); PG, acne, HS and ankylosing spondylitis (PASS); PsA, PG, HS and Crohn disease (PsAPSC); vasculitis with PASH (VPASH); synovitis, acne, pustulosis, hyperostosis, osteitis (SAPHO).

Notwithstanding recent advances, their nosologic framing is still subject of debate because there is a wide range of monogenic and polygenic conditions increasingly associated with HS, complicating the diagnosis and classification of these complex phenotypes.

A provisional classification of sHS was first provided by Gasparic and colleagues, distinguishing 3 main categories based on the possible pathomechanisms: (1) sHS associated with a genetic condition; (2) sHS associated with follicular keratinization disorders or follicular occlusion syndrome; and (3) sHS associated with autoinflammatory diseases, both monogenic and polygenic.

As syndromic forms represent the prototype of refractory HS, new approaches may be needed to adequately treat these patients. Although anti-TNF agents and, to a lesser degree, dose-intensified anakinra represent the best-supported therapeutic options in HS-related autoinflammatory syndromes, the encouraging results obtained in isolated reports with off-label biologics may foreshadow a change in the therapeutic landscape. Indeed, a great-unmet need exists in terms of truly effective treatments in this setting.

### To open a HS excellence center in Hospitals: What can we do?

Hidradenitis suppurativa (HS) is a chronic, systemic, immune-mediated disease with multifactorial pathogenesis and a heterogenous clinical presentation, requiring multimodal care. The progression of HS is plagued by unmet needs, including long diagnostic delays and difficulties in accessing specialised clinics, leading to inadequate care. Centres of competence in HS (HSCCs), offering specialised, multidisciplinary care are crucial for raising disease awareness and advancing treatment. However, until now, criteria for defining such centre did not exist. These criteria may include, but are not limited to, standardised care and treatment protocols, early and accurate diagnosis, continuous medical education for healthcare professionals (HCPs) and awareness programmes for patients

Recently, a Delphi consensus exercise was conducted to establish the criteria for HSCCs using Delphi method. A three-step Delphi polling procedure was conducted among 22 HS experts worldwide from May 20 to July 8, 2024, to establish the HSCC criteria. Patient representatives were identified through patient associations or dermatologists specialised in HS, while HCPs were identified as dermatologists with extensive experience in managing patients with HS.

Two essential criteria and several other important ones were identified, including the adoption of a “hub and spoke” model of organization and the offer of multidisciplinary patient care.





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## INFLAMOSCOPY; ENHANCING THE DIAGNOSIS OF CLINICALLY SIMILAR SKIN LESIONS

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Dermoscopy is a noninvasive diagnostic technique that enhances the evaluation of skin lesions, facilitating the differentiation between benign and malignant conditions.

When applied to inflammatory dermatoses, we refer to it as “inflamoscopy,” an auxiliary diagnostic tool used following clinical examination and thorough anamnesis. By evaluating the scales (color and distribution), vessels (morphology and distribution), follicular disturbances, and specific clues, we can narrow the list of differentials and improve our diagnostic accuracy.

Characteristic dermoscopic features of inflammatory skin diseases include regularly distributed red dots in psoriasis, corresponding to dilated capillary loops in the dermal papillae. In contrast, eczema exhibits a polymorphic vascular pattern comprising dotted and linear vessels (morphology and distribution), reflecting its spongiotic nature. Lichen planus is distinguished by the presence of Wickham striae, which manifest as whitish reticular lines indicative of epidermal hypergranulosis.

The use of dermoscopy for assessing inflammatory skin lesions on the arms and hands enhances the diagnostic precision of clinically similar conditions and may reduce the need for invasive procedures, such as biopsies.



## Clinical Value of Dermoscopy in Psoriasis

Assoc. Prof. M. Çiğdem Oba

Clinical value of dermoscopy in psoriasis can be summarized in three aspects: Diagnosis, follow-up and prediction of treatment response.

Psoriasis is one of the dermatoses that benefits most from dermoscopy as it displays a repetitive pattern. Main features are the vessels, scales and background color. Regularly distributed dotted/globular vessels uniform in size, shape, and distance among each other are typical findings (1). Detection of any other morphologic type of vessel should raise doubts about the diagnosis of plaque psoriasis. Red globular rings is another dermoscopic finding in psoriasis characterized by round capillaries (red globules) arranged in irregular circles or rings with a beaded, lacelike capillary appearance (2). This is very specific but not sensitive. Diffuse scales correspond to parakeratosis. The color of the scale is not specific. Although white scales are more common, yellow scales can also be seen, especially in patients older than 50 years, possibly due to decreased skin turnover (3). Light red background color corresponds to histopathologic findings including thinning of the epidermis above the dermal papilla, dilatation of vessels in the dermal papilla and superficial dermis, and

perivascular inflammatory cell infiltration. The color might be milky pink in children/adolescents (3). Many clinical mimickers of psoriasis including lichen planus and folliculitis can be deciphered with dermoscopy (4). Dermoscopy is also helpful in differentiation of palmoplantar psoriasis from hand eczema (5). Regularly distributed vessels (in contrast to patchy distribution) and white scales (in contrast to yellow scales) are findings in favor of palmoplantar psoriasis (5). Vessels linearly arranged along the furrows of dermatoglyphics is also described (6). In pustular psoriasis, yellow globules (pustules) and crusts along with dotted vessels and white scaling are seen. In contrast, acute generalized exanthematous pustulosis produces no distinct vascular structure (7). Dermoscopy also enhances the detection of psoriatic nail changes (8).

In the follow-up period, perilesional linear telangiectasias are apparent before there is clinically visible atrophy. This dermoscopic finding reveals the overuse of potent topical corticosteroids in the preatrophy stage (9).

As for prediction of treatment response, globular vessels in psoriatic patients were noted as negative response predictor to Nb-Uvb phototherapy (10). Lastly, development of dermoscopic hemorrhagic dots is a predictor to response to biologic therapies (11).

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## Utility of Dermoscopy in the Diagnosis of Erythroderma

Assoc. Prof. M. Çiğdem Oba

Erythroderma, AKA exfoliative dermatitis, is defined as erythema and scaling involving >90% of body surface (1). It is of paramount importance to promptly diagnose the underlying cause of erythroderma in order to make a fast treatment plan. Although histopathologic examination is the gold-standard evaluation for erythrodermic cases, this procedure is time consuming. Thus, dermoscopy is very helpful to make a differential diagnosis among many causes of erythroderma (1).

Psoriasis is leading cause of erythroderma in various series including our institution (2). Dermoscopic clues of plaque psoriasis are preserved in erythrodermic psoriasis; that is, regularly distributed white scales and diffuse dotted vessels corresponding to parakeratotic hyperkeratosis and dilated vessels in homogeneously elongated dermal papillae, respectively (1).

In eczema, yellow scales are expected due to hyperkeratosis and spongiosis. Sometimes whitish scales may also be observed. Eczema may also display dotted vessels, but, unlike psoriasis, they are distributed in a focal pattern (1).

In pityriasis rubra pilaris (PRP), orangish structureless area/blotches are typical feature that helps us to differentiate PRP from psoriasis; along with islands of nonerythematous, spared skin displaying reticular vessels; whitish scales are also present, which are not specific. Follicular keratotic plugs are also an important feature (1,3).

In cases with drug induced erythroderma, purpuric spots corresponding to the frequent erythrocytes extravasation, a mixed vascular pattern (especially linear and sparse dotted vessels), and white scaling are seen.

In erythrodermic mycosis fungoides (MF) cases, the orange-yellow areas of early stage MF is replaced with non-homogenous pink-erythematous background. Dotted, short linear, spermatozoa- like and arborizing blood vessels and scales are observed (4).

Dermatomyositis is an another important cause of erythroderma. These patients might be misdiagnosed as seborrheic dermatitis or allergic dermatitis and they gradually progress to erythroderma. Dermoscopically, Gottron's papules are characterized by pleomorphic vessels (dotted vessels accompanied by thick or thin linear vessels with branches or linear curved vessels). Follicular plugs and white structureless areas can also be seen (5). Nail fold dermoscopic findings are also helpful. Enlarged/giant capillaries; ramified bushy capillaries, loss of capillaries/avascular areas, ragged cuticles and microhemorrhages are observed.

Nowadays, dermatophytoses are an increasingly common cause of erythroderma. Typical inwards to exwards desquamation pattern is helpful in their diagnosis. Black dots surrounded by whitish halo is a sign of vellus hair involvement (6).

Lastly erythroderma due to crusted scabies is easily diagnosed with dermoscopy. Dark brown triangular structures located at the end of whitish structures wavy lines are seen. UV dermoscopy enhances the visualization of mite elements.

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## DERMOSCOPY IN PATCH TESTING

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Interpreting patch test results, especially in cases of weak positive or doubtful reactions, is particularly challenging and requires clinical experience. Due to these difficulties, a high level of interobserver variability is often observed. At this point, dermoscopy emerges as a simple, rapid, and noninvasive method that can assist in the evaluation of test reactions.

In allergic reactions, the most frequently observed dermoscopic finding is diffuse and homogeneous erythema covering more than half of the test chamber. Additionally, soap-bubble-like vesicles, dotted vessels, yellow-orange crusts, and occasionally papules or pustules may be seen. These findings reflect the inflammatory nature of allergic contact dermatitis.

In irritant reactions, erythema tends to be limited to perifollicular areas and is not distributed homogeneously. The pore (poral) pattern and perifollicular erythema are distinctive features of these reactions. Dotted vessels are generally absent, and if vascular structures are present, they are more likely to be linear. The absence of diffuse erythema can help rule out an allergic reaction.

Dermoscopy is especially useful in clinically doubtful cases. The presence of diffuse and homogeneous erythema can help reclassify such cases as allergic reactions. Dermoscopy also plays a critical role in evaluating reactions in individuals with dark skin or in tests involving pigmented substances, where erythema may not be easily visible to the naked eye.

In conclusion, dermoscopy is a valuable adjunctive tool in the evaluation of patch tests and offers significant diagnostic support, particularly in unclear cases. Studies suggest that this method can enhance diagnostic accuracy and potentially reduce the need for repeat testing.

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## UV-INDUCED FLUORESCENCE DERMATOSCOPY IN INFLAMMATORY SKIN DISEASES

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This lecture introduces the audience to ultraviolet-induced fluorescence dermatoscopy (UVFD), a novel diagnostic method based on the Stokes shift [1]. It presents a study comparing the diagnostic accuracy of UVFD and conventional polarized dermatoscopy (PD) in non-neoplastic dermatoses [2]. A retrospective analysis was conducted on 208 patients from five dermatology centers located in Italy, Poland, and India. Patients were grouped based on similar clinical presentations, including foot intertrigo, intertrigo of major skin creases, papulopustular acne vs. *Malassezia* folliculitis, papulosquamous dermatoses, and hypopigmented macular dermatoses of the trunk. Dermatoscopic images were analyzed independently by two raters using both imaging techniques.

UVFD demonstrated the highest diagnostic accuracy in 9 out of 17 dermatoses analyzed, particularly in clinical scenarios where polarized dermoscopy failed to provide distinctive features. In the group of foot intertrigo, green fluorescence was most diagnostic for *Pseudomonas* infection, red fluorescence for interdigital erythrasma, whereas the absence of fluorescence best characterized interdigital tinea. Regarding intertrigo of the major creases, uniform dotted vessels seen under PD were most accurate for inverse psoriasis. Red polygonal or diffuse areas observed under UVFD, along with bluish-to-greenish perifollicular concretions, were highly indicative of erythrasma. A vascular pattern of peripheral dots seen under PD was the strongest indicator of dermatophytic infection, while a lack of fluorescence under UVFD indicated candidal intertrigo. In pustular trunk lesions, *Malassezia* folliculitis was characterized by bluish follicular fluorescence, whereas papulopustular acne exhibited areas devoid of red follicular fluorescence under UVFD. For papulosquamous dermatoses, PD patterns were most accurate: uniform dotted vessels and diffuse white scales indicated psoriasis, Wickham striae, and peripheral dotted or linear vessels suggested lichen planus, peripheral white scales with inward scaling were indicative of pityriasis rosea, and pityriasis lichenoides chronica was characterized by orange structureless areas and randomly arranged linear vessels. Concerning hypopigmented macular dermatoses of the trunk, UVFD provided key diagnostic clues for progressive macular hypomelanosis, displaying central follicular red fluorescence, and achromic pityriasis versicolor, showing follicular blackout areas without red fluorescence occasionally accompanied by light green fluorescence in the scale. PD was most diagnostic for idiopathic guttate hypomelanosis, displaying peripheral zones with hyperpigmented physiological networks, and for vitiligo, featuring well-defined white structureless areas.

In conclusion, UVFD dermoscopy significantly enhances diagnostic capabilities for several non-neoplastic dermatoses. Nonetheless, optimal diagnostic accuracy is best achieved by combining both PD and UVFD techniques.

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Allergy and Cosmetology in Dermatology

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## ALLERGIC CONTACT DERMATITIS: CHALLENGING CASES

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The diagnosis of allergic contact dermatitis (ACD) can sometimes be challenging. Here, we present five cases of ACD with complex diagnostic features.

**Patient 1:** A young girl with generalized eczema starting on her face and hands initially had no clear contact history. However, a specific detail provided by her mother helped solve the case, alongside patch testing with the correct allergen and analysis of hobby materials using gas chromatography-mass spectrometry.

**Patient 2:** A middle-aged man developed diffuse eczema on his back after spending 8–10 hours a day bare-chested in a newly purchased artificial leather office chair during the hot summer months. Patch testing revealed strong positive reactions to various layers of the chair's backrest and the adhesive used in its upholstery.

**Patient 3:** Despite no recent use of topical agents, a patient experienced persistent eczema on the dorsum of his feet due to prolonged wear of plastic slippers. Patch testing with old and new shoes, as well as previously applied topical drugs, confirmed ACD caused by retained topical medications in the footwear.

**Patient 4:** A middle-aged man developed persistent foot eczema six months after beginning to wear new leather shoes. He also had significant occupational exposure to anti-mould sachets in a plastic toy factory. Patch testing identified the culprit shoe allergen.

**Patient 5:** A young man with persistent eyelid eczema for three months had no known exposure to allergenic topical products. Patch testing unexpectedly identified a contact allergen responsible for systemic allergic dermatitis.

These cases highlight the complexity of ACD diagnosis and the importance of detailed patient history, targeted patch testing, and material analysis in identifying causative allergens.

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## ALLERGY TESTING IN SERIOUS CUTANEOUS DRUG REACTIONS HARMFUL OR BENEFICIAL?

Tunç Özen<sup>1</sup>

<sup>1</sup>Cizre Devlet Hastanesi, Şırnak, Türkiye, Dermatoloji

For drug reactions currently clinical diagnosis is the reference standard, using the timing of the reaction with the characteristics of the rash and the likely culprit medications. When multiple medications are involved, and the culprit medication is unclear, delayed reading of intradermal testing (IDT) and patch testing (PT) results can provide additional evidence for the most likely culprit and may be useful biomarkers for identifying the culprit medication.

Skin testing is the primary diagnostic biomarker for drug allergies, particularly immediate hypersensitivity reactions. It has the advantages of being relatively noninvasive, inexpensive to perform, and providing rapid results. The most widely studied use of skin testing in drug allergies is penicillin allergies. For patients with a history concerning for an IgE-mediated reaction to penicillin, particularly when use of a beta-lactam antibiotic is necessary, skin testing with both major penicillin antigenic determinants and minor antigenic determinants is recommended. A systematic review found that penicillin skin testing had a sensitivity of 30.7% and a specificity of 96.8%, revealing low sensitivity but high specificity.<sup>1</sup> The utility of skin testing for immediate reactions to other antibiotics is less clear, as the major determinants for most drugs are not known. In patients with positive skin test results to penicillin, there is evidence that many patients with allergy will lose their sensitivity over time.<sup>2</sup> Skin testing is not affected by sex, and skin testing in pregnancy has been found to be a safe and effective way to evaluate penicillin allergy. Skin testing to platinum agents has been found to be an effective way to evaluate patients after their reactions. The incidence of immediate hypersensitivity reactions to platinum agents ranges from 8% to 22% and typically occurs after at least 6 to 7 cycles of treatment. Skin testing sensitivity ranges from 40% to 80%.<sup>3</sup>

For delayed hypersensitivity reactions, it can be difficult to determine the type of reaction and the culprit medication, particularly when a patient was treated with multiple medications before the reaction. Unlike drug-induced urticaria or anaphylaxis, which typically occur minutes to hours after drug exposure, there can be a weeks' long temporal delay between exposure to the inciting drug and development of the eruption.

Overall, there appears to be significant variability in the patch test positivity of different drugs, which is likely the result of factors intrinsic to the drug such as dermal absorption (as a function of lipophilicity and molecular size) and whether the drug itself or a downstream metabolite is implicated in the immune reaction.

In the setting of a negative patch test, skin prick or intradermal testing can be pursued, although false positives are more common with intradermal testing than with patch testing.

The cutaneous morphology of DIHS (Drug induced hypersensitivity syndrome) can mimic a morbilliform drug eruption, but is importantly accompanied by facial edema, fever, and evidence of end-organ involvement, including most commonly, eosinophilia, lymphocyte activation and hepatitis. DRESS tends to start 2 to 6 weeks after exposure to the inciting drug and can last for many months.

In the largest multicenter study, 64% of patients (46 of 72) were found to be patch test positive, with the majority of reactions to beta-lactams, carbamazepine, proton pump inhibitors, vancomycin, and pristinamycin.

In a study with 56 patients a positive patch test reaction was observed in 18 patients (32.1%) of which 17 were with antiepileptics and 1 with tenoxicam. Patch tests with allopurinol and its metabolite were negative in all cases attributed to this drug. Patch testing with allopurinol appears to be low yield, likely due to a drug metabolite being implicated in the eruption.<sup>4</sup>

SJS and TEN are life-threatening hypersensitivity reactions characterized by fever, atypical macular or papular targets, and painful cutaneous desquamation and mucosal erosions. These syndromes typically develop 1 to 3 weeks after exposure to the inciting drug.

The IDT is contraindicated in (SJS/TEN) given the risk of provoking a reaction. The PT can be performed in SJS/TEN, but its sensitivity is not high. The value of PTs depends on the type of drug and the type of reaction.

In a multicenter French study with SJS/TEN patients 22 out of 113 showed patch test positivity and 17 patients underwent IDT only one of them had positive result but considered irrelevant. For SJS/TEN, based on the current available literature, the benefit of IDT does not outweigh the risk.<sup>5</sup>



Patients with Acute generalized exanthematous pustulosis (AGEP) typically present with innumerable and sometimes subtle non-follicularly based subcorneal pustules on a background of erythema. Facial edema, fever, neutrophilia and/or eosinophilia, and hypocalcemia frequently accompany these cutaneous findings. The eruption is self-limited and typically develops within 2 days to 2 weeks of exposure to the inciting drug. In a study of 14 patients with AGEP, 50% were positive on patch testing. In another study with 45 patients 58 percent were positive and one patient experienced a relapse during the test, so it's safe to assume allergy testing in AGEP is safe. In this study 5 additional cases were diagnosed using delayed intradermal tests.<sup>4</sup>

Fixed drug eruptions classically present with a recurrent erythematous patch or patches that evolve into targets and sometimes bulla at the same body site with each exposure to the offending drug. Commonly implicated drugs include sulfonamides, NSAIDs, tetracyclines, erythromycin, fluoroquinolone, cetirizine, hydroxyzine, and barbiturates. Patch testing appears to be fairly helpful and safe in the setting of FDE. In a study of 52 patients, 40.4% were patch test positive, mostly to NSAIDs (nimesulide, piroxicam, and etoricoxib) and 1 to cetirizine. The importance of the test vehicle for certain drugs is highlighted in a few studies by Professor Esen Ozkaya-Bayazit et al. In one study of 27 patients with cotrimoxazole-induced FDE and 20 healthy controls, no positive results were obtained when testing with petrolatum, but 25 of 27 tested patients exhibited positivity when the drug was tested in varying concentrations in DMSO.<sup>6</sup>

Skin testing is a useful biomarker for both immediate and delayed drug reactions and, when used in conjunction with history of clinical presentation, it can help to determine the cause and mechanism of drug hypersensitivity. The primary limitations of skin testing are its low sensitivity, limited number of expert clinics, and unknown chemical structures. Also, during IDT a crash cart should always be available.

Given the significant negative impact drug allergies have on patient care, definitive diagnosis of the culprit medication would prevent future reactions and decrease the use of alternative medications that can have considerable clinical and economic costs.

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## AN UPDATE ON CHRONIC PRURITUS: INSIGHTS AND MANAGEMENT

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Chronic pruritus is defined as itch or urticaria with chronic itch, experienced for 6 weeks or longer. It has a high impact on the quality of life of patients. Chronic pruritus is usually multifactorial but it is inflammatory in most cases as in eczema, psoriasis, or seborrheic dermatitis. CP can also be neuropathic, psychiatric/psychosomatic diseases, while sometimes, CP can occur as a secondary itch with uremic, cholestatic, drug induced, infectious (tinea corporis and scabies) causes. A generalised pruritus with no defined etiology is termed as Pruritus of Unknown origin (PUO).

CP is classified by the International Forum for the Study of Itch (IFSI) into Primary pruritus (occurring on inflamed or non-inflamed skin) or Secondary scratch lesions. The pathophysiology of CP is complex newer studies and research has shown that it goes way beyond mast cells and histamine 1 and 4 receptors, also involving Interleukin 31 (IL-31), Neuropeptides such as CGRP, SP, Vasoactive intestinal peptide (VIP), Somatostatin, and Neurotensin.

The management of CP should start with a thorough history taking with respect to onset, preexisting diseases, allergies, drug intake, family history, and aggravating factors, followed by clinical and laboratory evaluation with baseline tests like CBC, Metabolic, Thyroid, Liver, Kidney profiles, ImmunoglobulinE and sometimes advanced level testing like ANA, AMA, Antigliadin antibody, Anti-TG antibody, PTH hormone, Immunoglobulin electrophoresis, Serum tryptase, Serotonin and its metabolites (urine), and Stool for ova and parasites, depending on clinical examination and history. Allergy testing and Radiological evaluation Chest X-ray, MRI, CT, USG are only used in rare cases of treatment resistance.

It's important to assess the degree of pruritus and the response to treatment through various proposed assessment scales like the Visual Analogue Scale (VAS) and the Numerical Rating Scale (NRS), which are most commonly used. The main goals of the treatment are to break the itch-scratch cycle and improve the quality of life of patients and this is achieved firstly by avoiding all triggering factors and using topical treatments like steroids, immunomodulators, topical anaesthetics. The second line of treatments are the oral drugs like oral corticosteroids and neuromodulators like gabapentin, pregabalin, naloxone, amitriptyline. For refractory cases of chronic pruritus, immunosuppressive agents like Dupilumab, Methotrexate, Cyclosporin A, thalidomide and the newer JAK inhibitors like tofacitinib and baricitinib have proven to be effective.

Various physical treatments like phototherapy, photodynamic therapy, lasers and cryotherapy are used in specific, refractory pruritic conditions like Vulvar lichen sclerosis (VLS) and Keloids.

In conclusion, when it comes to managing chronic pruritus, it's important to think beyond histamine pathway, take proper history and collaborate with other specialities to improve QOL of those suffering.

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## DELPHI CONSENSUS FOR ALLERGIC SKIN DISEASES

Mahmut Sami METİN\*

Allergic skin diseases, including atopic dermatitis (AD), contact dermatitis (CD), chronic spontaneous urticaria (CSU), and other hypersensitivity-mediated dermatoses, represent a significant clinical burden worldwide. These conditions are characterized by chronic inflammation, immune dysregulation, and complex interactions between genetic predisposition and environmental triggers. Despite the growing body of research elucidating their pathophysiology, there remains considerable variability in diagnostic criteria, treatment paradigms, and long-term management strategies. The Delphi consensus method has emerged as a pivotal tool for synthesizing expert opinion and establishing evidence-based guidelines in areas where clinical evidence is either evolving or conflicting. This presentation aims to explore the role of the Delphi consensus process in allergic skin diseases, emphasizing its methodological rigor, real-world clinical applications, and implications for patient-centered care.

### What is Delphi Method?

The Delphi method is a forecasting process framework wherein the main objective is to arrive at a group consensus. It involves filling up questionnaires by chosen experts. The expert group opines their views to an initiator or facilitator, then summarizes the gathered information into an understandable report. The process of the Delphi method involves asking multiple rounds of questions to the target group of experts. The participants continue with it until they arrive at a common consensus. The process is exploratory and has a broad application in project management and the public domain.

### The Delphi Consensus Method: Theoretical Framework

The Delphi method is a systematic, iterative process designed to achieve consensus among a panel of experts through structured communication. The methodology is particularly valuable in dermatology, where clinical heterogeneity and rapidly advancing treatment modalities necessitate a flexible yet rigorous approach to guideline development. The key principles of the Delphi process include:

1. **Anonymity:** Participants provide input independently, minimizing bias from dominant individuals or groupthink.
2. **Iterative Rounds:** Multiple rounds of questionnaires allow for refinement and convergence of expert opinions.
3. **Controlled Feedback:** Summaries of group responses are shared after each round, allowing participants to re-evaluate their views based on collective insights.
4. **Statistical Aggregation:** A predefined threshold (typically  $\geq 75\%$  agreement) is used to determine consensus on key recommendations.

### Application of the Delphi Consensus to Allergic Skin Diseases

The Delphi method has been extensively applied to address diagnostic, therapeutic, and preventive aspects of allergic skin diseases. Key areas of application include:

1. **Standardization of Diagnostic Criteria**
2. **Therapeutic Algorithms**
3. **Patient Stratification and Precision Medicine**
4. **Prevention and Long-Term Management**

### Key Findings from Recent Delphi Consensus Studies

#### 1. Atopic Dermatitis

- A multi-expert Delphi panel emphasized early intervention, including proactive emollient use and structured patient education programs to enhance adherence to prescribed therapies.
- Dupilumab was strongly recommended for patients with moderate-to-severe AD unresponsive to conventional treatments, with emerging real-world evidence supporting its long-term efficacy and safety.

#### 2. Chronic Spontaneous Urticaria

- Consensus was reached on omalizumab as the preferred third-line therapy, with expert recommendations detailing



optimal dosing regimens and patient selection criteria.

### 3. Contact Dermatitis

- Delphi studies reinforced the need for harmonization of patch testing methodologies and expanded baseline series to include newly recognized sensitizers.

### Clinical Implications and Future Directions

The Delphi consensus process serves as a crucial mechanism for standardizing care, fostering interdisciplinary collaboration, and prioritizing future research directions in allergic skin diseases. Key implications include:

1. Enhancing Clinical Standardization
2. Interdisciplinary Integration
3. Guiding Research Prioritization
4. Dynamic Guideline Evolution

### Conclusion

The Delphi consensus methodology represents a cornerstone in advancing the field of allergic skin disease management. Its structured, iterative approach enables the synthesis of expert insights, facilitating the development of standardized, evidence-based guidelines. As our understanding of allergic skin diseases continues to expand, ongoing updates to Delphi consensus recommendations will be essential to ensuring that clinical practices remain responsive to the latest scientific and therapeutic advancements.

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## HOW CAN WE OPEN UCARE/ADCARE CENTERS?

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GA<sup>2</sup>LEN, the Global Allergy and Asthma European Network, has recently introduced a program aimed at developing, connecting, and accrediting centers of excellence in specific areas of allergy, as part of its broader quality management framework for allergy centers. The focus of this initiative is on urticaria and atopic dermatitis, two conditions that are common, debilitating, and challenging to manage, particularly when chronic. The establishment of Centers of Reference and Excellence in Urticaria (UCAREs) and Atopic Dermatitis (ADCARE) aims to improve the care and treatment of these difficult-to-manage conditions.

The key goals of the GA<sup>2</sup>LEN UCARE program is to deliver exceptional care in urticaria management, foster increased research and education, and enhance public awareness of the condition through advocacy efforts. To become a certified GA<sup>2</sup>LEN UCARE, centers must apply and meet 32 specific requirements, which are evaluated during an audit process.

The GA<sup>2</sup>LEN UCARE program is expected to build a robust global network of urticaria specialists, promote collaborative research, and standardize and enhance the management of urticaria worldwide. To become a part of **UCare** or **AdCare**, healthcare providers must meet specific eligibility criteria, such as licensing and credentialing requirements. The process typically involves submitting an application, undergoing a credentialing review to verify qualifications, and entering into a contractual agreement upon approval. Once accepted, providers may be required to complete training to align with network standards. Ongoing compliance with network policies, including regular performance evaluations and audits, is essential to maintain membership. Each network may have unique requirements, so providers should consult their official resources for detailed instructions. Joining the **UCARE** or **ADCARE** network offers numerous benefits, including enhanced recognition and credibility, access to a global network of specialists, and opportunities for collaboration and knowledge exchange. Members gain access to valuable resources such as research, education, and ongoing training, ensuring they stay at the forefront of medical advancements. The network also provides opportunities to engage in research, contribute to advocacy efforts, and standardize patient care, leading to improved outcomes for conditions like urticaria and atopic dermatitis. Additionally, regular audits and evaluations ensure ongoing support and continuous improvement in care quality.

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## POLLEN ALLERGY -WHAT'S NEW?

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Pollen produced by plants during the flowering period can be dispersed into the environment, either carried by insects or carried by the wind<sup>1</sup>.

Sensitization to pollen occurs when a person inhales allergenic pollen in amounts exceeding a certain threshold level, which varies according to genetic background, pollen type and environmental factors. Sensitization usually occurs on the respiratory mucosa where moisture causes hydration of the inhaled pollen. The proteins contained in pollen grains can activate strong immunological responses in sensitized people, known as Type-I hypersensitivity reactions. Each pollen grain is a double-walled structure containing different metabolites such as proteins, carbohydrates, hormones, organic acids, pigments, minerals, etc.

Type I hypersensitivity occurs as a result of exposure to an antigen. We know mechanism involving th2 cells, antigen-presenting cells, mast cell degranulation and other inflammatory cells such as eosinophils. The response to antigen occurs in two phases: sensitization and action phase. During the sensitization phase, the host experiences an asymptomatic contact with the antigen. Then, during the “action” phase, the previously sensitized host is reintroduced to the antigen, leading to a type I anaphylactic or atopic immune response. Patients show ocular itching with coryza, sneezing, nasal itching, nasal congestion, rhinorrhea, angioedema and conjunctival hyperemia in any combination. Widespread activation of mast cells can result in a systemic response to the antigen that can cause anaphylactic shock.

Tree and grass pollen from wind pollinated plants are a frequent source of allergens. Between 12 and 17 % of the general population in Europe suffer from grass pollen allergy with almost 10 % suffering from tree pollen allergy.

Pollen due to their large size cannot enter the thoracic regions of the respiratory tract but can affect the nasopharyngeal mucous membrane. At the same time, the submicronic-pollen particles can act as respirable particles reaching deeper into the upper airways leading to exacerbation of asthma, chronic obstructive pulmonary disease and other allergic reactions<sup>2</sup>.

As an another antity pollen-food allergy syndrome occurs in people who have pollen allergy, although not all patients have obvious hay fever or seasonal allergy symptoms. Patients typically report itching and/or mild swelling of the mouth and throat immediately following ingestion of certain uncooked fruits or raw vegetables<sup>3</sup>.

Serum specific IgE measurement is currently the most widely used in vitro method for allergy diagnosis. Besides allergen extracts provided for single complex assays, a panel of purified natural and recombinant components is commercially available for routine diagnosis<sup>4</sup>.

Prevention of pollen allergy is difficult because people work in the same environment and it is very difficult to avoid exposure to airborne pollen. Some basic preventive measures can be taken to reduce exposure, such as advising people to stay indoors, keep windows and doors closed, avoid gardening or mowing the lawn during peak pollen seasons when the amount and spread of pollen in the air is significant.

Depending on the triggered disease and symptoms, we can use medication for treatment. Such as second generation oral antihistamines, steroids. Allergen immunotherapy is currently the only disease-modifying approach that can prevent the natural progression of the disease (also known as allergic march), provide a long-lasting therapeutic effect and prevent the worsening of symptoms and the emergence of new sensitizations in allergic individuals<sup>5</sup>.

It is known that meteorological parameters have an impact on pollen parameters. Rising temperatures affect pollen production and season length. Today, pollen allergy is no longer only relevant in midsummer, but is already a constant companion for some allergy sufferers. General statements that all pollen seasons are now getting longer cannot be made. Modifications in wind patterns can increase long-distance transport of pollen grains. Air pollutants adhere to the surface of pollen grains and change not only the morphology of these antigen-bearing agents but also their allergenic potential. In addition, airway inflammation increases the permeability and enable pollutants to overcome the mucosal barrier function and may potentiate the response to allergens in atopic patients. According to the severity and duration of symptoms, an optimal treatment should be applied continuously, not only in spring but throughout the year when pollen is present, even when the air pollution level is low<sup>6</sup>. Some of the new treatments tried in pollen allergy are: Low-dose IL-2 in birch pollen allergy<sup>7</sup>, oral supplementation with quercetin<sup>8</sup>, local nasal immunotherapy with ointment containing birch pollen-galactomannan



conjugate<sup>9</sup>, production of high affinity ICAM-1 specific nanobodies<sup>10</sup>.

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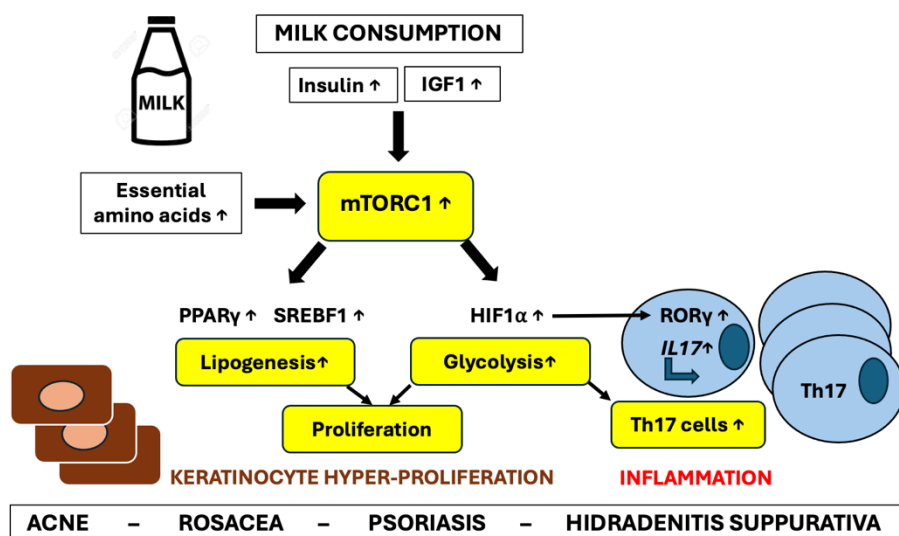
## MILK ASSOCIATED WITH SKIN DISEASES

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To explore the pathogenic impact of cow milk consumption on inflammatory skin diseases, the signaling pathways stimulated by milk intake have to be considered. Milk's major evolutionary function is to promote growth during the postnatal lactation period. In all mammals, except humans, milk is consumed in a species-specific and timely restricted manner until weaning.

At the cellular level, milk-derived signals activate the nutrient- and growth factor-sensitive kinase mTORC1, the central regulator of metabolism. Milk provides abundant essential amino acids (esp. leucine) increasing serum insulin, serum IGF-1 and serum essential amino acid levels that synergistically activate mTORC1 inducing mTORC1-dependent translation (1). Activated mTORC1 stimulates the expression of lipogenic transcription factors (SREBF1, PPAR) and the key transcription factor of glycolysis, hypoxia-inducible factor-1 (HIF1 $\alpha$ ). HIF1 $\alpha$  induces the expression of retinoic acid-related orphan receptor- $\gamma$  (ROR $\gamma$ ), which drives Th17 differentiation and IL17 production. Thereby, HIF1 $\alpha$  reprograms metabolism of inflammatory cells promoting inflammatory gene expression (2). HIF1 $\alpha$ -mediated activation of glycolysis plays a crucial role for accelerated cell proliferation of keratinocytes and Th17 immune cells.



Remarkably, over-activation of mTORC1 and increased cutaneous expression of HIF1 $\alpha$  associated with Th17 cell abundance have recently been detected in common inflammatory skin diseases including acne, rosacea, psoriasis, and hidradenitis suppurativa, respectively.





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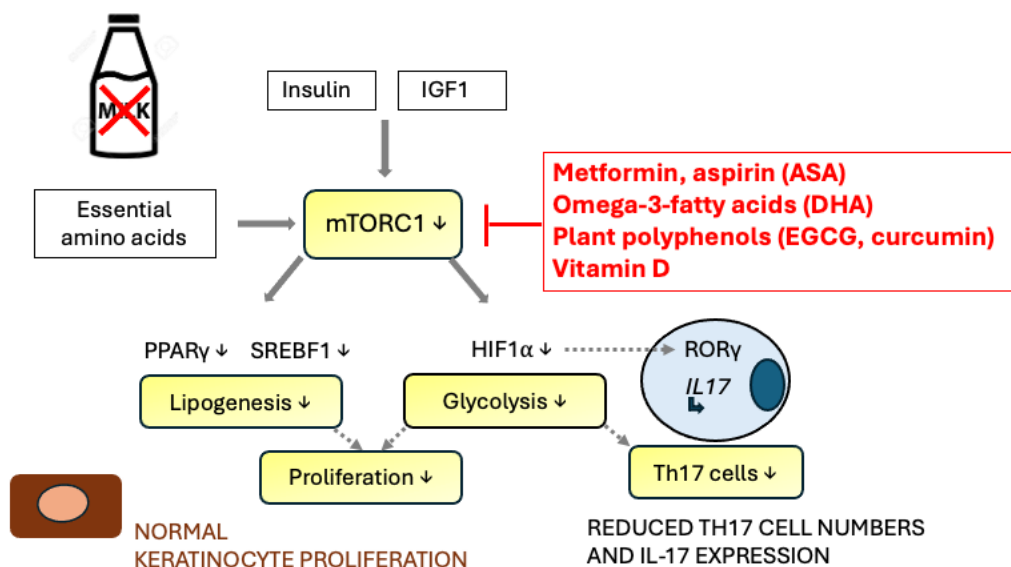
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Skin disease	mTORC1	HIF1 $\alpha$	Th 17 cells
<b>Acne</b>	Melnik, Dermatoendocrinol 2012; Agamia, Br J Dermatol 2016; Monfrecola, Exp Dermatol 2016; Melnik, Cells 2023	Danby, J Am Acad Dermatol 2014; Choi, Dermatology 2021; Melnik, Cells 2023	Kelhäla, PlosOne 2014; Kistowska, J Invest Dermatol 2015; Zouboulis, Front Immunol 2022; Mias, J Eur Acad Dermatol Venereol 2023
<b>Rosacea</b>	Deng, EMBO Mol Med 2021; Peng, Front Cell Dev Biol. 2021; Zeng, Biomed Pharmacother 2022; Yang, Front Immunol 2024	Taş-Aygar, Dermatol Pract Concept 2024	Buhl, J Invest Dermatol 2015; Long, Immun Inflamm Dis 2024
<b>Psoriasis</b>	Buerger, PlosOne 2017; Buerger, Front Immunol 2018; Ferreri, Cells 2022	Zhu, Int Immunopharmacol 2020	Malakouti, J Dermaolog Treat 2015; Li, Immun Res 2020; Sharma. Curr Drug Res Rev 2022
<b>Hidradenitis suppurativa</b>	Monfrecola, J Eur Acad Dermatol Venereol 2016; De Vita, Melnik, J Am Acad Dermatol 2018; Dmitriev, J Eur Acad Dermatol Venereol 2021; Petrasca, Br J Dermatol 2023	Agamia, Arch Derm Res 2023	Schlapbach, J Am Acad Dermatol 2011; Melnik, Br J Dermatol 2018; Zouboulis, J Eur Acad Dermatol Venereol 2020; Molinelli, Int J Mol Sci 2023

The lifetime impact of persistent cow milk-mediated over-activation of mTORC1 promoting fetal to childhood overgrowth, acne, diabetes, prostate and breast cancers, and neurodegeneration has recently been reviewed elsewhere (3). Convincing epidemiological and biochemical evidence supports the association of milk/dairy intake and clinical aggravation of acne vulgaris as well as rosacea (4,5,6). Notably, psoriasis patients consume higher amounts of dairy products than healthy controls (7) and a low dairy/low carbohydrate diet considerably improves hidradenitis suppurativa (8).

The inhibition of mTORC1 appears to be a promising approach to alleviate the severity of common inflammatory skin diseases. Accumulated evidence underlines that the anti-diabetic drug metformin inhibits mTORC1 and attenuates inflammatory gene expression and severity of acne, rosacea, psoriasis and hidradenitis suppurativa (9,10). Thus, milk-induced signaling is the opposite of metformin signaling (mTORC1 activity up- *versus* down-regulation).





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Inflammatory disease	Reported beneficial clinical effects of metformin treatment
<b>Acne vulgaris</b>	Melnik, <i>Dermatoendocrinol</i> 2012; Sharma, <i>J Clin Aesthet Dermatol</i> 2019; Cho, <i>Acta Derm Venereol</i> 2023; Kamboj, <i>Clin Exp Dermatol</i> 2023; Szeffler, <i>Pharmaceuticals (Basel)</i> 2024; Nguyen, <i>Cureus</i> 2024
<b>Rosacea</b>	Li, <i>Pharmacol Res</i> 2021; Cho, <i>Acta Derm Venereol</i> 2023
<b>Psoriasis vulgaris</b>	Sung, <i>J Drugs Dermatol</i> 2020; Huang, <i>Postepy Dermatol Allergol</i> 2023
<b>Hidradenitis suppurativa</b>	Verdolini, <i>J Eur Acad Dermatol Venereol</i> 2013; Sung, <i>J Drugs Dermatol</i> 2020; Jennings, <i>J Dermatolog Treat</i> 2020; Cho, <i>Acta Derm Venereol</i> 2023; Tsentemidou, <i>Skin Appendage Disord</i> 2023

## Facit

Calorie reduction, a Mediterranean low carb diet with preferential consumption of fish, fruits and vegetables and restriction of milk/dairy as well as animal protein intake attenuates mTORC1-HIF1 $\alpha$ -dependent proinflammatory signaling. In addition, mTORC1-inhibiting dietary polyphenols, omega-3-fatty acids and vitamin D all converge in attenuating mTORC1 signaling and thus operate conversely to milk signaling (Western diet). Dietary intervention in patients with acne, rosacea, psoriasis and hidradenitis suppurativa including metformin treatment are promising therapeutic approaches reducing the degree of inflammation and lowering the required doses and costs of pharmaceutical treatment.

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## Exercise Related Food Allergies

Muhammed Burak YÜCEL, MD.

### Introduction

Exercise-related food allergies represent rare but potentially life-threatening clinical entities that can result in anaphylactic reactions. These allergies generally present in two distinct forms: exercise-induced anaphylaxis (EIA), which occurs solely in response to physical exertion, and food-dependent exercise-induced anaphylaxis (FDEIA), where anaphylaxis is triggered only when specific foods are consumed prior to exercise (1).

EIA was first described in 1979 by Maulitz et al. in a 31-year-old male patient who experienced recurrent episodes of anaphylaxis after running following the ingestion of shellfish. FDEIA is considered a subtype of this condition and represents a unique form of IgE-mediated food allergy. In FDEIA, anaphylactic symptoms manifest exclusively when physical activity follows the ingestion of a specific food (2).

### Epidemiology

There is limited epidemiological data regarding the prevalence of EIA and FDEIA. While the overall prevalence of anaphylaxis is relatively higher (ranging from 0.09% to 5.1%), the reported prevalence rates for EIA (0.03%) and FDEIA are considerably lower.

Both clinical entities can affect individuals of all ages and ethnic backgrounds, with no apparent gender predilection. Published case reports encompass a wide age range of affected individuals, spanning from 4 to 74 years (3).

### Pathophysiology

Although the pathogenesis of EIA and FDEIA has not been fully elucidated, FDEIA is considered a form of primary IgE-mediated food allergy in which increased gastrointestinal permeability during exercise facilitates the translocation of allergens into the systemic circulation.

While some evidence suggests that increased intestinal permeability occurs primarily during high-intensity or prolonged physical exertion, it is important to note that both EIA and FDEIA can also develop in the absence of strenuous exercise (4).

Alcohol consumption, infections, and the use of nonsteroidal anti-inflammatory drugs (NSAIDs) may act as auxiliary cofactors, contributing to increased intestinal mucosal permeability and thereby enhancing the likelihood of allergic reactions.

Exercise may facilitate mast cell degranulation through mechanisms involving elevated core body temperature and alterations in pH, triggering the release of bioactive mediators such as histamine, arachidonic acid metabolites (including leukotrienes, prostaglandins, and platelet-activating factor), and tryptase. In FDEIA, IgE-mediated mechanisms are particularly prominent, and sensitization to specific allergens plays a critical role in disease manifestation (5).

### Clinical Manifestations

FDEIA is a mast cell-mediated phenomenon. Clinical symptoms typically emerge following the ingestion of a triggering food—commonly wheat (particularly  $\omega$ -5 gliadin), shellfish, peanuts, or milk—when combined with subsequent physical exertion. Symptoms generally do not occur when either the food is consumed alone or exercise is performed in isolation.

A hallmark feature is the onset of symptoms during or shortly after physical activity. Prodromal signs may include dyspnea, flushing, generalized pruritus, coughing, and abdominal pain. Although symptoms are most commonly triggered by high-intensity activities such as running, there are documented cases linked to milder forms of exertion, including gardening or walking. Discontinuation of physical activity often results in symptom improvement (6).

### Diagnosis

The diagnosis of FDEIA is primarily based on clinical history, with a detailed anamnesis being of critical importance.



During evaluation, factors such as the type and intensity of physical activity, symptom onset and duration, ingested foods, medications, and seasonal variables should be carefully assessed. Symptoms typically occur during or within the first hour after exercise, and diagnosis requires the involvement of at least two organ systems. For a diagnosis to be established, the patient must tolerate the suspected food in the absence of exercise, and exercise alone should not provoke symptoms without food intake (Table 1).

Additionally, evidence of IgE-mediated sensitization to the implicated food should be demonstrated through skin prick testing or serum-specific IgE measurement. Controlled food and exercise challenge tests should only be conducted in specialized centers equipped with appropriate emergency intervention facilities (7).

**Table 1: Foods Most Commonly Involved in FDEIA (7)**

Most common	Less common
Wheat	Other grains (maize, buckwheat, etc.)
Shellfish (particularly shrimp)	Vegetables (lettuce, celery, pepper)
Legumes (peanut, soy)	Garlic
Tree nuts	
Tomato	

**Table 2. Proposed Criteria for Food-Dependent, Exercise-Induced Anaphylaxis (FDEIA) (8)**

Criteria for Food-Dependent, Exercise-Induced Anaphylaxis (FDEIA)
1. Signs and symptoms compatible with anaphylaxis that occurred during (or within an hour) of exercise, but only when exercise was preceded by specific food ingestion.
2. Evidence of allergic sensitivity to the implicated food. This may include either positive serum-specific IgE or positive skin prick test.
3. No symptoms upon ingestion of the food in the absence of exercise.
*Symptoms may occur in the presence of cofactors such as aspirin and/or ethanol.
4. There is no alternative diagnosis to better explain the patient's symptoms.

## Treatment and Management

The management of FDEIA and EIA relies on the early recognition of symptoms, avoidance of known triggers, and the implementation of individualized emergency action plans. All patients should be prescribed an epinephrine auto-injector and provided with a personalized anaphylaxis action plan. This plan should include patient education on the identification of triggering factors, symptom progression, and the correct use of emergency medications.

## Exercise Safety Recommendations (10)

- Exercise should be initiated slowly and in a controlled manner, preferably in the presence of an “exercise partner” who is informed about the patient’s condition and capable of administering epinephrine if necessary.
- Patients with FDEIA should avoid food intake—especially known for triggering foods—within 4 to 6 hours prior to physical activity.
- The use of aspirin and alcohol should be avoided within 24–48 hours before exercise.
- Outdoor activities should be avoided during periods of high temperature, humidity, or pollen levels
- At the first sign of symptoms, physical activity should be stopped immediately; if symptoms persist, medication should be administered and emergency medical assistance sought.





## Pharmacological Approach (10)

- H1-antihistamines may help reduce the severity of episodes, particularly when taken 1–2 hours prior to exercise; however, their capacity to prevent attacks entirely is limited.
- Sodium cromoglycate has shown benefit in some case reports, especially when taken 20–30 minutes before meals.
- Beta-2 agonist inhalers may be prescribed as supportive therapy for respiratory symptoms such as cough and wheezing.
- Omalizumab has demonstrated promising results in refractory cases. As a biologic agent effective in other mast cell-mediated forms of anaphylaxis, it has provided long-term symptom control in select patients.

## Prognosis

Data on the natural history of FDEIA and EIA are limited. Long-term follow-up studies suggest a potential decline in episode frequency over time, likely associated with patient education, appropriate treatment strategies, and effective avoidance of triggers. Fatal outcomes are extremely rare; however, isolated cases complicated by delayed or absent epinephrine administration have been reported (10).

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## Alcohol and nonsteroidal antiinflammatory drugs associated foods in Allergy

Muhammed Burak YÜCEL, MD.

### Introduction

Food allergies result from an abnormal immune response to specific dietary antigens and can manifest across a wide clinical spectrum, ranging from mild cutaneous reactions to severe, life-threatening anaphylaxis. In recent years, the role of cofactors such as alcohol and nonsteroidal anti-inflammatory drugs (NSAIDs) in modulating food allergy responses has garnered increasing scientific interest, particularly due to their potential to trigger or exacerbate allergic reactions.

### Alcohol and Food Allergies

Alcohol consumption has been identified as a potential cofactor capable of exacerbating allergic reactions in individuals with food allergies. In a study conducted by Cardona et al., which analyzed 74 cases, alcohol was shown to act synergistically with other cofactors—such as NSAIDs and physical exercise—to trigger allergic responses. In this study, alcohol was implicated as an enhancing factor in 12.2% of the cases, most commonly in conjunction with plant-based foods, particularly vegetables, cereals, and nuts (1).

It has also been reported that some individuals may develop systemic reactions—such as anaphylaxis—only when certain foods, otherwise tolerated under normal circumstances, are consumed in conjunction with alcohol. This observation supports the concept of *cofactor-enhanced food allergy (CEFA)*. In CEFA, patients tolerate the allergenic food when ingested alone; however, the addition of cofactors such as alcohol, exercise, or NSAIDs can lead to severe allergic responses (1).

In a large-scale study conducted by Versluis et al. involving 496 patients with food allergies, alcohol consumption was identified as a cofactor that may enhance the severity of food-induced allergic reactions. Notably, 5% of patients reported experiencing more severe allergic symptoms following alcohol intake. This proportion is particularly noteworthy when compared to other cofactors such as physical exercise (10%) and analgesic use (0.6%) (2).

One proposed mechanism underlying this effect is alcohol's ability to increase intestinal permeability by disrupting epithelial tight junctions, thereby facilitating the absorption of food allergens. Moreover, several studies have suggested that alcohol may elevate total serum IgE levels and contribute to allergic sensitization. In particular, high levels of alcohol consumption have been associated with increased susceptibility to allergens (3,4).

These findings suggest that alcohol acts not only as a potential trigger but also as a modulator capable of lowering the threshold for allergic responses and amplifying clinical severity. Nevertheless, the fact that 65% of patients were unaware of alcohol's potential role in exacerbating allergic reactions (2) highlights the need to improve patient awareness and education.

### NSAIDs and Food Allergies

Nonsteroidal anti-inflammatory drugs (NSAIDs) are recognized as significant cofactors that can augment the severity of allergic reactions in individuals with food allergies. The literature suggests that the ingestion of certain foods in combination with NSAIDs may trigger or intensify allergic responses, a phenomenon described as *food-dependent NSAID-induced hypersensitivity (FDNIH)*. FDNIH is particularly prevalent among patients sensitized to lipid transfer proteins (LTPs), such as Pru p 3, which is commonly observed in the Mediterranean region (5).

Among patients sensitized to lipid transfer proteins (LTPs), the use of NSAIDs has been associated with an increased frequency of symptoms such as urticaria and angioedema. Furthermore, a significant association between chronic urticaria (CU) and NSAID hypersensitivity has been reported. It has been proposed that chronic stimulation of mast cells in these patients may lead to heightened cellular reactivity, thereby transforming a “silent sensitization” into clinically manifest allergy. This effect of NSAIDs is thought to be mediated through inhibition of prostaglandin E<sub>2</sub> and increased gastrointestinal mucosal permeability, both of which may facilitate allergen absorption and enhance mast cell responsiveness (6,7).

Additionally, in cases of exercise-induced food allergy—particularly wheat-dependent exercise-induced anaphylaxis (FDEIA)—the concomitant use of NSAIDs has been shown to potentiate type I hypersensitivity responses and lower the threshold for anaphylactic reactions. These findings suggest that NSAIDs, when combined with exercise and specific foods, may exert a synergistic effect that significantly increases the risk of severe reactions (8).

Clinically, these insights underscore the importance of evaluating NSAID use in patients diagnosed with food allergy or FDEIA, and in some cases, restricting their use may be warranted. Moreover, in cases of anaphylaxis occurring after NSAID administration, it is crucial to assess not only drug hypersensitivity but also potential sensitization to foods con-



sumed simultaneously, as some patients may experience reactions only when NSAIDs and specific foods are combined, whereas neither trigger alone induces symptoms (9).

## Clinical Evaluation and Management

In individuals with food allergies, the potential of alcohol and NSAID use to amplify the severity of allergic reactions should be carefully considered. Accordingly, the following clinical strategies are recommended

- **Patient Education:** Patients should be informed about the potential exacerbating effects of alcohol and NSAIDs on food allergies.
- **Avoidance of Triggers:** Individuals with a history of allergic reactions associated with alcohol or NSAID consumption should be advised to avoid these substances.
- **Comprehensive Allergen Assessment:** In cases of reactions occurring after combined alcohol and food intake, sensitization to both the food and alcohol should be evaluated.
- **Emergency Preparedness:** Patients should be trained in appropriate response measures in case of an allergic reaction and be provided with a personalized emergency action plan.

## Conclusion

Given the potential role of alcohol and NSAIDs in triggering or exacerbating allergic reactions in individuals with food allergies, cautious use of these substances is warranted. These cofactors may worsen the clinical picture through mechanisms such as increased intestinal permeability, facilitation of mast cell activation, and enhanced translocation of food allergens into systemic circulation. Therefore, thorough assessment of cofactor exposure and comprehensive patient education are of critical importance. Raising patient awareness and implementing appropriate preventive measures can play a pivotal role in reducing the risk of severe allergic reactions.

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# 10<sup>TH</sup> INDERCOS

International Dermatology and Cosmetology Congress

17 - 20 April 2025 | Radisson Blu Şişli Hotel-İstanbul, Türkiye

Allergy and Cosmetology in Dermatology

## ANAPHYLAXIS ‘WHAT’S NEW’

Doç. Dr Güzin Özden

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Klinik İmmünoloji ve Alerjik Hastalıklar

Anaphylaxis Definitions 2001 to 2021

Country, region, or organization	Date	Definition	Reference
EAACI	2001	Anaphylaxis is a severe, life-threatening, generalized or systemic hypersensitivity reaction	Johansson et al, <sup>7</sup> 2001
ASCI	2004	Anaphylaxis is a rapidly evolving generalized multisystem allergic reaction characterized by one or more symptoms or signs of respiratory and/or cardiovascular involvement, and involvement of other systems such as the skin and/or gastrointestinal tract.	Braganza et al, <sup>8</sup> 2006 and Brown et al, <sup>9</sup> 2006
USA/NIAID	2006	Anaphylaxis is a serious allergic reaction that is rapid in onset and may cause death (see Table 5 for NIAID anaphylaxis criteria)	Sampson et al, <sup>10</sup> 2006
Brighton Collaboration Working Group—International	2007	Anaphylaxis is an acute hypersensitivity reaction with multiorgan system involvement that can present as, or rapidly progress to, a severe life-threatening reaction. It may occur after exposure to allergens from a variety of sources including food, aeroallergens, insect venom, drugs, and immunizations. Anaphylaxis is set apart from simple allergic reactions (eg, urticaria, allergic rhinitis, asthma) by the simultaneous involvement of several organ systems.	Rüggeberg et al, <sup>11</sup> 2007
US JTFPP guidelines	2010	Anaphylaxis is an acute, life-threatening systemic reaction with varied mechanisms, clinical presentations, and severity that results from the sudden systemic release of mediators from mast cells and basophils.	Lieberman et al, <sup>12</sup> 2010
WAO	2011	Anaphylaxis is a serious life-threatening generalized or systemic hypersensitivity reaction and a serious allergic reaction that is rapid in onset and might cause death.	Simons et al, <sup>13</sup> 2011
Pakistan	2013	Anaphylaxis is a serious allergic reaction that is rapid in onset and may cause death.	Khan et al, <sup>14</sup> 2013
EAACI	2014	Anaphylaxis is a severe (potentially) life-threatening generalized or systemic hypersensitivity reaction. This is characterized by being rapid in onset with life-threatening airway, breathing, or circulatory problems and is usually, although not always, associated with skin and mucosal changes.	Muraro et al, <sup>15</sup> 2014
Germany	2016	Anaphylaxis is a severe, life-threatening, generalized or systemic hypersensitivity reaction. Grade 1: local with no systemic symptoms. Grade 2: mild/moderate systemic reaction with skin and/or GI. Grade 3: severe anaphylaxis, systemic with respiratory and/or cardiovascular involvement	Niggemann and Beyer, <sup>16</sup> 2016
ASCI	2016	Any acute-onset illness with typical skin features (urticarial rash or erythema/flushing, and/or angioedema), PLUS involvement of respiratory and/or cardiovascular and/or persistent severe gastrointestinal symptoms; or any acute onset of hypotension or bronchospasm or upper airway obstruction where anaphylaxis is considered possible, even if typical skin features are not present.	ASCI Clinical Update <sup>21</sup>
WHO ICD-11	2019	Anaphylaxis is a severe, life-threatening systemic hypersensitivity reaction characterized by being rapid in onset with potentially life-threatening airway, breathing, or circulatory problems and is usually, although not always, associated with skin and mucosal changes.	World Health Organization 2021 <sup>17</sup>
WAO	2019 2020	Anaphylaxis is a serious systemic hypersensitivity reaction that is usually rapid in onset and may cause death. Severe anaphylaxis is characterized by potentially life-threatening compromise in breathing and/or the circulation and may occur without typical skin features or circulatory shock being present.	Turner et al, <sup>18</sup> 2019 and Cardona et al, <sup>19</sup> 2020
EAACI	2020	Anaphylaxis is a severe allergic reaction. [Defined in the context of when to use epinephrine autoinjectors]	Kraft et al, <sup>20</sup> 2020
ASCI	2021	Any acute-onset illness with typical skin features (urticarial rash or erythema/flushing and/or angioedema), plus involvement of respiratory and/or cardiovascular and/or persistent severe gastrointestinal symptoms; or any acute onset of hypotension or bronchospasm or upper airway obstruction where anaphylaxis is considered possible, even if typical skin features are not present.	ASCI, <sup>21</sup> 2021
Brighton Collaboration Working Group	2022	Anaphylaxis presents acutely and leads to a marked change in an individual's previous stable condition and is characterized by the following: rapid progression of symptoms and signs which typically affects multiple body systems (skin/mucosa/respiratory/cardiovascular/gastrointestinal) at the same time or sequentially but occurring in a short period of time (within 1 hour of onset of the first symptoms or signs).	Gold et al, <sup>24</sup> 2022

The definition of anaphylaxis is explained in the table according to years. A 2023 practise parameter update was published in 2024 This practice parameter is not a comprehensive review of anaphylaxis but focuses on 7 areas in which new evidence has emerged and in which recommendations may now be different from previous practice parameters.

### Diagnosis

Accurate classification, criteria, and definitions for the diagnosis of anaphylaxis are critical for proper treatment and consistency in research studies that would enable meaningful evidence analysis and stronger recommendations.

Revised criteria by the World Allergy Organization (WAO), Brighton, and Delphi Consensus groups aim to create more universally accepted definitions and criteria for anaphylactic reactions.

Biphasic anaphylaxis is associated with greater severity of an initial reaction, persistence of the reaction, and use of more than one dose of epinephrine.

Baseline serum tryptase (bST) level should be measured in patients presenting with a history of recurrent, idiopathic, or severe anaphylaxis, Hymenoptera venom anaphylaxis, or with suspected mastocytosis.





Evaluation for hereditary  $\alpha$ -tryptasemia (HaT) and clonal mast cell disease should be considered if bST level is more than 8 ng/mL. Alpha-gal allergy can be a cause of unexplained anaphylaxis. Alpha-gal syndrome, which is associated with tick bites is a rising cause of IgE-mediated food anaphylaxis

## Infants and Toddlers

The diagnosis and treatment of anaphylaxis may be even more challenging in infants.

As our understanding improves, so can our recommendations for this important age group.

In infants and toddlers, patient age is not correlated with reaction severity, and anaphylaxis is unlikely to be the initial reaction to an allergen on first exposure.

Infants and toddlers may display age-specific symptoms that are less often reported in older children and adults.

## Community settings

Anaphylaxis is most difficult to recognize and treat outside of health care facilities.

Reactions may occur at home, school, work, dining out, traveling, or in many other locations, and situations can be associated with different patient characteristics, causes, or available options for treatment or prevention.

Patients at high risk for anaphylaxis, and their caregivers, should be counseled regarding the carrying and using of epinephrine autoinjectors (EAI) and the recognition and avoidance of exposures.

Childcare centers and schools should implement staff training and stock undesignated EAI that can be used to treat any individual who experiences anaphylaxis.

## Beta-Blockers and Angiotensin-Converting Enzyme Inhibitors

Both beta-blockers and angiotensin-converting enzyme inhibitors (ACEIs) have been previously considered to be contraindicated in patients at high risk for anaphylaxis because of increased risk of severe anaphylaxis.

For most medical indications, the risk of stopping or changing the medication may exceed the risk of more severe anaphylaxis if the medication is continued, especially in patients with insect sting anaphylaxis.

Venom immunotherapy (VIT) may be considered for patients receiving BBs/ACEIs, with shared decision-making regarding the balance of benefits and harms.

Patients receiving maintenance-dose allergen immunotherapy (AIT) have minimal increased absolute risk of severe anaphylactic reaction when receiving BBs/ACEIs and may consider continuing AIT and medications based on shared decision-making.

## Mast cell disorders

Many mast cell disorders are associated with an inherently greater risk of anaphylaxis.

Advances in recent years are beginning to enable better recognition of the related phenotypes, application of new diagnostic methods, and targeting treatment to prevent anaphylaxis.

The bST level should be measured in patients with severe insect sting anaphylaxis, particularly among those who had hypotension and/or absence of urticaria, in all cases of recurrent unexplained anaphylaxis, and in patients with suspected mastocytosis.

Evaluation for mastocytosis, including a bone marrow biopsy, should be considered for adult patients with severe insect sting anaphylaxis or recurrent idiopathic anaphylaxis (IA), particularly those with a predictive Red Espanola MASTocytosis (REMA) score.

New treatment modalities are under investigation to prevent anaphylaxis in high-risk patients.

## Perioperative anaphylaxis

After perioperative anaphylaxis, repeat anesthesia may proceed in the context of shared decision-making and based on the history and results of diagnostic evaluation.

Immediate hypersensitivity skin testing (percutaneous and intradermal) and/or in vitro-specific IgE testing should be performed, if available, to all potential pharmacologic and nonpharmacologic culprits used during the perioperative period

Challenges should be performed to all culprit agents to which skin and/or in vitro testing is negative

## New Developments in Treatment

- Recent advancements in epinephrine delivery systems (e.g., new auto-injectors or alternatives like nasal sprays). Several devices administering adrenaline by nasal, sublingual or transcutaneous route are currently under investigation.
- Novel therapeutic agents under research (e.g., monoclonal antibodies).
- Emerging approaches such as desensitization therapies or new combination treatments.



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FDA Approves First Nasal Spray **NEFFY** for Treatment of Anaphylaxis, August 09, 2024

Neffy is a single dose nasal spray administered into one nostril.

As with epinephrine injection products, a second dose (using a new nasal spray to administer neffy in the same nostril) may be given if there is no improvement in symptoms or symptoms worsen.

Neffy comes with a warning that certain nasal conditions, such as nasal polyps or a history of nasal surgery, may affect absorption of neffy, and patients with these conditions should consult with a health care professional to consider use of an injectable epinephrine product.

Neffy also comes with warnings and precautions about use of epinephrine by people with certain coexisting conditions and allergic reactions associated with sulfite.

## **Peanut Allergy Treatments:**

- **Oral Immunotherapy (OIT):** Products like Palforzia have been approved for managing peanut allergies, which can help mitigate the severity of anaphylactic reactions in allergic individuals.

- **Epicutaneous Immunotherapy (EPIT):** A “patch” treatment is under development to allow small amounts of allergen exposure through the skin, gradually desensitizing the immune system.

## **Biologics and Small Molecules:**

- New drugs aimed at blocking multiple pathways involved in anaphylaxis (e.g., mast cell activation inhibitors) are being investigated, which could offer broader protection compared to targeting a single allergen.

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## ANGIOEDEMA: HOW CAN WE APPROACH?

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Angioedema (AE), characterized by asymmetric swelling that can involve the mucosa, submucosa or subcutaneous tissue of face, lips, mouth, throat, larynx, uvula, extremities, and genitalia; is one of the perplexing clinical conditions. If it is associated with urticaria, the patient management is not difficult in most cases. However, “isolated angioedema” may be a sign of life-threatening acquired or hereditary diseases. The current classification of angioedema is as follows:

### **A.Acquired Angioedema (AAE)**

1. IH-AAE (idiopathic histaminergic acquired angioedema)
2. InH-AAE (idiopathic non-histaminergic acquired angioedema)
3. AAE-C1-INH (acquired angioedema with C1-INH deficiency)
4. ACEI-AAE (ACE inhibitor-induced acquired angioedema) and other drug-induced AE

### **B.Hereditary Angioedema (HAE)**

1. HAE-C1-INH
2. HAE-nC1-INH (HAE-FXII, HAE-ANGPT1, HAE-PLG, HAE-KNG1, HAE-MYOF, HAE-HS3ST6, HAE-CPN, HAE-UNK)

While in typical cases of HAE-C1-INH, the diagnosis is made easily with clinical and laboratory data, the diagnosis and also the management is challenging in HAE-nC1-INH characterized by normal C1-INH level and function. Although HAE-nC1-INH cases are associated with several mutations, there are still lots of HAE patients without any detectable mutation (HAE-UNK). Some typical features of HAE-nC1-INH are outlined below:

Recurrent angioedema

Female sex

Older age of onset

More reactive to estrogen

Higher incidence of facial attacks (oropharyngeal involvement)

No erythema marginatum

Rare incidences of hemorrhages and/or bruising immediately before swelling

No concomitant use of mediators known to trigger AE

Normal (or near normal) C1-INH function and levels of C4 and C1-INH

Positive family history of recurrent AE

No response to high dose antihistamines (AH)

Identification of a mutation in a gene known to be associated with HAE-nC1-INH

Angioedema may be “histaminergic” or “non-histaminergic” (bradykinin-mediated). This subclassification is basic for the management of patients. Histaminergic AE quickly develops ( $\leq 1$  h), disappear in 24-36 hours, may be associated with urticaria (and/or anaphylaxis), triggers may be revealed, GI involvement is rare, responds to AH and corticosteroids (CS), and there is atopy / allergy in most cases.

Non-histaminergic AE is recurrent and severe, slowly develops, reaches peak level in hours and regresses in 3-5 days, there is no associated urticaria, frequent recurrent abdominal pain is a typical feature. It doesn't respond AH and CS. All cases of AE, except IH-AAE, are mediated (possibly) by bradykinin, not histamine.

“Idiopathic angioedema” represents the most difficult and confusing subgroup. In these cases, all suspected medications (ACEI, NSAİ, opioids etc.) should be discontinued and 2<sup>nd</sup> generation high dose antihistamine (up to 4x dose) should be



given. If there is no response, systemic CS may be added. These medications are effective in almost all cases of IH-AAE. Resistant cases of both IH-AAE and even InH-AAE (mostly) respond well to omalizumab.

If AE is resistant to AH and CS, it is possibly “bradykinin mediated”. The medications using for HAE may be tried and the patient should be referred for genotyping.

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### **Idiopathic histaminergic angioedema without wheals: a case series of 31 patients**

IH-AAE is a common cause of recurrent AE without

wheals. This form of AE remains often unrecognized and

an important delay in diagnosis is observed. The diagnostic

approach is exclusively clinical. An upper airway involvement occurred in half of patients, with a benign course in

all cases. A background therapy with an increased dosage

up to fourfold of second-generation anti-histamines may

be required to control the symptoms.





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## AN ERA OF PSYCHO AND NEURO DERMATOLOGY: IMPACTS AND ADVANCES IN MANAGEMENT

**Dr. Neha Gupta**

*Founder & Medical Director, Dr Neha's Skin, Hair and Laser Centre, Former Professor & Head, Department of Dermatology, India*

Psychodermatology, also termed as Psychocutaneous medicine is a speciality that stands between psychiatry and dermatology and while psychiatry involves internal invisible symptoms, dermatology involves external visible signs. O'Sullivan et al. explained the mind and body relationship through the Neuro-Immuno-Cutaneous-Endocrine model (NICE/CINE) and showed the complex interplay between the mind and body. The prevalence of mental disorders in patients with skin diseases ranges from 30% to 60%.

The pathogenesis of psychodermatological disorders is complex and revolves mostly around stress, genetics and even microbial disbalance. Studied extensively by Prof Jafferany and others, the psychodermatological disorders have been classified primarily into three groups; Psychophysiologic disorders (acne, rosacea, and urticaria), Primary psychiatric disorders (trichotillomania and body dysmorphic disorders) and Secondary psychiatric disorders (alopecia, psoriasis and vitiligo), depending on whether the psychiatric complaint was a primary concern or a consequence of the skin disorder.

While Psychodermatology focusses on the interaction between the mind, emotions, and the skin, Neurodermatology focusses on the role of the nervous system in skin diseases. This involves various neurocutaneous syndromes, Lichen simplex chronicus (LSC), Prurigo nodularis (PN), and various disorders causing neuropathic itch like shingles, diabetes, radiculopathies and meralgia parasthetica.

Management of both psycho and neurodermatological disorders involves tailored, multidisciplinary approach which includes a team of Dermatologists, Psychiatrists, Psychologists, with specialised nurses, primary care physicians, and also other allied health professionals, thus providing holistic care, avoiding unnecessary referrals and investigations and improving quality of life (QOL) through the establishment of Psychodermatology Clinics.

Treatment of both psycho and neurodermatological disorders must start with general counselling about gentle cleansers, loose clothing, calamine lotions, reducing stress, and various non-Pharmacological therapies like Psychotherapy, Cognitive behavioral therapy, Stress management techniques, Relaxation training and Biofeedback. The Pharmacological approach includes Antidepressants, Anxiolytics, Antipsychotics, Anaesthetics, Immunosuppressants, Immunomodulator, Antihistamines, Oral or Systemic Corticosteroids, Gabapentin, Naltrexone, Lamotrigine/Topiramate. Various Physical therapies like Phototherapy, Excimer laser, botulinum toxin injection, hyperbaric oxygen therapy are also useful especially in the treatment of PN.

In conclusion, we need to broaden our concept of psychocutaneous medicine and incorporate a psychological approach to treatment in conditions like psoriasis, vitiligo, acne, or recalcitrant dermatoses like atopic dermatitis, or hidradenitis suppurativa to improve QOL in these patients. Future research activities in the educational model of Psychodermatology Clinics, along with Residency training programs including Psychodermatology as part of the curriculum are much needed.

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## CINNAMALDEHYDE RELATED SKIN DISEASES

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Cinnamon is an ancient oriental spice obtained from trees of the Lauraceae family, particularly *Cinnamomum verum* or *Cinnamomum zeylanicum*. It has been widely used throughout history not only as a culinary ingredient but also in cosmetics and traditional medicine due to its antimicrobial and fungicidal properties (1). Cinnamaldehyde and cinnamic alcohol are aromatic compounds naturally found in cinnamon bark and cassia (Chinese cinnamon) oil, widely used as flavoring and fragrance agents. Due to their structural similarity, they may occasionally induce cross-reactions. Both substances are included in the European Standard “Fragrance Mix” and are commonly utilized by dermatologists in patch testing to identify fragrance-related allergies (2). These compounds are not only present in perfumes and cosmetic products, but are also commonly found in everyday items such as carbonated beverages, chewing gums, vermouths, bitter liqueurs, oral care products (toothpastes, mouthwashes), soaps, essential oils, and aromatherapy preparations (3). Furthermore, cinnamate derivatives are frequently used in sunscreens and color cosmetics due to their potent UVB absorption properties (4). Although cinnamaldehyde exhibits strong UVB absorption, the molecular mechanisms underlying its UVB-induced skin sensitization remain largely unknown (5).

Cinnamaldehyde and cinnamic alcohol may cause classic signs of allergic contact dermatitis such as pruritus, erythema, scaling, dryness, and fissuring, as well as photocontact dermatitis triggered by light exposure (4,5). Moreover, lesions resembling erosions, lichen planus, and erythema multiforme associated with cinnamon-flavored chewing gum have been reported, along with immediate hypersensitivity reactions including anaphylaxis (6). Cinnamal may also induce non-immunologic contact urticaria by promoting the release of histamine and vasoactive substances without direct immune system activation (7, 8). In some cases, initial urticarial reactions may progress into delayed-type (Type IV) hypersensitivity or even anaphylactic responses (8). Studies have demonstrated that cinnamaldehyde has a higher sensitization potential than cinnamic alcohol. As a result, cinnamic alcohol is recommended to be used at concentrations below 4% in fragrances, while similar restrictions have been proposed for cinnamaldehyde (9).

In conclusion, cinnamaldehyde and cinnamic alcohol, though naturally derived and often perceived as harmless, can elicit not only common dermatologic reactions but also severe systemic responses in sensitized individuals. Their widespread presence in everyday products highlights the importance of clinical awareness and reinforces the need for careful ingredient monitoring and patient education to prevent adverse outcomes.

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## JEWELLERY ASSOCIATED SKIN PROBLEMS

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Jewellery allergy is a type IV delayed- type hypersensitivity reaction, with nickel allergy being the most common cause and the most frequently detected positive reaction in patch testing (1). Exposure to nickel-containing cosmetics and jewelry can induce contact dermatitis, characterized by localized erythema, vesicles, scaling, and pruritus in sensitized individuals. This is particularly relevant in populations with high exposure to nickel-containing items, such as women who undergo early ear piercings. Epidemiological studies indicate that women have an approximately four-fold higher risk of developing nickel allergy compared to men, likely due to this early exposure (2). While metals such as nickel, gold thiosulfate, and palladium are well-recognized triggers of jewellery-related allergic reactions, other materials used in jewelry manufacturing can also act as potential allergens (3). Gold contact allergy is commonly associated with exposure to gold-plated jewelry and dental gold, with studies showing that 96% of females with gold allergy have a history of ear piercing (4). Palladium, a valuable silver-white metal from the platinum group, is another relevant allergen. Consumers are primarily exposed to palladium through jewelry and dental restorations. Palladium contact allergy often coexists with nickel allergy, a phenomenon attributed to a cross-reaction between the two metals, although the exact mechanism remains unclear. Palladium exposure can lead to allergic contact dermatitis and, in severe cases, sarcoid-like allergic contact granulomas (5).

In addition to metal allergens, rubber components, including thiuram, mercapto mix, and carba mix, present in rubber jewelry, may induce hypersensitivity reactions. Plastic and resin materials, such as p-phenylenediamine mix, methacrylate, and isocyanates, are commonly implicated in allergic responses associated with plastic jewelry and textiles. Furthermore, textile-related allergens, including dispersed dyes, azo dyes, methylchloroisothiazolinone, and methylisothiazolinone, have also been identified in woven necklaces and macrame jewelry. Additionally, ceramics and pottery may contain chromates, whereas wood-based allergens like turpentine and cocobolo can be found in wooden bracelets and varnishes. A comprehensive understanding of these allergens is essential for accurate diagnosis and effective management of jewelry-associated skin reactions (3). In addition to allergic reactions, irritant contact dermatitis may also occur due to friction, surface particles and dirt on the metal, soap and water trapped under the item, or other non-metal components of the jewelry. Individuals with sensitive skin or atopic dermatitis are particularly susceptible to such irritant reactions. Moreover, conditions like psoriasis and vitiligo can exhibit the Koebner phenomenon, where new lesions develop at sites of skin trauma, such as tight watch straps, necklaces, or bangles. Furthermore, piercing sites may be susceptible to bacterial infections, particularly with *Staphylococcus aureus*, leading to oozing and crusting consistent with impetigo or wound infection (6).

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## ATOPIC DERMATITIS AND ESSENTIAL FATTY ACID METABOLISM

Bodo C. Melnik

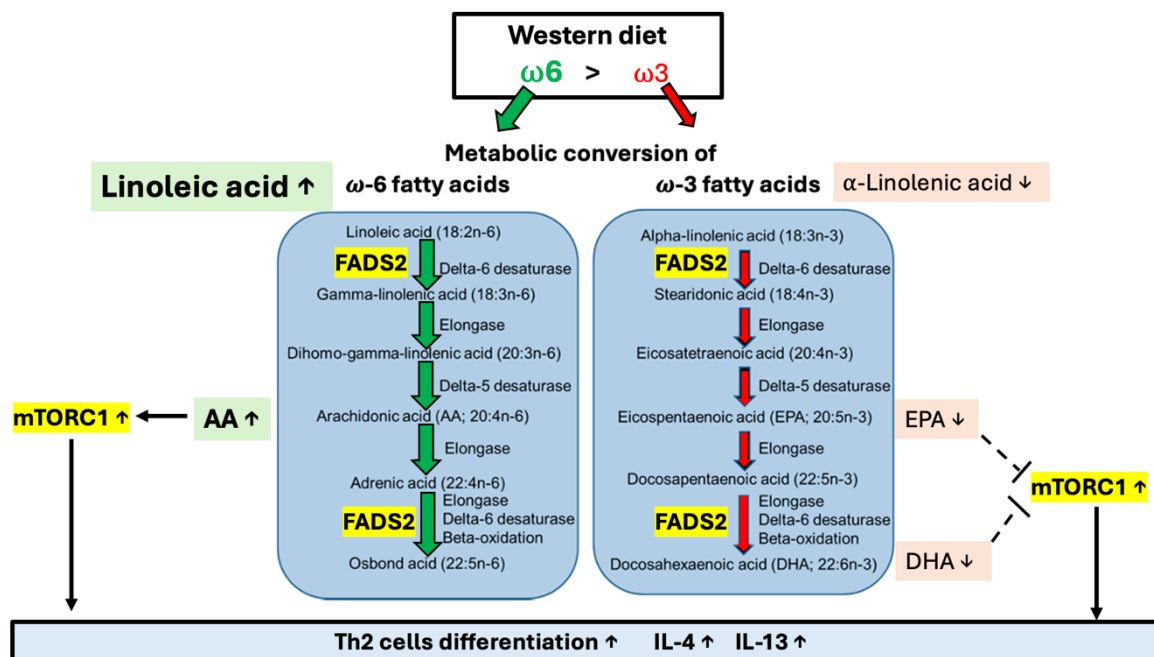
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Atopic dermatitis (AD) is a common recurrent inflammatory skin disorder characterized by chronic pruritus, dry skin with epidermal barrier disruption. The immune pathogenesis of AD involves Th2 and innate lymphoid cells with exaggerated IL-13 and IL-4 signaling promoting skin barrier defects, whereas a defective skin barrier vice versa may enhance Th2 immune deviations.

This presentation introduces a new *mTORC1-centered model of AD* explaining beneficial effects of long-chain  $\omega$ -3 polyunsaturated fatty acids (PUFAs) attenuating of Th2 differentiation and improving epidermal barrier formation in AD.

Essential fatty acid (EFA) metabolism plays a key role in AD maintaining skin integrity, barrier function and modulating inflammatory immune responses (1). The essential  $\omega$ -6 fatty acid linoleic acid is required for the formation of linoleyl-ceramides, which significantly contribute to stratum corneum lipid barrier function. Increasing the ratio of  $\omega$ -3/ $\omega$ -6 fatty acids modifies the composition of downstream lipid effectors (prostaglandins, leukotrienes, thromboxanes) generally resulting in anti-inflammatory effects. Research of the 1980's focused on deficient  $\omega$ -6 desaturase (encoded on *FADS2* gene) activity suggesting that disturbed EFA metabolism is involved in the pathogenesis of AD. However, dietary supplementation of evening primrose or borage oil as a source of  $\omega$ -linolenic acid in AD patients showed controversial results.



### FADS2 is involved in the generation of $\omega$ -6 PUFAs and $\omega$ -3 PUFAs

Töröcsik et al. (2) detected decreased levels of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) in serum and reduced EPA levels in affected and non-affected atopic skin. In addition,  $\omega$ -3/ $\omega$ -6-PUFA ratios were lower in affected and non-affected skin and serum of AD patients (2). Of note, FADS2 is not only involved in early steps of  $\omega$ -6 and  $\omega$ -3 fatty acid desaturation but also in the formation of long-chain PUFAs including DHA. Because  $\omega$ -6 fatty acids compared to  $\omega$ -3 fatty acids are abundant in Western diet, a reduced conversion of  $\omega$ -linolenic acid to  $\omega$ -3 PUFAs due to substrate competition  $\omega$ -6 FAs for FADS2 is conceivable. A Mendelian randomization analysis supports that  $\omega$ -3 PUFA levels, in particular DHA levels, are associated with a lower risk of AD pointing to the importance of *FADS2* gene polymorphism (rs174583) for the regulation of  $\omega$ -3 PUFAs (3). A recent study in AD children supplemented daily with 400 mg DHA, 600 mg EPA combined with 10 mg  $\omega$ -linolenic acid and vitamin D showed beneficial clinical effects (4). In contrast, the predominance of dietary  $\omega$ -6 fatty acids enhances the cellular pool of arachidonic acid (AA), which is the precursor of inflammation- and itch producing eicosanoids and prostaglandins and has been shown to activate mechanistic target of rapamycin complex 1 (mTORC1) (5).

### mTORC1 drives Th2 cell differentiation

T cell differentiation into Th2 cells, which secrete IL-13 and IL-4, depend on Raptor-mTORC1-mediated metabolic reprogramming (6). The nutrient- and growth factor-sensitive kinase mTORC1 coordinates multiple metabolic programs in T cells including glycolysis, lipid synthesis, and oxidative phosphorylation mediating antigen-triggered exit from quiescence (6). Calcipotriol-induced skin



inflammation was significantly reduced in Raptor-deficient or rapamycin-treated mice, accompanied by downregulation of IL-4 and reduced numbers of eosinophils, suggesting that mTORC1 is essential for the type 2 skin inflammation (7).

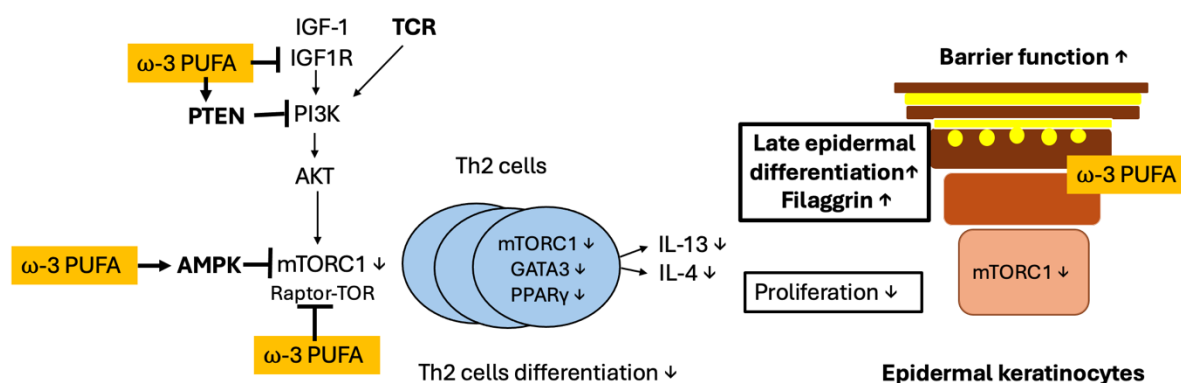
### mTORC1 promotes keratinocyte proliferation and inhibits late epidermal differentiation

In keratinocytes, mTORC1 activity is primarily important for keratinocyte proliferation, whereas low mTORC1 activity but increased mTORC2 regulate later stages of stratification and terminal differentiation (8). Increased Raptor levels correlated with decreased filaggrin expression in patients with AD (9).

### -3 PUFAs suppress mTORC1 activity

Importantly, increased -3 PUFAs and -3 PUFAs/-6 PUFA ratios in the diet efficiently suppress mTORC1 (10). Several modes of action explain the inhibitory role of -3 PUFAs against mTORC1:

- Increased activation of AMPK (inhibitor of mTORC1)
- Stabilization of the mTOR-Raptor complex
- Suppression of IGF-1 receptor (IGF1R)
- Increase of PTEN (inhibitor of PI3K, which activates AKT-mTORC1 signaling)
- Inhibition of amino-acid stimulation of mTORC1
- Inhibition of palmitate-activation of mTORC1 at lysosomal membranes by EPA



### ω-3 polyunsaturated long-chain fatty acids via suppression of mTORC1 signaling attenuate Th2 cell differentiation and increase epidermal keratinocyte differentiation in atopic dermatitis

Obviously, -3 PUFAs operate in a synergistic fashion to mTORC1 inhibition by rapamycin as topical rapamycin treatment significantly improved clinical signs of AD-like skin lesions and ameliorated *Dermatophagoides farina* body extract-induced AD in NC/Nga mice. In addition, rapamycin-mediated inhibition of mTORC1 blocks the IL-13-induced deficiency of epidermal barrier related proteins including filaggrin. Notably, activated mTORC1 upregulates the expression of the lipogenic transcription factor SREBF1, which promotes the expression of FADS2, the key enzyme of EFA metabolism.

### Facit

PUFA-dependent regulation of epidermal mTORC1 signaling is a new perspective to understand the role of 3 PUFA in AD pathogenesis and treatment. mTORC1 is critically involved in Th2 differentiation and the regulation of FADS2-mediated EFA metabolism. 3 PUFA-mediated suppression of mTORC1

- may attenuate mTORC1-dependent Th2 cell differentiation and expression of IL-4 and IL-13 and
- may increase protein (filaggrin) expression of late stages of epidermal differentiation and barrier lipid synthesis critical for epidermal barrier function and
- may thus offer a rationale for the dietary supplementation of AD patients with ω3 PUFAs, especially DHA, providing a nutrition-based adjuvant strategy for the treatment of AD.

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## ATOPIC DERMATITIS AND METABOLIC SYNDROME

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### Atopic Dermatitis and Metabolic Syndrome

Atopic dermatitis (AD) is a chronic inflammatory skin condition that has been increasingly associated with metabolic syndrome (MetS). MetS is a cluster of conditions that includes obesity, hypertension, dyslipidemia, and insulin resistance. The relationship between AD and MetS involves a complex interplay of pathophysiological mechanisms, epidemiological associations, clinical implications, and lifestyle factors.

### Pathophysiology of the Relationship

Atopic dermatitis is a chronic inflammatory skin condition characterized by a compromised skin barrier and abnormal immune responses. Similarly, metabolic syndrome consists of a group of disorders, including obesity, hypertension, dyslipidemia, and insulin resistance, which are also influenced by chronic inflammation. The overlapping inflammatory pathways linking AD and MetS suggest a reciprocal relationship(1,2). Adipokines, such as leptin and adiponectin, play a crucial role in connecting obesity and AD. These biomolecules, released by adipose tissue, modulate immune responses and inflammatory processes. In cases of obesity, the imbalance of adipokines can worsen the inflammatory environment in AD. Conversely, the persistent inflammation seen in AD may lead to insulin resistance and metabolic dysregulation(1,2).

### Epidemiology of the Relationship

Beyond pathophysiology, epidemiological studies revealed that individuals with AD, particularly those with moderate-to-severe symptoms, are more likely to have MetS and its components, such as central obesity, hypertension, and dyslipidemia. For instance, a large cross-sectional study involving 116,816 patients with AD found that those with moderate-to-severe AD had a higher prevalence of MetS compared to individuals with mild AD or healthy controls(3). In pediatric cohorts, atopic dermatitis (AD) is associated with a higher risk of overweight, obesity, and metabolic comorbidities(4).

### Clinical Implications

In adult populations, the connection between AD and metabolic syndrome (MetS) is more extensively documented. Research shows that AD is related to a heightened risk of cardiovascular diseases, such as myocardial infarction and cerebrovascular accidents, which are often complications of MetS (5).

### Management of AD and MetS

Obesity is a significant lifestyle factor linking AD and MetS. Prospective studies have shown that a shift from normal weight to overweight during childhood increases the risk of developing AD, while moving from overweight to normal weight decreases this risk. These findings suggest that weight management should be a central component of strategies designed to prevent and treat AD(6,7).

### Conclusion

The bidirectional link between atopic dermatitis and metabolic syndrome underscores the importance of recognizing shared inflammatory mechanisms and lifestyle contributors. Integrated care approaches addressing both dermatologic and metabolic aspects are essential to improve outcomes and guide future targeted interventions.

**Keywords:** Atopic dermatitis, metabolic syndrome, inflammation, obesity, cardiovascular risk

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## THE USE OF BRUTON'S TYROSINE KINASE INHIBITORS TO TREAT ALLERGIC DISORDERS

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Bruton's Tyrosine Kinase (BTK) a tyrosine kinase family member, is a cytoplasmic signaling protein found in numerous immune cell types, such as mast cells, basophils, B lymphocytes, natural killer cells, macrophages, neutrophils, dendritic cells, monocytes, and osteoclasts. BTK plays a key role in multiple signaling cascades, such as those triggered by the B-cell receptor (BCR), Toll-like receptors (TLRs), chemokine receptors, and Fc receptors, and also acts as a direct modulator of the NLRP3 inflammasome from the NOD-like receptor family. (1, 2)

Considering the effects of Bruton's Tyrosine Kinase inhibitors (BTKi) on B lymphocytes and other hematopoietic cells, BTK inhibitors may effectively treat lymphomas and leukemias in addition to multiple myeloma and Waldenstrom macroglobulinemia. However, growing evidence shows that BTK also plays a role in solid tumors as well as in autoimmune and allergic diseases such as systemic lupus erythematosus and chronic spontaneous urticaria. Additionally, increased BTK activity has been linked to conditions like multiple sclerosis, highlighting its broader therapeutic potential beyond B-cell malignancies. (2, 3)

It has been suggested that Bruton's Tyrosine Kinase inhibitors can be used in some allergic and dermatological diseases, and phase studies are ongoing. (4) *As of March 2025, there are no BTK inhibitors approved by the FDA or EMA for dermatologic and/or allergic indications.* Remibrutinib, rilzabrutinib, tirabrutinib are oral BTKi investigated in allergic diseases. Remibrutinib and tirabrutinib bind irreversibly covalently, while rilzabrutinib binds reversibly covalently. (4, 5)

Chronic spontaneous urticaria (CSU) is an inflammatory dermatologic disease characterized by itchy wheals, angioedema, or both, lasting longer than six weeks. Mast cells and basophils are the key pathogenic cells in CSU, and their activation leads to the release of histamine and cytokines, followed by dermal inflammation and edema. Two overlapping mechanisms are implicated in the pathogenesis of CSU involving mast cell and basophil activation: type I autoimmunity, which is mediated by IgE against different autoallergens, and type IIb autoimmunity, predominantly driven by IgG targeting either the IgE receptor FcεRI or IgE bound to FcεRI. (2) Bruton's tyrosine kinase (BTK) as a key intracellular signaling molecule in mast cells, basophils, and B cells which are all critical players in CSU pathogenesis. (2) Fenebrutinib was evaluated in a phase 2 study (NCT03137069), with 93 adult patients with second-generation antihistamine-refractory CSU and reduced IgG-anti-FcεRI levels at all doses by week 8, correlating with improved disease activity compared to placebo. Mild liver enzyme elevations were found in a small number of patients. However, this study did not use parameters assessing disease response and quality of life after eight weeks, and patients with autoimmune CSU were small in number and included certain ethnicities. (4) In a Phase 2 trial (NCT03926611), remibrutinib met its primary endpoint, showing a dose-dependent improvement in UAS7 scores from baseline at week four across all doses compared to placebo. All remibrutinib doses showed clinical improvement starting from week one and sustained through week 12 indicating a fast action. The highest overall efficacy was observed with remibrutinib 25 mg twice daily. There were two patients who experienced a flare-up of urticaria and renal abscess as side effect, but no other serious side effects were observed. Phase 3 studies of this molecule are ongoing. (4) Another an oral BTKi, rilzabrutinib, is being investigated for CSU. In a Phase 2 trial (RILECSU), patients with moderate-to-severe CSU refractory to antihistamines received various doses of rilzabrutinib or placebo. Over 12 weeks, rilzabrutinib, especially at 1200 mg/day had symptom improvement regardless of eosinophil counts and/or IgE levels. (6) Acabrutinib, another oral BTKi, was successfully used in a 49-year-old female CSU patient resistant to all treatments such as antihistamines, oral corticosteroids, omalizumab, cyclosporine, hydroxychloroquine, mycophenolate mofetil, sulfasalazine, and dapsone and was published as a case report. (7) In this patient, anti-FcεRI antibodies were measured by the FIERA method (Flow Cytometric Immunoglobulin E Receptor Activation Assay), with 46% CD203c+ basophils, indicating a serologic profile suggestive of omalizumab-resistant CSU. Therefore, acabrutinib was initiated at a dose of 100 mg twice daily and complete remission was achieved within 24 hours. The female patient developed headache, myalgia, constipation, one episode of epistaxis, one episode of a heavy menstrual bleed, COVID-19 infection, and otitis media as side effects. Even with the dose reduced due to the side effects listed above, the patient remained symptom-free for four months, and a small number of urticarial plaques appeared with the dose of medication the patient skipped, which in turn regressed with continuation of the medication. (7)

In conclusion, Bruton Kinase Inhibitors may be among the treatment agents that may be used in the future, especially in the treatment of resistant CSU. (1,2,4,7)



In addition to systemic forms of oBTKi, topical forms are also available on investigation. Atopic dermatitis (AD) is a common dermatological disease, and the most common form of eczema causing dry, itchy, inflamed, and cracked skin. (8) PRN437 (SAR444727) is a topically applied oral BTKi with both non-covalent and reversible covalent activity. It blocks three key pathways: IgG (FcγR)-mediated activation of monocytes and neutrophil migration, IgE (FcεR)-mediated activation of mast cells and basophils, and β2-integrin c-1-mediated neutrophil recruitment into inflamed tissues. PRN473 (SAR444727) was assessed in a Phase 2a trial for its safety, tolerability, and effectiveness in forty patients with mild to moderate atopic dermatitis. The study has been completed, but the results have not yet been published (NCT04992546) up to date. A study reported that ibrutinib (PCI-32765) suppresses IgE-mediated basophil activation and reduces mast cell and basophil responses to allergens in adults with peanut or tree nut allergies (NCT03149315). (8) As a result, it also eliminates skin reactivity to aeroallergens. These findings suggest that ibrutinib may be a possible therapeutic agent in the treatment of AD. Branebrutinib (BMS986166), a topical BTKi was also investigated in a Phase 2 trial to assess its efficacy, safety, and tolerability panels in patients with moderate to severe atopic dermatitis over 24 weeks. The trial has been completed, but the results are still waiting to be published. (NCT05014438). (8)

As a result, although BTKi are already used in daily practice for hematologic malignancies, they may also theoretically be effective in certain allergic diseases such as CSU and AD. However, the publication of completed phase trial results is a necessary first step, followed by real-world studies.

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## BROMELAIN IN DERMATOLOGY

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Pineapple (*Ananas comosus*) has been used in traditional folk medicine since ancient times. It continues to appear in various herbal preparations. The pineapple was introduced to England in 1660 and has been cultivated commercially in greenhouses and fields since the 1820s. Bromelain was originally extracted exclusively from the stems of Hawaiian pineapples, but it is now also produced in Taiwan, Thailand, Brazil, and Puerto Rico. The variability in commercially produced bromelain and its differing ingredients have hindered consistent pharmaceutical development.

Bromelain has several biological effects. It has proteolytic activity, helping break down dietary proteins in the digestive tract. It has fibrinolytic effects that help dissolve fibrin in clots and scar tissue, improving blood circulation. Bromelain also has antioxidant properties, scavenging free radicals and reactive oxygen species to protect cells from oxidative damage.

It modulates the immune system by enhancing the function of immune cells such as macrophages, natural killer cells, and lymphocytes. It also regulates cytokine production, balancing pro- and anti-inflammatory responses. Bromelain influences T-cell adhesion and signaling, reducing CD4+ T-cell activation and CD25 expression. Its anti-inflammatory and pain-relieving properties come from inhibiting mediators like bradykinin.

Bromelain affects key signaling pathways such as PI3K/Akt and MAPK, which are crucial for cell growth, survival, and inflammation. It promotes the phosphorylation of Akt and FOXO3A and reduces the expression of inflammatory mediators like iNOS, COX-2, IL-6, TNF- $\alpha$ , and NF- $\kappa$ B in macrophage cells.

Additional effects of bromelain include reducing plasma kininogen to limit kinin production, thus reducing inflammation and swelling. It decreases prostaglandin E2 (PGE2) synthesis by lowering COX-2 activity, which alleviates pain and inflammation. It also breaks down receptors for advanced glycation end products (RAGE), reducing inflammation and tissue damage. Moreover, it regulates angiogenesis by modulating factors such as VEGF and MMPs, which support blood vessel formation and tissue repair.

Bromelain can be absorbed by the body in doses up to 12 grams per day without significant side effects. Effective doses reported in studies range from 200 to 2000 mg per day. A therapeutic window starts as low as 160 mg per day, with best results usually seen at 500 to 1000 mg daily.

Animal studies confirm its safety. The lethal dose (LD<sub>50</sub>) is greater than 10 g/kg in mice, rats, and rabbits, indicating very low toxicity. In dogs, doses of 750 mg/kg/day for six months showed no toxic effects. In rats, 1500 mg/kg/day caused no carcinogenic or teratogenic effects and did not impact food intake, organ histology, or blood parameters.

Bromelain has various applications in dermatology. It supports wound healing, with before-and-after clinical images showing improvement after treatment with bromelain-based therapies. It has been studied in cystic and nodular acne due to its antibacterial properties. Bromelain derived from pineapple waste shows promise as an acne treatment.

In cases of periocular edema, bromelain may reduce localized swelling. In a study on pityriasis lichenoides chronica (PLC), eight patients were treated with oral bromelain for three months. All showed complete clinical recovery. Two patients experienced a relapse 5–6 months after stopping treatment but responded again to a short course. No side effects were reported.

In erythema multiforme minor, patients who took 500 mg of bromelain twice daily saw a gradual reduction in frequency and severity of episodes, with complete resolution by the end of one year. No side effects were observed.

In conclusion, bromelain is a safe, natural proteolytic enzyme with low toxicity in both animal and human studies. It is well tolerated even at high doses, with no evidence of carcinogenic, teratogenic, or systemic adverse effects. Its anti-inflammatory, antimicrobial, and wound-healing properties make it a promising agent in dermatology, particularly in acne, wound care, and chronic skin conditions. Further clinical trials are needed to establish standardized dosages and therapeutic protocols.



## METHYLENE BLUE IN DERMATOLOGY

**Habib Aktaş**

Methylene blue, a bright greenish blue organic dye belonging to the phenothiazine family that has various applications in several areas of engineering, biological sciences and medicine.

It was first prepared in 1876 by Heinrich Caro for use as a cotton dye.

In 1880, microbiologist R. Koch established it as a medical stain.

Methylene blue is the first synthetic human-made drug in medicine.

The medication was first employed in treatment for malaria.

Methylene blue is currently approved for the treatment of many conditions, including certain types of **methemoglobinemia**, **preventing ifosfamide-induced encephalopathy** in cancer patients, **treating urinary tract infections**, **visualising nerves and endocrine glands** during surgeries, and **sterilising blood prior to transfusions**.

MB has been utilised as an alternative treatment option for a number of conditions, including bipolar disorder, post-traumatic stress disorder, neuropathies and haemorrhoidal pains.

MB is hydrophilic and has a low molecular weight, allowing it to cross the blood-brain barrier and act on energy production and reduce cell toxicity, leading to an important role in neurodegenerative disorders.

It is well-known mitochondrial targeting antioxidant.

Methylene blue was used to check the compliance of psychiatric patients with drug treatment due to its ability to stain urine blue (1-2).

Furthermore, it has been posited that the substance may also be used as a valuable adjuvant in the treatment of septic shock. (3).

As is evident, MB is used in both a diagnostic capacity and as a therapeutic agent.

It is on the World Health Organization's List of Essential Medicines.

Methylene blue has been a promising agent for various skin conditions.

The application of methylene blue has been utilised for wound and ulcer healing due to the presence of antibacterial and regenerative properties.

It has been found that MB was more effective in stimulating skin fibroblast proliferation and delaying cellular senescence (4).

Photodynamic therapy (PDT) employing methylene blue as the photosensitizer has been demonstrated to result in clinical and microbiological cure, with no significant adverse effects observed. This finding suggests that PDT with methylene blue is a beneficial solution for the management of skin infections (5).

Photodynamic (PDT) treatment using biocompatible nano-formulation of photosensitizing methylene blue has been found more effective for acne treatment by reducing sebum production and inducing antimicrobial activity (6).

Methylene blue -mediated photodynamic therapy has been found to be successful in the treatment of basal cell carcinoma, psoriasis, hidradenitis suppurativa, toe onychomycosis, oral lichen planus, pityriasis versicolor, freckles, cutaneous leishmaniasis and plane warts (7-9).

Intradermal methylene blue injection mixed with hydrocortisone and lidocaine has worked in a number of patients with chronic intractable pruritis ani (10).

Herpes simplex and genital herpes are other entities which responded to MB treatment.(11).

There are rare side effects in MB treatments, mostly from parenteral treatments, such as hypertension, dizziness, mental confusion, headache, fever, skin blemishes, and necrosis at the injection site (12).

Further studies on larger samples are needed to establish the place of MB in dermatological disorders.





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## ANTISEPTICS IN DERMATO-SURGERY

**Amor Khachemoune, MD, FAAD, FACMS**

This lecture reviews essential antiseptics employed in dermatologic surgery, spanning minor office-based procedures to major operating room interventions. Key topics include the classification of agents (e.g., chlorhexidine, iodophors, alcohols), best practices for their application, and evidence-based strategies to prevent adverse effects. Emphasis is placed on optimizing antiseptic selection, timing, and technique to enhance safety and efficacy across clinical settings. Practical takeaways will be provided to guide simplified and appropriate antiseptic use in dermatologic practice.



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## SENSITIVE SKIN IN ACNE AND ROSACEA

**Associate professor Jelena Stojkovic-Filipovic**

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Sensitive skin is a condition characterized by subjective cutaneous hyper-reactivity to environmental factors, which results in exaggerated reactions such as itching, burning, stinging, and tightness, often without objective signs of irritation. Common triggers include cosmetics, soaps, sunscreens, and exposure to extreme climates. Though erythema, dryness, or rash may occasionally appear, more intense inflammatory responses such as wheals are less frequent. The condition is associated with underlying constitutional anomalies, occupational skin diseases, and chronic irritant exposure. Recent studies suggest that heightened sensitivity may stem from various mechanisms, including a thinner stratum corneum, increased transcutaneous penetration of water-soluble chemicals, and altered vanilloid receptor function. Additionally, sensitive skin often coexists with conditions like dry skin, rosacea, and acne, which may indicate barrier impairment and enhanced vascular reactivity. Both rosacea and acne are characterized by heightened skin sensitivity to external stimuli, such as heat or capsaicin, though the precise mechanisms behind these responses remain unclear. Sensitive skin has been observed to worsen with frequent use of cosmetics and toiletries, contributing to a decrease in the quality of life for affected individuals. The prevalence of sensitive skin is significant, affecting over 50% of women and 40% of men, prompting increased demand for products tailored to sensitive skin. Effective management strategies include selecting appropriate skincare products and conducting tests to assess skin reactivity.



## HISTOPATHOLOGICAL MANIFESTATIONS IN COMMON DERMATITIS

**Prof Dr Yasemin Yuyucu Karabulut**

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### Introduction

Dermatitis, also referred to as eczema, encompasses a spectrum of inflammatory skin diseases with varied clinical presentations and histopathological features. Despite overlapping clinical symptoms such as pruritus, erythema, and scaling, histopathological examination offers crucial insights for accurate diagnosis and subclassification. This speech try to provides an overview of the histopathological findings in the most common types of dermatitis: atopic dermatitis (AD), contact dermatitis, seborrheic dermatitis, and nummular eczema, along with their differential diagnosis.

### Atopic Dermatitis (AD)

Histological Features:

- Acute phase: Spongiosis is the hallmark feature, often accompanied by intraepidermal vesicle formation, lymphocytic exocytosis, and perivascular lymphocytic infiltrates in the dermis.
- Chronic phase: Features include acanthosis, hyperkeratosis, parakeratosis, and a mixed dermal infiltrate that may contain eosinophils and mast cells (1,2).

### Allergic and Irritant Contact Dermatitis

Histological Features:

- Spongiotic dermatitis pattern similar to AD.
- Irritant contact dermatitis shows more prominent keratinocyte necrosis, less pronounced spongiosis, and neutrophilic infiltrate in severe cases.
- Allergic contact dermatitis exhibits marked spongiosis, lymphocytic exocytosis, and often eosinophils.

Differential Markers:

- Immunohistochemistry can aid in distinguishing allergic responses (IL-4, IL-13 expression) versus irritant patterns (3).

### Seborrheic Dermatitis

Histological Features:

- Parakeratosis overlying follicular openings, spongiosis, and mild acanthosis.
- Perivascular infiltrates of lymphocytes and histiocytes, often accompanied by neutrophils in the stratum corneum (focal).
- Involvement is often centered around sebaceous glands (4).

### Nummular Eczema (Discoid Eczema)

Histological Features:

- Marked spongiosis, exocytosis of lymphocytes, and parakeratosis.
- Dermis shows superficial perivascular lymphocytic infiltrate, often with eosinophils.
- Resembles acute spongiotic dermatitis but may show lichenified changes in chronic cases.

### Histopathological Differentiation and Pitfalls

While histology provides valuable diagnostic clues, overlapping features in chronic eczematous dermatitis can create challenges. Immunohistochemical markers (e.g., CD3, CD4/CD8 ratio, IL-17A, IL-4) and clinical correlation are often necessary for definitive diagnosis (5).

Multiplex immunostaining and transcriptomic analysis are helping differentiate AD from psoriasiform dermatitis and early cutaneous T-cell lymphoma (CTCL).

### Immunohistochemistry in Dermatitis

Immunohistochemistry (IHC) enhances diagnostic precision in dermatitis by identifying cytokine profiles and inflammatory cell populations. Common IHC markers include:





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- CD3, CD4, CD8: T cell subsets.
- IL-4, IL-13: Th2 cytokines (predominant in AD).
- IL-17A, IL-23: Th17 cytokines (can appear in chronic eczematous dermatitis).
- FOXP3: Regulatory T cells.
- IHC also helps in excluding mimickers such as CTCL (e.g., CD30, CD7 loss, Ki-67).

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## HISTOPATHOLOGICAL CLUES FOR BULLOUS ALLERGIC DERMATOSES

**Prof Dr Yasemin Yuyucu Karabulut**

*Mersin University /Department of Pathology*

*Türkiye*

### **Bullous Pemphigoid (BP)**

Histopathological Features:

- Subepidermal blister formation with an intact epidermis.
- Eosinophil-rich infiltrate in the blister cavity and superficial dermis.
- Occasionally, neutrophils and lymphocytes may also be present.
- Early lesions may show eosinophilic spongiosis (eosinophils in the epidermis without full blister formation).

Immunofluorescence:

- Linear deposition of IgG and C3 along the basement membrane zone (BMZ).
- Target antigens: BP180 (type XVII collagen) and BP230.

### **Dermatitis Herpetiformis (DH)**

Histopathological Features:

- Subepidermal vesicles with predominantly neutrophilic microabscesses at the tips of dermal papillae.
- Papillary dermal edema.
- Neutrophil accumulation without significant acantholysis.

Immunofluorescence:

- Granular IgA deposits in the dermal papillae.
- Associated with gluten sensitivity and anti-transglutaminase antibodies.

### **Linear IgA Bullous Dermatitis (LABD)**

Histopathological Features:

- Subepidermal blister formation.
- Mixed inflammatory infiltrate rich in neutrophils.
- May resemble both BP and DH in early lesions.

Immunofluorescence:

- Linear deposition of IgA along the BMZ.
- Differentiated from DH by the pattern of IgA deposition.

### **Erythema Multiforme (EM) – Bullous Variant**

Histopathological Features:

- Interface dermatitis with necrotic keratinocytes and basal vacuolar change.
- Subepidermal clefting may form vesicles or bullae in severe cases.
- Mixed perivascular infiltrate with lymphocytes and histiocytes.

Immunofluorescence:

- Typically negative, but fibrin and immunoglobulin deposition may be noted nonspecifically in blood vessel walls.

### **Allergic Contact Dermatitis (ACD) – Bullous Variant**

Histopathological Features:

- Spongiotic vesicles in acute lesions.
- Epidermal edema and vesiculation, occasionally progressing to bullae.



- Mixed dermal infiltrate with lymphocytes, histiocytes, and sometimes eosinophils.

Immunofluorescence:

- Usually negative; diagnosis is primarily clinicopathologic.

## Key Differential Points

Condition	Blister Type	Infiltrate Dominance	DIF Pattern
Bullous Pemphigoid	Subepidermal	Eosinophils	Linear IgG & C3 at BMZ
Dermatitis Herpetiformis	Subepidermal	Neutrophils	Granular IgA in dermal papillae
LABD	Subepidermal	Neutrophils	Linear IgA at BMZ
EM (Bullous)	Subepidermal	Lymphocytes	+/- IgM, C3 around vessels
ACD (Bullous)	Intraepidermal/Spongiosis	Mixed (with eosinophils)	Linear IgG & C3 at

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## ATOPY RELATED STIS

**Prof. Dr. Bilal Dogan**

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Atopic dermatitis, is a common chronic relapsing inflammatory skin condition that can affect any part of the body. This skin-itching disease is caused by a complex interaction between genetics and environmental factors. Patients with eczema tend to develop symptoms during early childhood. Eczema symptoms predominantly relapse and recur; in some, the symptoms may continue into adulthood. Patients with eczema are associated with an inherent genetically impaired skin barrier, leading to increased susceptibility to environmental insults such as stress, allergies, soap and detergent, and infectious pathogens.

With atopic eczema one might be at risk of:

- a) Herpes Simplex Virus (HSV) presents with eczema herpeticum.
- b) Human Papillomavirus (HPV) presents with clinical warts.
- c) Molluscum Contagiosum presents with mollusca bumps.
- d) Scabies presents with intense, itchy burrows.

It is imperative to note that the skin and mucous membrane around the vulva in females and the scrotal/penile region in males are generally thinner and less robust than the skin over our soles or hands. Hence, with the chronic breakdown and inflammation of the skin over the genitals secondary to eczema, one is invariably predisposed to infections, including STIs.

Symptoms of STIs acquired via skin-to-skin contact tend to be more localised to the genitalia region. Nonetheless, as the viruses and the mites can spread, it is possible that the sores, warts, bumps, and scabies rash can be transmissible to other parts of the body. There is a theoretical risk (low risk) of syphilis if there is an open eczematous wound over the genital, though this is less common.

In a study in 2020;

AD was associated with significantly higher odds of skin infection in adults and children. Pediatric and adult AD were associated with significantly higher odds of carbuncle/furuncles, impetigo, cellulitis, erysipelas, methicillin-resistant and methicillin-sensitive *Staphylococcus aureus* infections, molluscum contagiosum, cutaneous warts, herpes simplex and zoster viruses, eczema herpeticum, dermatophytosis, and candidiasis of skin/nails and vulva/urogenitals. Adults with AD had significantly higher odds of genital warts and herpes.

In another study;

All of Us Research Program database was used; Adults with MC were identified and matched with controls 1:10 based on demographic factors. Their analysis included 146 cases of adults with MC and 1460 demographic-matched controls. Adults with MC were more likely to have syphilis, human immunodeficiency virus (HIV), chlamydia, condyloma acuminata, genital herpes, atopic dermatitis (AD). In this study MC was not associated just with AD, also with other STIs. As conclusion, sexually active adolescents and adults and those diagnosed with AD may be screened for MC and counseled on their potentially increased risk.

HSV is an STD known to be associated with localised cold sores affecting the mouth or the genital region. In generalised eczema, one can develop a condition known as eczema herpeticum. It is a medically serious condition, as one can be gravely ill with generalised extensive sores and blistering and flaring of eczema; Some may even warrant hospitalisation to stabilise the condition.

Viruses and mites, such as HPV, pox virus, and scabies mites, can inoculate the impaired skin layer in patients with eczema. This leads to the clinical presentation of warts and molluscum bumps.

Although these skin infections are not generally life-threatening, they can be annoying.

They can cause chronic itch and discomfort and are easily spread throughout the body and to other sexual partners if not treated.





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At the end...

What to do in AD to reduce the risk of contracting STIs?

- Managing AD
- Moisturizing
- Eliminating of allergens/irritants
- Treating with topical and in need, systemic drugs
- Safe sex considerations and preventions
- Condom
- Proactive, regular screening of STI
- Vaccination (HPV)
- Receive early treatment for any STI

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## GERIATRIC ZONA; HOW CAN WE PREVENT?

**Prof. Kenan Aydoğan, MD**

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*Medical Microbiology PhD*

Herpes Zoster (HZ) is a skin disease developed due to reactivation of varicella zoster virus (VZV) that remained dormant within dorsal root ganglia, often decades after initial exposure to the virus in the form of varicella (chickenpox)<sup>1-3</sup>

Patients with haematological malignancies, such as those Hodgkin lymphoma, non-Hodgkin lymphoma and chronic lymphocytic leukemia and patient with acquired immunodeficiency syndrome (AIDS), those receiving immunosuppressive therapies, bone marrow and solid organ transplantation and the elderly, have an increased risk for the development of HZ. The lifetime risk of herpes zoster in the general population ranges from 20% to 30%, but the risk increases significantly after 50 years of age with a lifetime risk reaching 50% at 85 years of age.<sup>1-4</sup>

Older adults have been disproportionately affected by the rising incidence of herpes zoster over the past several decades. In addition to potential postherpetic neuralgia and Herpes Zoster Ophthalmicus, older adults also have a heightened risk for stroke or myocardial infarction and may require different interventions than younger individuals with herpes zoster. Manifestations of varicella zoster virus central nervous system (CNS) vasculopathy range from transient ischemic attacks, stroke, aneurysm, subarachnoid and intracerebral hemorrhage, spinal cord infarction, cerebral venous sinus thrombosis, vision loss, giant cell temporal arteritis, or other focal neurological deficits. Disseminated and recurrent VZV infections are also often in elderly.<sup>1-4</sup>

Prevention and education efforts about herpes zoster are also essential for older adults. With the advent of effective vaccines such as the live attenuated vaccine (ZVL), Zostavax®, in 2006, and more recently the adjuvant recombinant subunit vaccine (RZV), Shingrix®, in 2017, HZ has become a preventable disease. ZVL is a 1-dose vaccine that utilises the vOka live attenuated virus produced by serial passage of a wild-type clinical isolate termed pOka in human and guinea pig cell lines. It is the same vaccine that is used to prevent varicella in children although with a higher potency (e.g. >14-times the varicella vaccine). ZVL is contraindicated in individuals with primary or acquired immunodeficiency. RZV is a 2-dose non-live recombinant vaccine that combines the VZV glycoprotein E (gE) and the AS01B adjuvant system that helps to improve immunogenicity, especially in older adults, and permits vaccination of immunocompromised individuals.<sup>1,5</sup> Comparison data of ZVL and RZV has been summarized in Table 1.<sup>5</sup>

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**Table 1.** Comparison of live attenuated and recombinant subunit herpes zoster vaccines<sup>5</sup>

	Live attenuated VZV zoster vaccine (ZVL, or Zostavax)	Adjuvant recombinant subunit zoster vaccine (RZV, or Shingrix)
Mechanism	Contains a minimum of 19,400 plaque forming units (PFUs) of the Oka/Merck strain of live attenuated VZV	Contains antigen gE (glycoprotein E), the main target of CD4+ T-cell response and liposome-based AS01 <sub>B</sub> adjuvant
Formulation	Lyophilized	Lyophilized (reconstituted with AS01 <sub>B</sub> adjuvant)
Approval date by FDA	5/2006 (for >60 years old), 3/2011 (for 50–59 years old)	10/2017 (for >50 years old)
Vaccine schedule (U.S.)	Previously in >60 years old via a single dose. No longer used in the United States as of 11/2020	Adults >50 years old in two-dose series (2–6 months apart); immediate use as booster in patients previously vaccinated with ZVL
Duration of protection	8 years (for reducing HZ incidence); 10 years (for reducing HZ burden of disease, e.g., pain and discomfort)	7 years (for reducing HZ incidence; 10 years (for immunogenicity)
Vaccine efficacy	Reduces incidence of HZ by 51.3%. Reduces incidence of PNH by 66.5%	Reduces incidence of HZ by 96.6%. Reduces incidence of PNH by 88.8%
Vaccine adverse effects	Local, systemic, and serious adverse effects: <b>Local reaction:</b> Vaccinated: 48.3%. Placebo: 16.6%. AR: 31.7% (95% CI, 28.3–32.6) <b>Systemic reaction:</b> Vaccinated: 6.3%. Placebo: 4.9%. AR: 1.4% (95% CI, 0.3–2.5) <b>Serious AEs:</b> Vaccinated: 1.9%. Placebo: 1.3%. AR: 0.1% (95% CI, –8.8 to 9.0)	Local, systemic, and serious adverse effects: <b>Local reaction:</b> Vaccinated: 81.5% [80.3–82.6]. Placebo: 11.9% [11.0–12.9]. AR: 69.6% <b>Systemic reaction:</b> Vaccinated: 66.1% [64.7–67.6]. Placebo: 29.5% [28.2–30.9]. AR: 36.6%. <b>Serious AEs:</b> Vaccinated: 9.0% [8.3–9.6]. Placebo: 8.9% [8.3–9.6]. AR: 0.1%.
Contra-indication	Immunosuppression, prior history of anaphylactic reaction to vaccine or vaccine component, active untreated tuberculosis, and pregnancy	Prior history of anaphylactic reaction to vaccine or vaccine component
Vaccine cost-effectiveness	Cost-effective	Highly cost-effective
Global availability	>60 countries, 34 million doses distributed	>30 countries, including but not limited to the United States, European Union, Canada, Japan, Australia, and China
AE, adverse events; AR, attributable risk; CD4, cluster of differentiation 4; CI, confidence interval;; FDA, United States Food and Drug Administration; HZ, herpes zoster; PHN, post-herpetic neuralgia; PFU, plaque-forming unit; RZV, recombinant zoster vaccine, or Shingrix; VZV, varicella-zoster virus; ZVL, zoster vaccine live, or Zostavax.		



## MELASMA; AN UPDATE

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Melasma is a persistent, acquired skin condition characterized by localized areas of hyperpigmentation. It can create significant psychosocial challenges and complicate management for both patients and healthcare providers in the medium to long term. Numerous treatments have been explored, often in combination, due to the various factors involved in the condition's development.

The management of melasma is an important subject in the literature, encompassing various therapeutic approaches. Recent advancements encompass updates on visible light photoprotection, non-hydroquinone depigmenting agents, oral tranexamic acid, chemical peels, and laser therapies. Staying current with the array of melasma treatments is crucial and challenging to identify an effective and well-tolerated option for patients.

The primary approach for managing melasma in patients typically includes recognizing and reducing risk factors, promoting rigorous protection from ultraviolet sun exposure, and utilizing topical agents for skin lightening.

The treatment offers temporary improvement; however, the condition often recurs. Treatment principles focus on inhibiting melanin synthesis pathways, reducing melanosome transfer from melanocytes to keratinocytes, and facilitating pathways for melanin removal.

Hydroquinone, utilized initially as a rubber antioxidant in gloves, was identified as a depigmenting agent in the 1930s by inhibiting tyrosine oxidation within the melanin biosynthesis pathway. Hydroquinone is used as a topical cream at 4–5% concentrations to manage melasma. It is the gold-standard treatment for melasma and has been used in numerous trials as the comparative arm to evaluate the efficacy and safety of new agents.

Retinoids target melasma via multiple mechanisms, including tyrosinase inhibition, acceleration of epidermal turnover and hence pigment loss, and interference with keratinocyte pigment granules and pigment transfer. TCC (Triple Combination Therapy) is one of the most popular combination therapies and has been considered a gold-standard treatment. It involves the addition of a mild-potency steroid in combination with a retinoid and hydroquinone. Each component targets melasma lesions through a unique mechanism while also working synergistically. For example, retinoids enhance epidermal penetration of hydroquinone and protect it from oxidation, and the steroid reduces skin irritation from both hydroquinone and the retinoid.

Several other substances can be used alone or in various combinations or concentrations to treat melasma. Among them are kojic acid, arbutin, niacinamide, ascorbic acid, azelaic acid.

In recent years, there have been many attempts to develop new active substances that can be used topically and systemically. Also, new procedures can be used alone or combined with topical or systemic therapy.

Thiamidol (isobutylamido thiazolyl resorcinol) is a potent reversible tyrosinase inhibitor and a potential hydroquinone alternative for treating melasma.

Cysteamine is an aminothiols characterized by its depigmenting properties, utilized following the development of formulations that mitigate its sulfur-like odor. The mechanism of action remains incompletely elucidated; however, proposed theories include the inhibition of tyrosinase and peroxidase, a reduction in the conversion rate of tyrosine to dopaquinone, and the upregulation of intracellular glutathione. These factors collectively inhibit melanogenesis and promote the synthesis of pheomelanin over eumelanin.

Tranexamic Acid (TXA) is a lysine amino acid derivative that addresses melasma by reversibly inhibiting the conversion of plasminogen to plasmin. Ultraviolet exposure activates the plasmin-keratinocyte plasminogen activator system, leading to an increase in intracellular release of arachidonic acid and  $\alpha$ -melanocyte-stimulating hormone, which subsequently results in melanogenesis. Recent research identifies a correlation between melasma and solar elastosis, highlighting an increase in mast cells and vascularization within melasma lesions, and indicates that melasma may involve a component of photoaging. TXA targets melasma through the reduction of mast cells and angiogenesis. TXA has been evaluated through intradermal administration trials.





Metformin has shown a downregulating effect on melanogenesis by inhibiting cyclic 5' adenosine monophosphate (cAMP)-related genes associated with this process.

Resveratrol directly and indirectly inhibits tyrosinase, regulates melanocyte function, and possesses antioxidant and anti-inflammatory properties.

Autologous platelet-rich plasma (PRP) has been evaluated as an innovative treatment; the release of transforming growth factor-beta from alpha-granules by platelets inhibits melanin synthesis.

Oral TXA specifically addresses melasma through its vaso-modulating properties and may serve as a second or third-line treatment in conjunction with topical therapies. Initial therapy may be sustained for 12–16 weeks; however, there is a lack of studies demonstrating safety for extended durations. Topical and intradermal TXA is not recommended due to concerns regarding efficacy, accessibility, cost, and patient discomfort.

Polypodium leucotomos (PLE) is a tropical fern that shows potential as a therapy for melasma. This compound functions as an antioxidant with photoprotective properties, leading to its application in sunscreens and treating photosensitive conditions like polymorphous light eruption.

Pycnogenol is an extract derived from the bark of French maritime pine, exhibiting anti-tyrosinase activity and antioxidant and anti-inflammatory properties. It addresses the vascular aspect of melasma by inhibiting vascular endothelial growth factor.

Laser and light-based therapies, such as low-fluence Q-switched Nd: YAG laser and intense pulsed light (IPL), provide targeted destruction of melanin with minimal collateral damage. However, improper use may lead to paradoxical hyperpigmentation. Fractional lasers, particularly fractional picosecond lasers, offer a promising alternative with reduced post-inflammatory hyperpigmentation (PIH) risk.

Melasma treatment has evolved significantly, incorporating novel agents and combination therapies to improve efficacy and reduce recurrence. Personalized treatment plans based on skin type, severity, and underlying pathophysiological mechanisms are crucial for optimizing outcomes. Further research is needed to refine therapeutic protocols and establish long-term safety profiles for emerging treatments.

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## INTRODUCTION

Abdullah Demirbaş

Vitiligo is a chronic autoimmune skin disorder characterized by the selective destruction of melanocytes, resulting in depigmented patches of skin and mucosa. It affects approximately 0.5-2% of the world's population and has a significant psychosocial impact on those affected. The exact pathogenesis of vitiligo is multifactorial, involving genetic predisposition, autoimmune mechanisms, oxidative stress, and inflammatory cytokine activity. Despite the availability of treatment options such as corticosteroids, calcineurin inhibitors, and phototherapy, many patients experience suboptimal outcomes, disease recurrence, and limited long-term repigmentation.

In recent years, small-molecule therapies have emerged as promising alternatives to traditional treatments, offering targeted approaches to modulate key pathways involved in the pathogenesis of vitiligo. These agents are designed to inhibit specific intracellular signaling molecules, thereby reducing immune-mediated melanocyte destruction and promoting repigmentation.

Pathogenesis of vitiligo and small molecule targets

The molecular mechanisms underlying vitiligo are complex and involve several key pathways that regulate melanocyte survival and immune responses. Targeted small molecule therapies aim to intervene in the following critical pathways:

### Key pathways and small molecule targets:

#### JAK-STAT pathway inhibitors

Drugs such as ruxolitinib and tofacitinib block the IFN- $\gamma$ -CXCL10-CXCR3 axis, reducing inflammation and promoting repigmentation.

#### Wnt/ $\beta$ -catenin signaling modulators

Agents targeting this pathway help stimulate melanocyte regeneration and proliferation.

#### Oxidative stress regulators

Antioxidants such as N-acetylcysteine combat oxidative stress and protect melanocytes.

#### Prostaglandin analogs

Compounds such as PGE2 promote melanocyte migration and repigmentation.

#### Cytokine inhibitors

Targeting cytokines (e.g. IL-15, IL-17) helps modulate immune responses and prevent melanocyte destruction.

#### Current clinical developments

Promising small molecules in trials include ruxolitinib (approved for topical use), tofacitinib, and apremilast, which show significant repigmentation potential.

Combination therapies with phototherapy improve outcomes.

#### Challenges

Long-term safety, high cost, and recurrence are major concerns.

Personalized approaches and combination strategies are needed to improve efficacy.

#### Conclusions

Small molecules offer targeted and effective treatment options for vitiligo. Further research and clinical trials are essential to establish their role in clinical practice.



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## GENITAL LESIONS IN THE PRACTICE OF DERMATOVENEREOLOGIST

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The external genitalia is more often subject to friction and trauma. The anatomical features of this area cause increased humidity and temperature that increases the risk of contamination (seedling or infection) of the skin with viruses, fungi, and bacteria. Variations in the normal anatomical structure of the vulva and penis can cause confusion.

The incidence and prevalence of genital dermatoses have not been sufficiently studied. Vulvovaginal symptoms are diverse in etiology and clinical manifestations. Pain, itching are characteristic complaints in many genital dermatoses, sometimes so-called unexplained pain in the genital area is noted (in women - vulvodynia). The causes are varied - from infections to autoimmune processes.

In 1993, specialists from International Society for the Study of Vulvovaginal Disease (ISSVD) and the International Society for Gynecologic Pathology (ISGP) developed and adopted a new classification of vulvar diseases based on pathomorphological changes in the tissues of the external female genitalia [1]: I. Benign lesions of the vulva: lichen sclerosus; squamous cell hyperplasia; other dermatoses. II. Vulvar intraepithelial neoplasia (VIN): 1. Squamous cell vulvar intraepithelial neoplasia: VIN I - mild vulvar dysplasia; VIN II - moderate vulvar dysplasia; VIN III - severe dysplasia and carcinoma in situ. 2. Non-squamous cell vulvar intraepithelial neoplasia: Paget's disease; melanoma in situ. III. Invasive cancer.

In 2011, at the XXI World Congress of ISSVD, a new clinical classification of vulvar dermatoses was presented [2]. The main criteria of this classification are morphology and color of the elements:

1) Skin-colored lesions: A. Skin-colored papules and nodules B. Skin-colored plaques. 2) Red lesions: patches and plaques: A. Eczematous & lichenified diseases B. Red patches & plaques (no epithelial disruption). 3) Red lesions: papules and nodules: A. Red papules B. Red nodules. 4) White lesions: A. White papules and nodules B. White patches and plaques. 5) Dark colored (brown, blue, gray, or black) lesions: A. Dark colored patches B. Dark colored papules and nodules. 6) Blisters: A. Vesicles and bullae B. Pustules. 7) Erosions and ulcers: A. Erosions B. Ulcers. 8) Edema (diffuse genital swelling): A. Skin-colored edema B. Pink or red edema.

Dermatological classification of vulvar dermatoses includes eight groups of nosologies: non-infectious dermatoses; infectious dermatoses; dermatomycosis; keratoses; skin pigmentation disorders; neoplasms; dermatozoonoses; diseases of the skin glands [3].

There is no single, generally accepted classification of diseases of the skin of the male genital organs, and we used the Classification of Diseases of the Penis (2012) [4]: normal variants; infectious dermatoses; dermatoses with a preferred localization on the male genital organs; primary genital dermatoses in men; non-dermatological diseases, dysesthesia and chronic pain syndromes; precancerous diseases and tumors.

We use classification of genital lesions by type of skin lesion:

### 1. Genital ulcers and erosions:

A. Single ulcer: primary syphilis, lymphogranuloma venereum, chancroid, donovanosis, pyoderma chancriformis, genital ulcers in Epstein-Barr infection, squamous cell carcinoma, basal cell carcinoma.

### B. Multiple ulcers and erosions:

- acute course: genital herpes, herpes zoster, secondary papular-erosive syphilis, genital allergy, genital eczema, Lupschitz ulcers, trichomonas ulcers of the vulva/penis, Stevens-Johnson syndrome, erythema multiforme.
- chronic course: pemphigus, bullous pemphigoid, familial pemphigus (Hailey-Hailey disease), Behcet's disease, Reiter's disease, Kaposi's sarcoma, gangrenous pyoderma.

### 2. Macular or patches lesions:

A. Inflammatory spots: candidal balanoposthitis and vulvitis, balanoposthitis, circinate balanoposthitis, vulvovaginitis, fixed drug erythema, vestibulitis, allergic balanoposthitis, allergic vulvovaginitis, mycosis of skin, pubic pediculosis, contact dermatitis, seborrheic dermatitis, irritant dermatitis, diaper dermatitis, erythema multiforme.





B. Non-inflammatory spots:

- without atrophy: erythrasma;
- with atrophy: vulvar dystrophies;
- pigmented and depigmented: vitiligo, focal melanosis of the genitals, melanocytic nevi, lentigo.

3. Papulous and papulous- verrucous lesions:

A. Variants of the norm: pilar and epidermal cysts, pearly penile papules, micropapillomatosis of the vulva, seborrheic cysts (Fordyce spots).

B. Papulous lesions:

- without itching: molluscum contagiosum, psoriasis, secondary papulous syphilis, senile hemangioma, lupus erythematosus, Darier's disease, folliculitis, papular pseudosyphilis, Fox-Fordyce disease, Reiter's disease;
- with itching: neurodermitis, lichen red planus, scabies, postscabious lymphoplasia, trichomycosis.

C. Papulo-verrucous lesions: anogenital warts, Bowenoid papulosis, condylomas lata secondary syphilis, angiokeratoma, verrucous carcinoma, giant condyloma of Buschke-Levenshtein.

4. Plaque lesions:

A. Without atrophy:

- without itching: psoriasis, lupus erythematosus, erythroplasia of Queyrat, plasma cell balanitis and vulvitis (Zoon's balanitis and vulvitis), squamous cell carcinoma, Kaposi's sarcoma, Bowen's disease;
- with itching: lichen red planus, neurodermitis/Lichen simplex, atopic dermatitis, exsudative discoid and lichenoid chronic dermatosis of Sulzberger-Garbe, intertrigo, seborrheic keratosis;

B. With atrophy: lichen sclerosus, atrophic form of lichen red planus, squamous cell hyperplasia.

5. Pustular lesions: folliculitis, impetigo, hidradenitis.

6. Vesicular lesions: genital eczema, genital Herpes, herpes Zoster.

7. Bullous lesions: pemphigus vulgaris, familial pemphigus, bullous pemphigoid, dermatitis herpetiformis Duhring, cicatricial pemphigoid, erythema multiforme, epidermolysis bullosa.

8. Tuberculous lesions: tuberculosis of the skin, tertiary syphilis, pyogenic granuloma.

9. Nodular lesions: idiopathic calcinosis of the scrotum, tuberculosis of the skin, tertiary syphilis, lipoma, oleogranuloma, fibroma, hydradenoma, hemangioma.

10. Cysts in the genital area: pilar and epidermal cysts, bartholin gland cysts, tysonium cysts, skein duct cysts, sweat gland cysts, sebaceous gland cysts, vaginal mucosa cysts, syringoma.

11. Edema of the genitals.

12. Pain in the genital area.

13. Anogenital itching.

14. Trauma to the genitals.

In some cases, the diagnosis can only be established through a biopsy and histological examination.

Key Points:

- Vulvar or penile diseases are underdiagnosed and underrecognized disorders that may require a multidisciplinary approach to treatment.
- Disorders of the vulva or penis can be categorized into infectious, inflammatory, neoplastic, and neuropathic.
- A careful history and complete dermatologic examination can establish the diagnosis.
- Dermatoscopy is a useful and informative diagnostic method for genital dermatoses.
- Biopsy of vulvar or penile lesions remains the standard for diagnostic confirmation.



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## BASIC SCIENCE OF WOUND HEALING

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Skin wound healing is a complex process *involving* various cellular and molecular mechanisms. The process typically *progresses* through four interrelated phases: hemostasis, inflammation, proliferation, and remodeling. Although there may be other intermediate stages and phases that are critical and modern research is now revealing new key players in this process. (1,2,3)

The First phase is the Hemostasis phase. In this phase, as a result of the vascular reaction (immediately after injury, the vessels constrict, which reduces blood loss), blood loss stops and platelets are activated, which leads to their adhesion to the site of injury, while granules are released and growth factors are secreted, such as platelet-derived growth factor (PDGF), transforming growth factor beta (TGF- $\beta$ ), and vascular endothelial growth factor (VEGF), which trigger the healing process. At the same time, a fibrin clot *forms, creating* a temporary matrix that stabilizes the wound.

The Second phase is the Inflammation phase. This phase involves recruitment of neutrophils and monocytes to the wound site, *where they* differentiate into macrophages. Macrophage activation plays a key role in the Inflammation phase, clearing the wound site of debris and pathogens. They also secrete proinflammatory cytokines (e.g. IL-1, IL-6, TNF- $\alpha$ ) and growth factors (e.g. TGF- $\beta$ , VEGF), which are necessary for the transition to the proliferative phase. At the same time, various signaling pathways, *including* the NF-kB pathway, are activated in response to inflammatory signals, leading to the expression of adhesion molecules and further recruitment of immune cells.

The Third phase is the Proliferation phase, which is stimulated as a result of the processes occurring in the second Inflammatory phase. As a result, the process of Re-epithelialization begins (keratinocytes at the edges of the wound migrate along the wound surface, stimulated by growth factors (e.g. EGF, KGF) and components of the extracellular matrix (ECM), such as fibronectin and collagen). To maintain the processes of Re-epithelialization, the process of Angiogenesis is launched - the formation of new blood vessels from existing ones, caused by VEGF secreted by macrophages and keratinocytes, to provide the regenerating tissue with nutrients and oxygen. At the same time, fibroblasts are activated, which migrate to the wound area, proliferate and synthesize ECM components, mainly collagen, which provides structural support. Initially, collagen type III is deposited, which is later replaced by collagen type I, increasing the strength of the tissue.

And the final Fourth phase is the Remodeling phase, which is very important in terms of restoring the normal structure of the skin. In this phase, ECM maturation occurs: the composition of the ECM changes as collagen undergoes remodeling under the action of matrix metalloproteinases (MMPs) and their inhibitors (TIMPs). Scar formation begins, *affecting* both strength and cosmetic outcomes. Over time, the wound matures, and ordered collagen fibers provide strength, although the new tissue often *lacks* the full structure and function of intact skin. And finally, the balance is restored - the balance between collagen synthesis and degradation. This stage is very important and is key, since it is at this time that excessive remodeling can begin and improper scar formation can lead to the development of hypertrophic or keloid scars.

In recent years, the important role of the skin microbiome in wound healing and the correct passage of all stages and phases of this process, as well as the transition of wound healing to a chronic and difficult to treat form, has been shown. (4)

Thus, understanding these cellular and molecular mechanisms is critical to developing strategies to improve wound healing, especially in chronic or non-healing ulcers. Advances in regenerative medicine, *including* stem cell therapy, tissue engineering, and new therapeutic agents targeting specific molecular pathways, aim to optimize the healing process.

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## COMMON SKIN APPENDAGEAL TUMORS

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### Common Skin Appendageal Tumors

Skin appendageal tumors (SATs) are a diverse and uncommon group of growths that develop from pilosebaceous units, sweat glands (eccrine and apocrine), and sebaceous glands. They are generally classified into four categories based on their origin: follicular, sebaceous, eccrine, and apocrine tumors [1]. Clinically, they typically present as asymptomatic papules, nodules, or plaques. However, malignant variants may manifest with irregular borders, rapid growth, and ulceration [1]. The head and neck region is the most commonly affected anatomical site, likely due to the high density of pilosebaceous units in these areas, though they can also occur on the extremities and trunk [2, 3].

Most studies report that over 90% of these tumors are benign in nature, with patients typically presenting due to cosmetic concerns [2, 3]. The most frequently reported benign SATs include pilomatrixoma, syringoma, and trichoepithelioma [2, 4, 5]. Among the reported malignant adnexal tumors, sebaceous carcinoma, porocarcinoma, and microcystic adnexal carcinoma are the most frequently documented [3, 5]. Malignant adnexal tumors are predominantly observed in older adults [5]. Some SATs are associated with genetic syndromes, such as Muir-Torre syndrome (sebaceous tumors), Cowden syndrome (trichilemmoma), and Brooke-Spiegler syndrome (spiradenoma, cylindroma) [1]. In such cases, tumors often manifest as multiple, recurrent lesions.

In the literature, clinical diagnostic accuracy rates for SATs have been reported to vary between 50% and 70% [3, 6]. Establishing a clinical diagnosis is often challenging, as most SATs present as asymptomatic, slowly growing lesions with similar clinical characteristics. The typical clinical features of common SATs vary according to their origin and anatomical location. Syringoma presents as small, flesh-colored or yellowish papules, predominantly seen on the lower eyelids and cheeks, more commonly affecting young adults. Pilomatrixoma commonly manifests as firm, subcutaneous nodules on the head, neck, and upper extremities; typically painless but may become tender if inflamed. Sebaceous Adenoma appears as yellowish, lobulated papules or nodules, primarily located on the face or scalp of older adults. Cylindroma is characterized by smooth, firm, pink or red nodules commonly occurring on the scalp or face, often presenting as multiple lesions associated with Brooke-Spiegler syndrome. Hidrocystoma typically presents as translucent, dome-shaped cystic nodules around the eyelids; occasionally pigmented. Trichoepithelioma appears as firm, skin-colored papules or nodules, usually occurring on the face, with multiple lesions often associated with Brooke-Spiegler syndrome [1].

Dermoscopy can be a helpful diagnostic tool when evaluating SATs. For apocrine and eccrine tumors like poroma, hidradenoma, and hidrocystoma, dermoscopic findings often include a reddish background, milky-red globules, and arborizing vessels. Follicular tumors such as pilomatrixoma, trichoepithelioma, and trichilemmoma may display features like white, structureless areas, blue-gray nests, and milia-like cysts. Sebaceous tumors can also be identified through dermoscopy; sebaceous hyperplasia typically shows yellow-white polylobulated clods with central umbilication, while sebaceous carcinoma often presents with atypical vessels and irregular structures [7, 8]. Although dermoscopy can enhance clinical diagnostic accuracy, histopathological examination remains the gold standard for the definitive diagnosis of SATs.

The histopathological differentiation of common SATs is based on distinct features related to their origins from appendageal structures. Pilomatrixoma is characterized by basophilic cells and eosinophilic ghost cells. Syringoma exhibits coiled ductal structures within the dermis with distinctive “tadpole-like” extensions. Sebaceous Adenoma shows a multilobular architecture with peripheral basophilic immature cells and central mature sebaceous cells. Cylindroma presents with mosaic-like rounded cell nests surrounded by a hyaline basal membrane. Hidrocystoma is defined by large dermal cystic spaces lined by apocrine or eccrine cells. Trichoepithelioma contains basophilic cell nests, trabecular structures, and keratinized cysts. These tumors are distinguished by unique cellular components, stromal patterns, and keratinization profiles [1].

Immunohistochemistry (IHC) is increasingly being utilized as a supplementary tool in the diagnosis of SATs. Although routine histological sections are generally sufficient, IHC proves particularly useful in distinguishing adnexal from epidermal origins, differentiating benign from malignant lesions, and distinguishing primary adnexal carcinomas from metastatic tumors. The expression patterns of antibodies such as BerEP4, EMA, CK15, CK20, p63, adipophilin, and CAM5.2 in various tumors provide valuable diagnostic clues. Specifically, CK5/6, EMA, and S100 are commonly used markers in





eccrine tumors; CK7, GCDFP-15, and androgen receptor are applied in apocrine tumors; EMA, androgen receptor, and adipophilin are useful in sebaceous tumors; whereas BerEP4 and PHLDA1 are frequently employed for follicular tumors [1, 9, 10].

Benign skin appendageal tumors are typically evaluated for cosmetic reasons and can be completely treated through surgical excision. The management of malignant tumors, however, requires more advanced approaches such as wide local excision, Mohs micrographic surgery, or radiotherapy.

In conclusion, SATs comprise a heterogeneous group of neoplasms with various histogenetic origins, and histopathological examination remains the gold standard for accurate diagnosis. While the majority of these tumors are benign, the risk of malignancy increases, particularly in elderly patients and those associated with genetic syndromes. Accurate assessment of SATs is essential for effective treatment planning and reducing the risk of recurrence or metastasis.

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## MALIGNANT APPENDAGEAL SKIN TUMORS - CLINICAL-PATHOLOGIC CORRELATION

**Amor Khachemoune, MD, FAAD, FACMS**

Malignant appendageal skin tumors encompass over 40 distinct entities. Multiple classification systems are currently in use, many of which undergo periodic updates. In this lecture, I will focus on a simplified overview of the most frequently encountered tumors, emphasizing their clinical-pathological correlations.



## SKIN APPENDAGE INVOLVEMENT IN MYCOSIS FUNGOIDES

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The skin appendages are epidermal and dermal-derived structures that complement the functions of the skin. Hair, nails, sweat glands, and sebaceous glands are adnexal structures that play a role in UV protection, thermoregulation, fluid and electrolyte balance, and protection from physical injury. Apart from having their own dermatological disorders and tumors, they may be involved in several inflammatory and neoplastic disorders.

Mycosis fungoides (MF) is the most common primary cutaneous T-cell lymphoma, and it has adnexotropic variants. Although adnexotropism was previously considered as a rare histopathological finding in MF, more recent studies show that it is more prevalent than recognized (1).

The 2018 update of the World Health Organization–European Organization for Research and Treatment of Cancer (WHO-EORTC) classification for primary cutaneous lymphomas describes three MF variants including follicular MF (FMF) (2). FMF is the most frequent MF variant constituting about 10% of all MF cases and has distinct clinicopathological features (3). The epidermis is usually spared in this entity, and the malignant lymphocytes infiltrate the hair follicles. Mucin deposition in the follicular epithelium may accompany the atypical lymphocytes in most cases, which makes differentiation from follicular mucinosis challenging (4).

Follicular MF exhibits a male predominance, with a mean age of onset of 46 to 59 years (5). The disease has a variable clinical spectrum. Alopecia is a typical feature of FMF, and loss of the lateral parts of eyebrows, namely the Omnibus phenomenon, may be an early clue to diagnosis. Other lesions may range from follicular papules to erythematous plaques with follicular accentuation, to acneiform (with cysts and comedones) or rosacea-like lesions. FMF may also present with multiple milia-like lesions (5). Isolated sebaceous gland involvement by atypical lymphocytes of MF has not been reported, but the presence of acneiform lesions may be a hint to the infiltration of sebaceous glands.

For a longtime, FMF was considered an MF variant with an unfavorable prognosis, similar to tumor stage MF (2). Recently however, studies have shown that not all patients with FMF exhibit such a bad prognosis (6). Thus, the disease is now considered to have an early/indolent and an advanced/aggressive variant (5).

Another adnexotropic variant of MF, although not recognized as a distinct entity by the 2018 update of the WHO-EORTC classification, is syringotropic MF. It is characterized by the involvement of the eccrine glands with syringometaplasia (7). Its clinical presentation is similar to that of FMF, with alopecic patches or erythematous plaques with follicular papules, even comedones. Although epidermal and follicular involvement may accompany syringotropism (7), some authors consider syringotropic MF as a distinct entity with a more favourable prognosis than syringotropic MF (8).

Nails may also be involved in MF, although histological involvement of the nail bed or matrix has been sparsely reported in the literature (9). Onychodystrophy of all 20 nails is an expected finding in erythrodermic MF, however, involvement in one or few nails may occur even in tumor stage or early disease (10, 11). Nail changes reported include onycholysis, onychomadesis, trachyonychia, subungual hyperkeratosis, thickening of the nail plate, nail discoloration, and pterygium formation (12).

To conclude, since skin appendage involvement in MF may affect the prognosis and the treatment options, performing a thorough examination of the entire skin is necessary in these patients (13).

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## RARE AND UNUSUAL SKIN MALIGNANCIES: CLINICAL-PATHOLOGIC CORRELATION

**Amor Khachemoune, MD, FAAD, FACMS**

Rare and unusual skin tumors often necessitate clinical-pathological correlation and specialized staining techniques, such as immunoperoxidase studies, during pathological evaluation. This lecture will examine a selection of challenging cases, summarizing key take-home messages for each.



## SKIN APPENDAGE INVOLVEMENT IN MELANOMA

**Burcu Beksac, MD, PhD**

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The skin appendages are epidermal and dermal-derived structures that complement the functions of the skin. Hair, nails, sweat glands, and sebaceous glands are adnexal structures that play a role in UV protection, thermoregulation, fluid and electrolyte balance, and protection from physical injury. Involvement of skin appendages by neoplastic or inflammatory cells can be defined as adnexotropism.

Melanoma, the most malignant skin tumor, is characterized by significant histologic and clinical diversity. It is classified according to its morphological features, i.e., the distribution pattern of malignant melanocytes across the epidermis and the dermis (1). Melanoma cells can extend into the hair follicles, a feature called folliculotropism.

A proposed classification of follicular involvement by melanoma cells includes primary follicular melanoma, melanoma with folliculotropism, and invasive melanoma arising from melanoma in situ with folliculotropism (2). Most cases with follicular melanoma involvement are not primary follicular but exhibit follicular invasion by malignant melanocytes after epidermal involvement. This entity can be defined as melanoma with folliculotropism. This is especially common in head and neck melanomas (1) and lentigo maligna (3). Primary follicular melanoma is an extremely rare entity, with few cases reported to date. Its clinical appearance is usually not suspicious for melanoma, and it may mimic a comedo, a pigmented cyst, or a seborrheic keratosis (4, 5). Folliculotropic cutaneous metastases of melanoma may also occur, although rarely, and in most cases described so far, the primary tumor also showed folliculotropism. Folliculotropic metastatic melanoma and follicular malignant melanoma cannot be distinguished histologically (6).

Another skin appendage that may be primarily involved in melanoma is the nail. Subungual melanoma, a variant of acral lentiginous melanoma, is a melanoma subtype that arises from the nail apparatus. Unlike other melanoma subtypes, subungual melanoma is not related to sun exposure. It is rare, comprising about 3% of all melanomas. It usually presents as a black, vertical band on a nail plate (longitudinal melanonychia). The band widens proximally and may be wider than 3 mm. Nail plate dystrophy and Hutchinson sign may accompany (7).

Syringotropic melanoma is defined as melanoma spreading within the eccrine apparatus into the reticular dermis and/or subcutaneous tissue deeper than any (if present) associated invasive melanoma. This rare entity was relatively recently described (8). Since palms and soles lack hair follicles but contain a considerable number of eccrine glands, syringotropism seems to be a feature of mainly acral lentiginous melanoma (9). However, it may also be seen in melanomas in other skin sites (8).

The effect of adnexotropism on the prognosis of melanoma is unclear. There are studies showing that periadnexal extension does not worsen clinical outcomes (10). Some authors advocate that the depth of the adnexal involvement may upstage the primary tumor, leading to unnecessary sentinel lymph node biopsies. Thus, in case of folliculotropism or syringotropism, measuring the Breslow depth from the inner layer of the outer root sheath epithelium or the inner luminal surface of the sweat glands is recommended (11).

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## SKIN CANCER TREATMENTS FOR DERMATOLOGISTS

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Cancer is one of the leading causes of death in the world, and skin cancer is the most common malignancy.

Cancer is caused by the uncontrolled growth of skin cells, which can metastasize, thus spreading to other organs.

Skin makes up 16% of body weight, making it the largest organ in the human body.

Skin cancer is a significant health problem with a constantly increasing incidence and prevalence from year to year, especially among Caucasians. Changes occur most often in the age group of 50-85 years, although there are not rare cases at a younger age. A slightly higher number of men were affected than women.

Out of every three diagnosed cancers, one is skin cancer. The three most common forms of skin cancer are cutaneous melanoma, squamous cell carcinoma, and basal cell carcinoma. Skin cancer is primarily associated with three types of UV radiation: UVC, UVB, and UVA. Each has a different wavelength and biological effects.

Diagnosis of skin cancer is achieved by: physical examination of the patient's skin, dermatoscopic examination, skin biopsy, and pathohistological analysis. After the diagnosis has been confirmed by all relevant specialists, we start treating the patient. We choose the therapeutic modality based on the type of cancer obtained, its localization, size and spread, taking into account the age of the patient and his overall health. The final decision on the choice of therapy is made jointly by the dermatologist, surgeon, radiologist, and oncologist with the consent of the patient.

Surgical excision has been and remains the "gold standard" of treatment for many skin cancers, but it may be inappropriate for some patients. Alternative treatment methods include: ablative and intralesional therapies, topical therapy, photodynamic therapy, radiotherapy and systemic therapy. In addition to all this, we must always carry out preventive therapy, monitor patients after therapy and try to improve their quality of life.

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## COSMETIC PRODUCTS STORAGE IN AESTHETIC DERMATOLOGY

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In cosmetic dermatology there are many products in use of dermatologist 's clinics. They are botulinum toxin, dermal fillers, hyaluronidase, dermal threads, exosomes and stem cells, PRP, PRF, chemical peels, mesotherapy products, stromal vascular fraction. In preparation of these presentation 1 used official product leaflets of manufacturers, instructions for use and storage recommendations (FDA, EMA, manufacturers' documents), relevant scientific publications and clinical guidelines. preparation of some power point chat gpt open ai was used . There is no conflict of interest with the companies of the mentioned products. Botulinum toxin could only be used for a single injection session and it can only be applied to one patient after dilution.. The product should be kept away from direct sunlight and heat sources. After dilution, botulinum toxin must be stored at 2-8 C° for 4 hours. It can also be stored at +4 C° for up to 6 weeks (1). Dermal fillers should generally be stored at a constant temperature between 2°C and 25°C (36°F and 77°F). Products must be protect from direct sunlight UV rays. Store them in their original packaging in a dark, cool environment. Avoid freezing temperatures and examine carefully the lot number, manufacturing date, and expiration date before use. Do not sterilize as this may damage or alter the product. PMMA (Polymethylmethacrylate)+Collagen should be stored 2°C – 8°C (refrigerator temperature) and Poly-L-Lactic Acid (PLLA) at room temperature (up to 30°C). After prereration of product,it can be stored for up to 72 hours at 5–30°C. Calcium Hydroxyapatite (CaHA) Controlled should be store at room temperature between 15°C – 32°C. Autologous fillers should be transport temperature-controlled at 2–8°C and bring it to room temperature 15–30 minutes before use. Autologous fat fillers should be kept at 4°C in a sterile closed system for a short time. Should not be kept at room temperature. Medium time (24–48 hours): can be stored at 4°C, and long term it should be frozen at -80°C or in liquid nitrogen or cryoprotective agents (e.g. DMSO) should be used. (2). Based on the results of a study, it is recommended that it is safe to store hyaluronic asid fillers for reuse in the same patient. In this study opened filler has been stored in the refrigerator at 4°C for 1 week to 12 months. and there was no bacterial growth was observed in aerobic and anaerobic cultures performed for 90 days (3). For dermal threads ; they should be stored in their original sterile packaging and at a temperature between 15-25°C. Extremely hot or cold environments can damage the structure of the threads. A humidity rate of 40-60% is ideal. They should not be exposed to direct sunlight. UV rays can weaken the structure of the therads.Threads should be stored in a hygienic and dust-free area. They should not be left out in the open (4). Exosomes are nano-sized extracellular vesicles secreted by cells and carrying bioactive substances such as nucleic acids, proteins, and lipids that play a role in physiological and pathological processes. Stem cells are a current treatment method that can be used in dermatology for skin regeneration, wound healing, anti-aging treatments, and hair loss. If long-term storage (6-12 months) is desired for exosomes and stem cells, they should frozen at -80°C. It can generally be used for shorter-term such as few days you can store at 4°C. Protected from direct sunlight and high temperatures. Special storage and storage conditions recommended by the manufacturer should be followed for each product (5,6). PRP should ideally be used within 30 minutes to a maximum of 2 hours after centrifugation. It can remain stable for up to 4-6 hours. However, long-term storage at 4 °C causes a decrease in growth factors and disruption of platelet integrity. -20 °C freezed PRP can be stored for 3 months, -80°C 6-12 months, and -196 °C 12 months and more (7). PRF can be used in 15-20 minutes after preperation at this time fibrinogen and thrombin had not yet converted into a fibrin matrix (i.e. remained in a liquid state). The combination of blue hydrophobic PET tubes held in a cooling device can best preserve i-PRF in liquid form up to 4 hours (8). There are superficial, medium and deep peeling products for peeling procedures . Storage temperature should be between 15-25°C.It is important to keep the lid closed and store in a dry place to avoid moisture and air exposure. Generally avoid UV lights (9). The other products are mesotherapy products. The storage conditions specified on the packaging may vary depending on the product. You can store them in the refrigerator at 2°C-8°C. Some of them can be store at room temperatures below 25°C/30°C. You can store them in original package. Some products require a cold chain when stored and transported (10). Stromal Vascular Fraction (SVF) is formed by separating the fat tissue obtained through liposuction by enzymatic or mechanical processes. In dermatology, it is used as a potential agent in the management of chronic wounds, scar treatment, skin rejuvenation and autoimmune dermatoses thanks to its regenerative and immunomodulatory properties. For short-term storage, usually up to 72 hours, store SVF at 4°C (refrigerator temperature) . For long-term storage, up to one year, SVF is best stored at -80°C or more commonly -196°C in liquid nitrogen. The longer the storage time, the lower the number and viability of SVF cells, regardless of the temperature at which they are stored (11). In conclusion , proper storage of cosmetic products is important to prevent clinical ineffectiveness and complications. Appropriate storage conditions should be observed for each product..



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## MICROTOXIN STRATEGY FOR FACIAL AESTHETIC, SKIN LIFTING AND SKIN QUALITY.

Ceyda Çaytemel\*

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Microbotox, also known as mesobotox or microdroplet technique, is the intradermal injection of botulinum toxins prepared in different dilutions to preserve facial mobility and natural beauty. Onabotulinumtoxin type A (ONA), abobotulinumtoxin (ABO) and incobotulinum toxin A (INCO) are used off-label for this purpose (1). There is no study comparing the effectiveness of different botulinum toxins using the microbotox technique. There is no standard dilution ratio to be used for microbotox. The most used concentrations are 10–20 U/cc of ONA (2). In a study conducted with botulinum toxin-A (Neuronox, Korea), it was shown that the effectiveness increased with higher concentrations of toxin (3). It is likely that the risk of side effects may increase with greater effectiveness. Microbotox can be applied in combination with stabilized hyaluronic acid to improve skin quality. This combination can provide synergistic effects, improving fine wrinkles, forehead lines and crow's feet, and increasing skin hydration and quality (4,5).

Microbotox is used in indications such as lower facelift and necklines, mid facelift, upper forehead lines, lateral canthal lines, open pores, rosacea, keloids, hyperhidrosis and acne (1). The theoretical mechanism of action of microbotox for face lifting as proposed by Wu involves the delivery of microdroplets to the dermis (intradermal) or the junction between the underside of the dermis and attachment of underlying superficial facial muscle fibers (subdermal), such that only the superficial muscle fibers are paralyzed while the deeper fibers continue to contract and act in opposite directions (6). Iranmanesh et al. concluded that Microbotox is an efficient and attractive method for facial rejuvenation, mid- lower face- lifting, and fine wrinkles reduction in forehead, periocular, and cheek regions, especially in younger subjects in their review. Furthermore, it is a suitable treatment for neck rejuvenation and recontouring of lower mandibular border, particularly in older subjects with marked skin laxity. Although there are promising studies for the use of microbotox for facelift, a systematic review conducted in 2022 emphasized that the results of the studies were questionable due to methodological limitations. There is no standard application method and dosage (7).

In summary, Microbotox is promising as a non-surgical technique for facial aesthetics and facelift. However, due to the small number of studies in the literature, the lack of standard protocols and objective assessment methods, and the differences in follow-up protocols, it is not possible to reach a definitive conclusion. Well-controlled studies incorporating randomization between the types of botulinum toxin used in split-face treatments and double-blinded assessments of pre- and posttreatment results are needed.

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## FACIAL CLEANSING PRODUCTS IN AESTHETIC DERMATOLOGY

**Dr. Gül Şekerlisoy Tatar**

*LIV HOSPİTAL SAMSUN/ TURKIYE*

### Introduction

Cleaners and moisturizers are essential for skincare products and have a significant dermatological impact. Water removes approximately 65% of oil and debris from the skin but is inadequate for cosmetic residues and environmental pollutants.

(1) So cleansers play a pivotal role in aesthetic dermatology by removing dirt, oil, makeup, and microorganisms without compromising the skin barrier. They are used pre- and post-procedure (e.g., before laser treatments or chemical peels) and help maintain a healthy barrier also adjunctive therapies for acne, rosacea, or hyperpigmentation. Generally, there are two main categories of cleansers: alkaline soaps and syndets (synthetic detergents that cause less barrier damage. (2,3)

### Types of Facial Cleansing Products

1. Soaps: Traditional soaps are produced by saponifying fats or oils with an alkali (e.g., sodium hydroxide). (4) Soaps effectively remove dirt and oil, are inexpensive and are readily available. However, their high pH (they typically have 9–10 pH) levels can disrupt the skin's acid mantle, leading to dryness, tightness, and irritation—especially in sensitive or post-procedural skin. Consequently, true soaps are generally avoided in patients with delicate skin, or those recovering from dermatological procedures.
2. Surfactant-Based Cleansers: Surfactants can be anionic (e.g., sodium lauryl sulfate), amphoteric (e.g., Cocamidopropyl betaine), or nonionic (e.g., polysorbates). These cleansers cause minimal irritation while helping maintain the skin's moisture balance. However, harsh or highly concentrated surfactants may still induce dryness and barrier disruption. Many “gentle cleansers” use mild surfactants in combination with moisturizing or barrier-enhancing ingredients. (2)

### Cleanser Formulations

#### 1. Bar Cleansers

##### a. Soap Bar

Traditional bar soaps, based on saponified fats/oils, often has a high pH and can be drying.

##### b. Syndet Bar

These bars contain milder surfactants such as alkyl carboxylate and acyl isethionate. With a pH around 5–7, syndet bars are less disruptive to skin barrier, because of that, they are suitable for sensitive or disease-prone skin, but are possibly more expensive. (2)

##### c. Glycerin Bar

These translucent bars contain sodium palmitate, glycerin, and soap dissolved in alcohol, offering a milder cleansing option.

#### 2. Liquid Cleansers

Liquid cleansers are similar in composition to bar cleansers but are in a fluid form. They usually contain lipophilic moisturizing ingredients (such as petrolatum, vegetable oils, or shea butter). Additional ingredients can be used to create formulations that are specific to the skin problem. (5)

#### 3. Cold Cream

Cold creams are lipophilic cleansers containing water, beeswax and mineral oil. It can be applied with fingertips, then wiped or rinsed with a tissue. It acts as a cleanser and make-up remover and can be used especially on dry skin. (6)

#### 4. Cleansing Milk

Cleansing milk is a lighter variant of cleansing cream. It usually includes water, lighter oils (olive, sunflower, jojoba, or sesame seed), and emollients like glycerin, forming an oil-in-water emulsion that dissolves impurities. Applied with a cotton pad, cleansing milk can be wiped away or followed by a water rinse. Due to its gentle nature, cleansing milk is commonly used to remove eye makeup.





## 5. Cleansing Oil

Cleansing oils (oil-in-water emulsions) contain mineral oil, castor oil, jojoba oil or olive oil. After application with a cotton pad, rinse thoroughly with water; in some cases, a detergent cleanser may be required to ensure complete removal. It is particularly recommended for removing water-resistant sunscreens, but is not suitable for daily cleansing, especially on acne-prone skin, due to its comedogenic effects.(7)

## 6. Toner:

This Liquid Facial Care product can be used instead of or after a detergent cleaner. Toners contain high alcohol concentrations for oily skin, low or no alcohol for normal or dry sensitive skin, and glycolic or salicylic acid for acne sufferers. (8)

It is not a necessary cleanser product.

## 7. Micellar Water

Often called cleansing water, micellar water features water plus a mild surfactant in a dilute solution that forms micelles. Applied with a cotton pad, it gently removes water-soluble makeup and debris and rinses away easily. Micellar water is especially suitable for dry or sensitive skin.

## 8.Nonfoaming Cleansers

These cleansers do not produce foam, and they are recommended for sensitive skin or atopic dermatitis. They are applied to dry or slightly moistened skin and then removed with water or tissue, leaving a light moisturizing film behind. Effective at removing makeup, they are also associated with less irritation in photoaged skin.

## 9.Active Ingredient Cleansers

- Alpha Hydroxy Acids (AHAs) exfoliate the skin, promote cell turnover, and address mild hyperpigmentation or photodamage. Their primary benefits include smoothing the skin's texture and providing a brightening effect. However, AHAs can sometimes lead to dryness, irritation, and increased photosensitivity; therefore, regular sunscreen use is strongly recommended.
- Beta hydroxyl acids (BHAs), such as salicylic acid, are lipophilic and can penetrate pores, offering notable anti-inflammatory benefits. They are particularly effective for individuals with acne-prone or oily skin, as they help reduce the formation of comedones. However, it is unclear whether these benefits occur with short contact times. (8) On the other hand, excessive use of BHAs may result in dryness, peeling, or irritation. (9)
- Benzoyl peroxide cleansers exert antibacterial effects—targeting *Cutibacterium acnes* and demonstrating keratolytic properties. These cleansers can reduce inflammatory acne lesions, but they tend to be drying, may bleach fabrics, and, in rare cases, lead to contact dermatitis.
- Skin brightening agents, including kojic acid and niacinamide, inhibit melanin production. They offer a gradual reduction in hyperpigmentation and melasma but may irritate sensitive skin, especially when used at higher concentrations.

Cleansing scrubs, cloths, and devices:

Scrubs contain surfactants and particulates that exfoliate mechanically. They can be used once a week, but they are not generally recommended due to their potential to damage the epidermal barrier.

Cleansing Wipes are single-use cotton, polyester, or cellulose fibers impregnated with surfactant. Routine use of these facial cleansing wipes is not recommended, as application time and pressure affect their cleansing efficacy and potential for skin damage.

Cleansing Devices are thought to remove more dirt from the face than manual cleansing, but there is no definitive evidence as to how effective this is, as it depends on the user and the device. (7)

When selecting a cleanser, matching the formulation (such as soap, syndet, or those containing AHAs/BHAs) to the patient's skin type and concerns is crucial. Products formulated with mild surfactants and a pH like the skin's natural range of approximately 4.5 to 5.5 are often recommended. It is also essential to consider the frequency of use, as over-cleansing or combining multiple active ingredients can worsen dryness and irritation. For post-procedural care, fragrance-free products that do not irritate the skin are preferable to protect the barrier during the healing process.



## Conclusion

Facial cleansers are foundational in both daily skin care and aesthetic dermatology procedures. The product choice should be tailored to each patient's specific skin needs, overall condition, and any concurrent treatments. Practitioners can optimize clinical outcomes and enhance patient satisfaction by understanding the advantages and limitations of various cleansing methods. In the future, microbiome-friendly cleansers (probiotics or postbiotics to support a balanced skin flora), enzyme cleansers (for sensitive skin types), and personalized cleansing products should be developed. Future research should focus on the comparative efficacy of novel cleansing technologies, especially in compromised skin (e.g., post-laser or with rosacea), as well as the long-term microbiome effects of routine cleansing.

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## FACIAL HYDRATION AGENTS IN AESTHETIC DERMATOLOGY

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The hydration of the epidermis highly conditions both the appearance, as well as the physical properties of the skin. Skin hydration is influenced by various parameters, namely external humidity, skin structure, lipid and protein composition, the skin's barrier properties and also by the concentration of hygroscopic molecules, better known as natural moisturizing factors (NMF). And all skin need hydration not just for the nonflaky good appearance but also for the barrier function and regular enzymatic functions of the epidermis (1).

Stratum corneum is our barrier to water loss and for a normal 'nonflaky' skin the tissue should contain more than 10 percent of water. To understand this, a brick and mortar model has been emphasized. Bricks being the corneocytes containing natural moisturizing factors and keratin fibrils and mortar being the intercellular lipid bilayer matrix composed of different types of ceramides, free fatty acids and cholesterol. Together they form a barrier to prevent transepidermal water loss and attract water into the epidermis from dermis and environment. Filaggrin is an essential protein to form a strict keratohyalin formation and also its degradation products are precursors of NMF. As hygroscopic molecules, NMFs have the ability to bind to water molecules, absorbing them and dissolving in the moisturizing water itself. This process is essential for maintaining hydration inside the corneocytes, which in turn keeps the stratum corneum and its outer layers moisturized. Not all the components of NMF are located inside the corneocytes, being sugars, urea and especially lactates mainly present outside these cells. On the other hand, ordered lamellar arrangement of intercellular lipids acts as a barrier for water molecules thus reducing TEWL. Other factors that contribute to the hydration of the skin are ; tight junctions located in stratum granulosum and endogenous glycerol which acts as natural humectant along with aquaporin-3 channels that regulates the transport of water and glycerol. Although these physiological skin mechanisms contribute to maintaining hydration, it is necessary to moisturize the skin with products designed for this purpose. The daily use of moisturizers improves the softness, hydration and flexibility of the skin, preserving the skin barrier and preventing TEWL (2).

Mainly, topical use of humectants and emollients are conventionally used for moisturizing and hydrating properties. Humectants are low molecular weight substances that are responsible for attracting and retaining water on skin's surface. Many humectants are similar to molecules that form NMF. Emollients and occlusives, on the other hand, are lipophilic agents. Emollients occupy the space between the cells of the stratum corneum (corneocytes), increasing cell cohesion and controlling TEWL. Occlusives, due to their lipid properties, form a physical barrier that reduces water evaporation. In order to restore and maintain skin hydration, it is essential that these ingredients are present in sufficient quantities to create a favorable environment to retain skin's hydration (3). In addition to traditional moisturizing agents such as glycerin, lanolin and panthenol; there are newer ingredients used for facial hydrating purposes. Among these, hyaluronic acid (HA) is a highly hygroscopic molecule, capable of expanding 1000 times its volume in the presence of water, making it easy to retain water in the upper layers of the epidermis. Also, low molecular weight-HA, has the ability to penetrate the skin, thus it can be present in both the epidermis and dermis (4). Ceramides, grape and algae extracts, are other novel ingredients that have gained prominence both in scientific studies and well as in the launch of new cosmetic products. There are numerous oral supplementation products as well as cosmetic procedures such as HA based micro fillers that target the hydration and retexturizing of skin (5, 6). In this lecture, agents that provide facial hydration will be summarized and their mechanisms will be reviewed.

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## SYNDETS, WHAT'S NEW?

**Defne Özkoca**

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Syndets, short for synthetic detergents, have become a vital component in modern dermatological practice as a milder and more skin-friendly alternative to traditional soaps. Developed in the early 20th century, syndets were introduced in response to the drying and irritating effects of conventional soaps, which disrupt the skin's natural pH and protective barrier. These synthetic detergents are synthesized from a variety of sources, including fats, petrochemicals, and oleochemicals, through processes like sulfonation, ethoxylation, and esterification. The unique chemical structure of syndets allows them to cleanse effectively while preserving the integrity of the skin's lipid barrier.

In contrast to traditional soaps, which are typically alkaline and can raise the skin's pH to levels that compromise its acid mantle, syndets are formulated to match the skin's natural acidic pH, ranging from 4.0 to 6.0. This key distinction helps syndets to maintain hydration, support the skin's microbiome, and reduce irritation. The surfactants used in syndets—ranging from anionic to nonionic types—offer various properties that enhance their suitability for different skin conditions. Anionic surfactants provide strong cleansing, while nonionic and amphoteric surfactants are gentler, making them ideal for sensitive or compromised skin. Cationic surfactants, while less commonly used, can also provide antimicrobial benefits.

Clinically, syndets are widely used in the management of a variety of dermatological conditions, such as atopic dermatitis, eczema, acne, and seborrheic dermatitis. They are particularly valuable for patients with dry or sensitive skin, as they are less likely to cause irritation compared to traditional soaps. Syndets with moisturizing agents help preserve the skin's hydration, preventing excessive dryness and reducing the risk of flare-ups. In addition, syndets are commonly recommended for post-procedure care, such as after chemical peels or laser treatments, where their gentle, soothing properties help protect the skin as it heals.

Emerging trends in the development of syndets include a focus on sustainability and the environmental impact of their ingredients. With increasing demand for biodegradable and eco-friendly surfactants, manufacturers are turning to plant-derived alternatives to replace petroleum-based components. The rise of biosurfactants and amino acid-based surfactants, which are derived from renewable sources, presents an opportunity for dermatology to benefit from formulations that are both skin-friendly and environmentally responsible. Furthermore, research is increasingly focused on developing syndets that support the skin's microbiome, preserving beneficial bacteria while maintaining cleansing efficacy.

As technology advances, the future of syndets looks promising, with the potential for even more personalized and customizable formulations based on individual skin microbiome analysis. These developments offer exciting opportunities to enhance the precision and effectiveness of dermatological treatments, tailoring syndet products to meet the unique needs of each patient.

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## DECORATIVE COSMETICS IN DERMATOLOGY

**Prof. Dr. Demet Akpolat**

- The decorative cosmetics are using to enhance attractiveness since the ancient Egyptians.
- In the last few decades with the social media and the pop-up trends there is a rapid alteration on the perception of beauty.
- Especially the women use the decorative cosmetics to feel themselves more attractive, self-confidence and beautiful.
- The question is that as a dermatologist ‘How we should approach to the decorative cosmetics’
- With the social media and the phone applications, attractiveness becomes a priority for people. Some of them are using decorative cosmetics to be unique or special for someone.
- Overusing or overprocessing of these products can promote some dermatological problems.
- Familiarity with the procedures will enable the dermatologist to recognize problems and advice on safe use.
- Cooperation between patients and dermatologist can help people, who are desperately seeking a flawless appearance, in a safe, effective, attractive, colorful and joyful way.

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## DO ACNE VACCINES WORK? A NOVEL APPROACH IN DERMATOLOGICAL THERAPY

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### Abstract

Acne vulgaris is one of the most prevalent dermatological conditions, particularly affecting adolescents but often persisting into adulthood. Despite various topical and systemic treatments available, challenges such as antibiotic resistance, side effects, and recurrence highlight the need for innovative therapeutic strategies. Recent advances in immunodermatology have introduced the potential of acne vaccines as a promising alternative or adjunctive therapy.

This presentation explores the immunopathogenesis of *Cutibacterium acnes* and the rationale behind vaccine development targeting key inflammatory mediators such as IL-1 $\beta$  and the CAMP factor. Both active and passive immunization approaches are discussed, with a focus on preclinical and early-phase clinical trials. Monoclonal antibody-based vaccines have shown promising results in reducing inflammatory lesions and cytokine responses in animal models, with ongoing studies in human populations.

Although still in experimental stages, acne vaccines could represent a paradigm shift in acne management by offering long-term control with minimal systemic impact. Future perspectives include personalized vaccine strategies and integration with existing therapies.

### Keywords

Acne vulgaris, acne vaccine, *Cutibacterium acnes*, CAMP factor, immunotherapy, dermatology

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## LATE ONSET HYPERSENSITIVITY REACTIONS IN AESTHETIC DERMATOLOGY

Didem Kazan<sup>1</sup>

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Dermal fillers have been popular in cosmetic procedures over the past 25 years. Among the various types of fillers, hyaluronic acid (HA) is particularly notable, ranking as the second most popular minimally invasive cosmetic procedure. In 2022, HA accounted for 85% of soft tissue filler usage in the USA.<sup>1</sup> Additionally, the popularity of non-HA fillers, such as polycaprolactone, calcium hydroxyapatite, and poly-L-lactic acid, has also increased near HA, according to the 2023 American Society of Plastic Surgeons (ASPS) reports.<sup>2</sup>

While dermal fillers generally possess a well-designed safety profile, their widespread use has highlighted the occurrence of adverse events such as hypersensitivity reactions. Hypersensitivity reactions to the fillers are classified based on the time elapsed between the reaction initiation and the procedure. Early onset reactions, also known as allergic or hypersensitivity type I reactions, occur within minutes to hours after treatment. These reactions are associated with an immediate immune response mediated by immunoglobulin E (IgE) antibodies. Symptoms can include hives, itching, swelling, or even anaphylaxis. In contrast, late-onset reactions (LORs) are related to T cells and typically manifest weeks to months after the injection of fillers, with a peak occurrence between three and four months. These reactions can present with various clinical manifestations, including foreign body granulomas, edema, abscesses, post-inflammatory hyperpigmentation, nodules (both inflammatory and noninflammatory), and late bacterial infections. In terms of prevalence, inflammation and swelling/edema are the most common LORs, followed by nodules and induration.<sup>3</sup>

The etiology of LORs is not well-known. However, the authors hypothesized three factors: (1) the physicochemical structure of the filler, such as low molecular weight HA, (2) infection due to inoculation, and (3) host response (i.e., mechanical, blood contamination). Therefore, the risk factors for LOR could be categorized into three main groups: product-related, patient-related, and procedure-related. The patient's medical history, including medications, filler, dental procedures, skin and other system infections, and allergies, must be questioned before the procedure. The treatment should be delayed or canceled if the patient recently underwent dental procedures or has an active autoimmune as well as granulomatous disease, systemic or skin infection, or inflammation. On behalf of product-related risk factors, the higher composition of LMWHA, the introduction of impurities from cross-linking and biofermentation, HA concentration, and particle characteristics are crucial for selecting the suitable product for the patient. Lastly, ineffective aseptic injection, improper anatomical location, and bolus injection are procedure-related risk factors.<sup>4</sup>

The management of LORs should be based on the suspected etiology of the reaction. For noninflammatory (noninfectious) reactions, such as nodules, administration of hyaluronidase is a reasonable first-line treatment, followed by oral steroids if the LOR is not responsive to hyaluronidase. In the case of infection, a culture should be conducted for non-fluctuant infections (i.e., solid, fibrotic nodules, such as granulomas) by a punch biopsy and for fluctuant lesions by aspiration material. In both cases, broad-spectrum antibiotics should be given to cover the infection.<sup>5</sup>

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## CAN WE OBTAIN IMMORTALITY WITH EXOSOMES?

Prof. Dr. Kansu Büyükaşar

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Sooner or later every living high organism will die. Is eternal life possible? It seems to be possible, at least, for some unicellular organisms, germ cells and cancerous cells. However, somatic cells of multicellular organisms will inevitably senesce. So, immortality seems to be quite unlikely for higher organisms. However, we can slow down the aging at least in part. Aging lies at the heart of biology. The origins of aging and the origins of life itself may be intertwined. So, wear and tear is inevitable. Aging is natural and inevitable process in which various genetic and biochemical factors as well as other systems are involved. It is multifactorial, so no single mechanism explains all aspects. Aging is not only an esthetic and functional problem, but it is also the most important risk factor for the most common diseases, e.g., neurodegenerative, cardiovascular and metabolic diseases. The rate and progression of senescence are influenced both by the chronological age of the organism and by genetic and environmental factors. In 1900, the average lifespan in the United States was 47 years, while just a century later, it had skyrocketed to about 80 years. There are several theories of the biological causes of aging include: (1) Altered intracellular communication, (2) Mitochondrial dysfunction, (3) Genomic instability, (3) Stem cell exhaustion, (4) Cellular senescence, (5) Telomere shortening, (6) Deregulated nutrient sensing, (7) Loss of proteostasis, (8) Epigenetic alterations<sup>1</sup>. Intrinsic and extrinsic stress induce random molecular damage through the accumulation of unrepaired damage, defective signal transduction as well as inflammation, which leads cellular defects, tissue dysfunction and ultimately aging. On the other hand, antioxidant system and repair mechanisms contract to buffer these noxious events. If damaging pathways dominates the scheme then accelerated senescence and age-related disorders could take place. For aging, two seemingly incompatible paradigms coexist, i.e., the universal senescence paradigm, and the potential immortality paradigm. Based on universal senescence paradigm damaged cell constituents accumulate in somatic cells of multicellular animals as time goes on. However, damaged cell constituents can be diluted by growth and cell division, especially by asymmetric cell division. On the other hand, potential immortality paradigm assumes that some cells have almost infallible repair systems that are down-regulated in normal somatic cells to save resources. Sheldrake (2022)<sup>2</sup> put forward an interesting idea that immortal cancers and embryonic stem cells are rejuvenated by excreting damaged cell constituents in extracellular vesicles, an ability that most other animal cells lack. So they excrete large numbers of extracellular vesicles. If this is true, we can exploit extracellular vesicles, e.g., exosomes for pumping those noxious materials out of the cell. Extracellular vesicles are lipid bound vesicles secreted by cells into the extracellular space. There are 3 subtypes of EV available, e.g., microvesicles, exosomes, and apoptotic bodies. Exosomes are nano-sized (30-160 nm) vesicles actively released into the extracellular space, which participate in a wide range of biological functions including cell-to-cell communication. Its content reflects the physiological or pathological state of the cells they originate from. They transfer a number of biologically active compounds such as immune components, hormones, sugars, steroids, RNAs, such as mRNA and ncRNA (miRNA, lncRNA, cRNA, etc) and lipids. They are used for delivering drugs, as they are biocompatible and minimally immunogenic.<sup>3,4</sup> Exosomes are likely to be used for rejuvenation and, may be, immortalization in that if we stimulate exosomes biogenesis and release exosomes carrying unfolded, misfolded, and noxious materials out of the cell, we will certainly slow down the senescence. This is because immortal cancer cells have been proposed to be able to pump out noxious materials by large oncosomes. Alternatively, if we create custom exosomes filled with miracles molecules, which take roles for rejuvenation or immortalization such as telomerase gene or mRNA, stem cell factors, etc. then we can take advantage against aging. For example, interestingly enough, exosomes derived from hTERT-immortalized human foreskin fibroblast-1 cells (hT-HFF cells) could attenuate cellular senescence biomarkers in human fibroblasts. This may be due to hTERT mRNA packaged into the exosomes from hT-HFF cells, which is capable of elongating telomeres and delaying cellular senescence. Therefore, exosomes from hT-HFF cells show potential as a treatment for age-related diseases. Furthermore, exosomes secreted by young fibroblasts have been shown to improve wound healing and reduce the accumulation of reactive oxygen species (ROS) and lipid oxidation in aged mice.<sup>5,6</sup> Most current studies on exosomes with anti-aging effects utilize those derived from stem cells or human induced pluripotent stem cells.<sup>7</sup> However, maintaining stemness and obtaining uniform functional cells from these sources is challenging and limited.<sup>8</sup> Additionally, the yield of exosomes secreted by stem cells is insufficient for large-scale application. Therefore, it is essential to develop stable, homogeneous exosomes that can be produced in large quantities. The long-term effects of exosome treatment on cellular function and organismal health are unknown.





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## ANIMAL-DERIVED EXOSOMES FOR ANTIAGING

Dilek Başaran

Exosomes are a class of extracellular vesicles (EVs) ranging from 30 to 150 nm in diameter, secreted by nearly all eukaryotic cells, including those of animal origin. They play a pivotal role in paracrine signaling by shuttling lipids, proteins, and nucleic acids, including microRNAs (miRNAs), to recipient cells, thereby modulating various physiological and pathological processes [1]. Recently, bovine-derived exosomes, especially those isolated from milk, have gained momentum as a bioavailable, biocompatible, and scalable source of therapeutic vesicles for dermatological and cosmetic interventions [2].

### Dermatological Relevance of Bovine Milk-Derived Exosomes (BMDEs)

#### Cutaneous Cellular Uptake and Gene Expression Modulation

BMDEs are efficiently internalized by human keratinocytes and dermal fibroblasts via endocytosis. Once internalized, these vesicles induce the expression of aquaporin 3 (AQP3) and filaggrin (FLG), critical for skin hydration and barrier integrity, respectively. Furthermore, they upregulate type I and III collagen and elastin synthesis in fibroblasts, indicating potential in dermal matrix remodeling and wrinkle attenuation [3].

#### Protection Against Photoaging

Ultraviolet B (UVB) exposure is a primary contributor to extrinsic aging, leading to the overproduction of reactive oxygen species (ROS) and matrix metalloproteinases (MMPs). BMDEs have demonstrated the ability to attenuate UVB-induced cytotoxicity by reducing intracellular ROS, downregulating MMP-1 and MMP-3 expression, and restoring antioxidant enzyme activity in dermal fibroblasts. In melanocytes, these vesicles inhibit tyrosinase activity and melanin synthesis, potentially contributing to pigmentary normalization [4].

#### Enhancement of Epidermal Barrier Function

Exosomes derived from bovine milk have been shown to stimulate lipid biosynthesis pathways in keratinocytes, enhancing ceramide, cholesterol, and free fatty acid production — essential components of the stratum corneum. This is particularly relevant in atopic dermatitis and aged skin, where barrier dysfunction is prominent[5].

#### Wound Healing and Regenerative Capacity

BMDEs influence key phases of wound healing, including keratinocyte migration, fibroblast proliferation, and angiogenesis. Their cargo of growth factors, miRNAs, and anti-inflammatory mediators supports re-epithelialization and granulation tissue formation, suggesting utility in post-procedural care and chronic wound management[6].

#### Exosome-Based Mesotherapy and Topicals

Given their nanoscale size and biocompatibility, exosomes can penetrate skin barriers when delivered via microneedling, fractional lasers, or electroporation [7]. In aesthetic dermatology, BMDEs are being explored in formulations to enhance skin tone, texture, and elasticity, often used adjunctively with procedures such as laser resurfacing, radiofrequency, and platelet-rich plasma (PRP) therapy [8].

#### Drug and Gene Delivery

BMDEs serve as natural nanocarriers capable of encapsulating small molecules or nucleic acids, facilitating transdermal or intradermal delivery of therapeutic payloads. Their surface molecules enable cell-specific targeting while avoiding rapid clearance or immunogenicity, surpassing synthetic liposomes in several comparative studies [9].

#### Regulatory and Safety Considerations

Despite promising data, exosome-based therapies are not yet approved by regulatory agencies such as the FDA or EMA. Concerns persist regarding the standardization of isolation methods (e.g., ultracentrifugation, size exclusion chromatography), batch-to-batch consistency, and the risk of zoonotic transmission [10]. Ethical and biosafety considerations are further compounded by the growing demand for “clean beauty” and cruelty-free certifications.



## Conclusion

Animal-derived exosomes, particularly those sourced from bovine milk, are emerging as bioactive nanotherapeutics with considerable promise in dermatology and aesthetic medicine. Their ability to modulate skin cell behavior, enhance barrier function, counteract photoaging, and support regenerative processes makes them viable candidates for next-generation skincare and cosmetic interventions. However, robust clinical trials, standardized production protocols, and clear regulatory frameworks are essential to realize their full translational potential.

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## EXOSOME COMBINATION WITH STEM CELL THERAPY

Mustafa Tümtürk

Exosomes are small vesicles, ranging from approximately 30 to 150 nanometers in size, that facilitate intercellular communication by carrying and delivering genetic material, proteins, and lipids to target cells (1,2). These vesicles modulate the biological activities of recipient cells, influencing various cellular processes. Specifically, exosomes have been shown to enhance skin cell regeneration, stimulate collagen production, and reduce inflammation (3).

Stem cell therapy, which involves using stem cells to repair and regenerate damaged tissues, has been widely applied in skin regeneration and repair, with numerous clinical studies demonstrating successful results (4). Stem cells are valuable in anti-aging treatments, wound healing, and the treatment of pigmentation disorders due to their regenerative potential (5,6,7).

Recent research suggests that combining exosome therapy with stem cell therapy further amplifies the effects of both treatments. Exosomes released from stem cells accelerate the healing process and improve cellular function, making the combined approach particularly effective in enhancing cell regeneration and repairing subcutaneous tissues (8,9).

In conclusion, the combination of exosome and stem cell therapies holds great promise in clinical practice, particularly for skin rejuvenation and wound healing. This treatment strategy offers the benefits of minimal invasiveness and rapid recovery times. Additionally, the biological compatibility of exosomes, coupled with their minimal side effects, makes this therapeutic approach highly attractive.

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## INTRALESIONAL ADMINISTRATION OF GLUCOCORTICOSTEROIDS IN DERMATOLOGY: EFFICACY, INDICATIONS AND PROSPECTS OF USE.

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### Introduction

Glucocorticosteroids (GCS) occupy an important place in the arsenal of dermatologists due to their powerful anti-inflammatory, immunosuppressive and antiproliferative effects. One of the methods of using GCS is their intralesional administration, which allows achieving a high concentration of the drug directly in the pathological focus, minimizing systemic side effects. This method is widely used in the treatment of various dermatoses, but requires a careful approach to the choice of drug, dosage and technique of administration.

### Mechanism of action of intrafocal GCS

Intrafocal administration of GCS provides local suppression of the inflammatory process by inhibiting the synthesis of proinflammatory cytokines, reducing the activity of immune cells and decreasing vascular permeability. In addition, GCS suppress the proliferation of fibroblasts, which is especially important in the treatment of hypertrophic and keloid scars. The advantage of the method is the ability to use minimal doses of the drug with high efficiency compared to systemic use.

### Indications for intralesional administration of GCS

Intralesional administration of GCS is used for the following diseases:

1. Keloid and hypertrophic scars - GCS reduce the volume of scar tissue by suppressing collagen synthesis and reducing inflammation.
2. Cicatricial alopecia - intralesional administration of GCS promotes regression of lesions and prevents disease progression.
3. Alopecia areata - the method stimulates hair growth by suppressing autoimmune inflammation.
4. Granulomatous skin diseases (e.g., annular granuloma) - GCS reduce inflammation and promote resolution of lesions.
5. Chronic dermatoses (e.g., lichen planus) - the method is effective for lesions resistant to standard therapy.

### Technique of administration and choice of drugs

For intralesional administration, GCS suspensions such as triamcinolone acetonide, betamethasone dipropionate and methylprednisolone acetate are used. The drugs are diluted in saline or lidocaine to reduce the pain of the procedure. The concentration and volume of the administered drug depend on the location and size of the lesion.

### Side effects and limitations

Despite its high efficiency, intralesional administration of GCS may be accompanied by side effects such as:

- Skin atrophy at the injection site.
- Telangiectasia.
- Depigmentation.
- Pain upon administration.
- Risk of infectious complications.

To minimize risks, it is important to follow the injection technique, use the minimum effective doses and take into account contraindications (infectious skin lesions, individual intolerance).

### Efficiency and clinical studies

Numerous studies confirm the effectiveness of intralesional injection of GCS in the treatment of keloid scars, alopecia areata and other dermatoses. For example, with keloid scars, a positive effect is observed in 70-90% of patients after a course of 3-5 procedures. With alopecia areata, hair growth is observed in 60-80% of patients. However, the effectiveness of the method depends on the stage of the disease, the localization of the lesions and the individual characteristics of the patient.



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## Prospects for use

Intrafocal administration of GCS remains a relevant method in dermatology due to its effectiveness and minimal systemic impact. A promising direction is the combination of GCS with other treatment methods, such as cryotherapy, laser therapy and hyaluronidase injections. In addition, the development of new forms of GCS with prolonged action and a lower risk of side effects opens up new possibilities for the use of the method.

## Conclusion

Intrafocal administration of glucocorticosteroids is an effective and safe method for treating a number of dermatoses. However, its use requires a careful approach to the choice of drug, dosage and technique of administration. Further research and development in this area will optimize the method and expand its use in clinical practice.

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## THE RELEVANCE OF THE PROBLEM OF STEROID-INDUCED ROSACEA

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### Introduction

Rosacea is a chronic inflammatory skin disease characterized by erythema, telangiectasias, papules and pustules, mainly in the central part of the face. One of the significant problems in dermatology is steroid-induced rosacea (SIR) - a form of the disease that occurs against the background of long-term or improper use of topical corticosteroids. The relevance of studying SIR is due to the increase in cases of self-medication, uncontrolled use of hormonal drugs and difficulties in diagnosing and treating this pathology.

### Epidemiology and pathogenesis

Steroid-induced rosacea is more common in patients who have been using moderate to high potency topical corticosteroids for a long time. The pathogenesis of SIR is associated with suppression of local immunity, impaired microcirculation, epidermal atrophy and collagen degradation. These changes lead to increased skin sensitivity, persistent erythema and the development of symptoms characteristic of rosacea. Patients with initially sensitive skin or a tendency to rosacea-like reactions are at particular risk.

### Clinical features

The clinical picture of SIR differs from classical rosacea. It is characterized by more pronounced erythema, swelling, multiple papules and pustules, as well as increased skin sensitivity. The “rebound” phenomenon is often observed - a deterioration in the condition after the withdrawal of corticosteroids. Differential diagnosis of SIR includes exclusion of other dermatoses such as perioral dermatitis, acne, and seborrheic dermatitis.

### Diagnosis and treatment

Diagnosis of SIR is based on the anamnesis (use of topical corticosteroids), clinical picture and exclusion of other diseases. Treatment of SIR is a complex task and requires an integrated approach. The main stages of therapy include:

1. Cancellation of topical corticosteroids.
2. Prescription of anti-inflammatory drugs (eg, topical calcineurin inhibitors).
3. Use of antibiotics (metronidazole, tetracyclines) to control inflammation.
4. Use of agents that restore the skin barrier (emollients, moisturizers).
5. Phototherapy to reduce erythema and inflammation.

### Relevance of the problem

The relevance of the SIR problem is due to the following factors:

1. Increased availability of topical corticosteroids and their uncontrolled use.
2. Insufficient patient awareness of the side effects of hormonal drugs.
3. Complexity of treatment and long period of skin recovery after discontinuation of corticosteroids.
4. Need to improve the qualifications of doctors in the field of differential diagnosis and treatment of SIR.

### Conclusion

Steroid-induced rosacea remains a pressing problem in modern dermatology. To prevent the development of SIR, educational programs are needed for patients and doctors aimed at informing them about the risks of uncontrolled use of topical corticosteroids. Further research in the field of pathogenesis and treatment of SIR will help to develop more effective approaches to therapy and improve the quality of life of patients.

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# ORAL PRESENTATIONS







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OP 08	Comparative Analysis of Readability and Comprehensibility Between FAQs on Cosmetic Procedures from the American Academy of Dermatology Website and ChatGPT-4o	Ahmet Kağan Özdemir
OP 09	Evaluation of Social Media Usage Habits in Patients with Acne Vulgaris: A Survey Study	Çağdaş Boyvadoğlu
OP 10	The Relationship Between Nail Findings And Cardiac Morbidity In Patients Visiting A Dermatology Clinic: A Prospective Study	Damla Gök
OP 11	"{ Effectiveness of using small extracellular vesicle interventions in wound healing: a systematic review and network meta-analysis }"	Sami Salahia
OP 12	Lipoid Proteinosis in Twin Sisters: Clinical, Imaging, Histopathological, And Dermoscopic Findings Of A Rare Genodermatosis	Hazan Aksoy
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## OP-02 [Cutaneous Oncology]

### Predicting Prognosis of Early-Stage Mycosis Fungoides with Utilization of Machine Learning

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**Introduction & OBJECTIVES:** Mycosis fungoides (MF) is the most prevalent type of cutaneous T cell lymphomas. Studies on the prognosis of MF are limited, and no research exists on the potential of artificial intelligence to predict MF prognosis. This study aimed to compare the predictive capabilities of various machine learning (ML) algorithms in predicting progression, treatment response, and relapse and to assess their predictive power against that of the Cox proportional hazards (CPH) model in patients with early-stage MF. **Materials & METHODS:** The data of patients aged 18 years and over who were diagnosed with early-stage MF at Ankara University Faculty of Medicine Hospital from 2006 to 2024 were retrospectively reviewed. ML algorithms were utilized to predict complete response, relapse, and disease progression using patient data. **RESULTS:** Of the 185 patients, 94 (50.8%) were female, and 91 (49.2%) were male. Complete response was observed in 114 patients (61.6%), while relapse and progression occurred in 69 (37.3%) and 54 (29.2%) patients, respectively. For predicting progression, the Support Vector Machine (SVM) algorithm demonstrated the highest success rate, with an accuracy of 75%, outperforming the CPH model (C-index: 0.652 for SVM vs. 0.501 for CPH). The most successful model for predicting complete response was the Ensemble model, with an accuracy of 68.89%, surpassing the CPH model (C-index: 0.662 for the Ensemble model vs. 0.543 for CPH). For predicting relapse, the decision tree classifier showed the highest performance, with an accuracy of 78.17%, outperforming the CPH model (C-index: 0.782

for the decision tree classifier vs. 0.505 for CPH). **CONCLUSIONS:** The results indicate that machine learning algorithms will be more effective and successful than traditional statistical methods in predicting the prognosis of patients with early-stage MF.

**Keywords:** Artificial Intelligence, Machine learning, Mycosis Fungoides, Prognosis



## OP-03 [Cutaneous Oncology]

### **m6A modified BGN promotes the progression of melanoma via affecting the interaction between tumor cells and cancer-associated fibroblasts**

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**Introduction & OBJECTIVES:** Although numerous studies have examined the role of cancer-associated fibroblasts (CAFs) in tumorigenesis, particularly in melanoma, the precise mechanisms and key molecules involved in this process remain unclear. Also, the origin of CAFs was also elusive in melanoma tumor microenvironment. We aimed to investigate the interactions between melanoma cells, normal fibroblasts (NFs) and CAFs to identify the specific molecules and pathways that drive this process.

**Materials & METHODS:** To elucidate the expression relationship between BGN and common m6A modification regulators (including YTHDF3, METTL14, and YTHDC1), we employed RIP-qPCR, RT-qPCR, Western blot, and RNA stability assays. Additionally, bioinformatics analysis, RT-qPCR, Western blot, immunohistochemistry, and in vitro and in vivo proliferation and invasion assays were conducted to investigate the expression patterns and biological functions of BGN in melanoma cells. We also examined the tumor-promoting effects of BGN-positive CAFs via MDK. Furthermore, spatial transcriptomics and single-cell RNA sequencing were performed, along with related analyses such as cell chat analysis and cell trajectory analysis, to identify the potential functions, cellular classification, and interactions of CAFs. Finally, co-culture systems, bulk RNA-seq, and measurements of associated markers at multiple levels were used to verify how melanoma cells

influence the functional transformation of fibroblasts.

**RESULTS:** We discovered that BGN was modified by several m6A regulators, which affected its RNA stability and translation initiation in melanoma cells. Elevated BGN expression enhanced the proliferation and invasion abilities of melanoma cells. We further identified that BGN-positive CAFs were enriched in the melanoma tumor microenvironment. Notably, BGN expression increased during the differentiation of myCAFs into iCAFs, suggesting its potential as a biomarker for tumor progression. Moreover, MDK, secreted and regulated by BGN in CAFs, significantly promoted the malignant behaviors of melanoma cells both in vitro and in vivo. Importantly, the BGN-MDK axis also drove the functional transformation of fibroblasts, facilitating the conversion of normal fibroblasts into CAFs.

**CONCLUSION:** The m6A modification in melanoma cells could induce abnormal expression patterns of BGN, thereby promoting the malignant biological behavior of tumor cells. Specifically, MDK, which was regulated by BGN, could facilitate the transformation of NFs into CAFs. These CAFs, in turn, could accelerate melanoma progression through the BGN-MDK axis. Thus, BGN could serve as a pivotal molecule in the functional interactions among melanoma cells, NFs, and CAFs. This intricate interplay may partly explain why the progression of melanoma was particularly challenging to inhibit.

**Keywords:** melanoma, CAFs, TME, m6A





## OP-04 [Dermatology and Internal Medicine, including Skin Manifestations of Systemic Diseases]

### Sodium lauryl sulfat

Zuhal Metin

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**INTRODUCTION:** Sodium Lauryl Sulfoacetate(SLS) can be synthetic or naturally derived from plants. It is synthesized by reacting lauryl alcohol from a petroleum or plant source with sulphur trioxide to produce hydrogen lauryl sulphate, which is then neutralized with sodium carbonate to produce Sodium Lauryl Sulphate. We will be focus on SLS's problems in dermatology in this chapter.

### Material and Metods

The products that contains SLS agents were searched and evaluated effect and aduers events on skin from literature review from pubmed,clinical key, up to date and comprehensive drug therapy dermatological textbook sections.

### Discussion

SLS may be applied to all areas of the skin, mucous membranes, oral mucosa, hair, and nails. Small amounts of SLS may remain in contact with the body for extended periods of time, considering the fact that bath additives are not usually rinsed off. If the bath products are rinsed well, the toxicity and irritant effect of diluted SLS will be reduced by not keeping it in contact with the body for a long time. Keratinocytes grew as relatively homogenous monolayers with small, polygonal-shaped cells at low concentrations of SLS ( $\leq 10 \mu\text{M}$ ) However, cells became irregular in shape and size at high concentrations of SLS ( $\geq 25 \mu\text{M}$ ). Cell-to-cell interactions were also significantly affected by SLS.

Keratinocytes showed highly dynamic formation of adhesion sites, while these intercellular connections were decreased at higher concentrations of SLS.  $\alpha$ -tubulin, a major component of microtubules, displayed altered distributions at higher concentrations of SLS ( $\geq 10 \mu\text{M}$ ). This behavior affects the F-actin disorganization seen under the same concentrations. At these concentrations,  $\alpha$ -tubulin partially formed

bundles. Therefore, this study hypothesized that the mechanical changes in keratinocytes induced by SLS treatment are mainly connected to changes in the distribution of F-actin filaments and modification of  $\alpha$ -tubulin. This study evaluate the effects of SLS on oral wound healing, demonstrated statistically significant inhibition of wound healing in an in vitro model.

These results suggest that in the oral surgical procedures in patients consuming SLS containing dentifrices, the healing time may be prolonged. SLS has been implicated in studies for a wide range of ailments, including severe allergic reactions, certain skin conditions such as acne, dermatitis and urticaria, hormone disorders, eye, skin and respiratory irritations, neurotoxicity and cancer.

**CONCLUSION:** We should choose not to use potentially harmful chemicals such as parabens, sodium laurel sulfate and petroleum derived fillers (which are non-renewable resources). Instead, we use ingredients that are found in nature and are just as effective such as essential and botanical oils, plant extracts, herbs and beeswax.

**Keywords:** SLS, lipid barrier, irritation.



## OP-05 [Dermatopathology]

### MYCOSIS FONGOIDES and comorbidities in a Moroccan population:

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**INTRODUCTION:** Mycosis fungoides (MF) is the most prevalent form of cutaneous lymphoma. While it is typically diagnosed in adults between the ages of 55 and 60, it can also affect children and adolescents. The precise cause of MF is unclear, but it is thought to result from chronic antigenic stimulation, leading to the expansion of T-cells and their malignant transformation.

**Materiels and METHODS:** The objectives of our study were to analyze the frequency of comorbidities associated with mycosis fongoide in a Moroccan population. A retrospective and descriptive study was realized at a single center between 2021 and 2025.

**RESULTS:** A total of 46 patients with a confirmed diagnosis of mycosis fongoide were included. The median age was 54 years. 52,2% had phototype IV, 41,3% had phototype III, and 4,3% had phototype V. 73,9% of the patients had mycosis fungoides in plaque form, while 11% had a tumor form, followed by the hypopigmented form in 6,5% of cases.

The most frequently found associations were cardiovascular disorders (21,7%), smoking (20%) and overweight (17,4), followed by psychiatric disorders in 15.2% of cases, and both of thyroid disorders (13%) and neoplasms (13%).

Furthermore, four patients were on selective serotonin reuptake inhibitors, accounting for 8.7% of the total number of patients, while the remaining medications were taken by less than 3% of the patients. However, there was no significant correlation between these associations and the stage of the disease.

**DISCUSSION:** These findings imply that the systemic inflammation associated with MF may play a role in the long-term development of hypertension. The relationship between MF and cardiovascular disease remains debated. A Danish cohort study identified an increased risk of myocardial infarction and stroke in MF patients, while a Finnish cohort study found no heightened

risk of coronary artery disease in individuals with MF. Recent studies have indicated that secondary malignancies, such as non-Hodgkin lymphoma and Hodgkin lymphoma, may arise in MF patients due to factors like systemic immunosuppression, shared genetic origins, exposure to carcinogens, viruses, or alkylating chemotherapy drugs. According to Goyal et al., MF patients have an increased risk of developing lung cancer, bladder cancer, and melanoma, with these being the most common types. Recent studies have shown that patients with MF are at an increased risk of depression and anxiety. This may be attributed to the uncertainty surrounding prognosis, the need for long-term follow-ups with frequent hospital visits, diagnostic tests, procedures, and the side effects of treatment, all of which could contribute to anxiety in MF patients.

**CONCLUSION:** Our study is limited by its retrospective nature and the small sample size. Additional studies are needed to gain a deeper understanding of the causal relationships between MF and the comorbidities we have identified.

**Keywords:** mycosis fongoides, comorbidities, thyroid disorders, cardiovascular, neoplasms

### Associated comorbidities

• Cardiovascular disorders:	10 (21,73%)
- Hypertension:	- 6 (13%)
- Arrhythmias:	- 2 (4,34%)
- Ischemic heart disease:	- 2 (4,34%)
• Smoking:	9 (20%)
• Metabolic syndrome	8 (17,4%)
- Overweight or obesity:	- 8 (17,4%)
- Dyslipidemia:	- 8 (17,4%)
• Psychiatric disorders:	7 (15%)
- Depression:	- 5 (10,9%)
- Anxiety:	- 1 (2,7%)
- OCD (Obsessive-Compulsive Disorder):	- 1 (2,7%)
• Thyroid disorders:	6 (13%)
- Hypothyroidism:	- 5 (10,9%)
- Hyperthyroidism:	- 1 (2,7%)
• Neoplasm:	6 (13%)
- Leukemia:	- 2 (4,34%)
- Colon:	- 1 (2,7%)
- Breast:	- 1 (2,7%)
- Bladder:	- 1 (2,7%)
- Kaposi sarcoma:	- 1 (2,7%)
• Psoriasis:	2 (4,34%)
• Atopic dermatitis:	1 (2,7%)

*Associated comorbidities N (%)*



## OP-06 [Hair Disorders/Diseases]

### Hair transplantation with autologous micrografting

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Many people around the world suffer from Androgenetic Alopecia (AGA). There are well-known and approved medications such as Minoxidil and Finasteride, in addition to hair transplant surgery. Recently the use of micrografting technology showed promising results when used for patients with specific conditions specifically in the early phases of Androgenic Alopecia before losing so much hair follicles in the area. There are constraints when it comes to the benefits of using this technology. Micrografting achieves autologous cell suspension by mechanical fragmentation of subcutaneous and adipose tissue from the occipital area. The use of the safe micrografting technology can stop or slow down hair falling, increase hair density and thickness, regrow new hair fibers from the viable grafts and moreover, it affects the hair color.

The promising technique when doing autologous Micrografting with hair transplant in the very first 48 hours, we have experienced very great results for the percentage of successful transplanted hair grafts with very good density as well. After treating over 3000 of AGA patients in my clinic using micrografting technology and by applying a specific treatment protocol for each case, which involves the use of topical solutions along with Concentrated Growth Factors (CGF) and other supplements. Promising results were achieved for male and especially for female patients in which hair transplants were avoided. Furthermore, the use of micrografting technology is a treatment for all parts of the head with minimum to null recovery time.

**Keywords:** Hair, Transplantation, Autologous, Micrografting, Androgenic, alopecia

## OP-07 [Inflammatory Skin Diseases]

### Analysis of fecal calprotectin (FC) levels in patients with moderate-to-severe hidradenitis suppurativa: The correlation between FC and C-reactive protein (CRP)

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**BACKGROUND-AIM:** Hidradenitis suppurativa (HS) is a chronic inflammatory skin disease characterized by high inflammation throughout the body. There is a strong relationship between HS and inflammatory bowel disease (IBD). Studies have shown a relationship between serum CRP and fecal calprotectin (FC) levels in patients with IBD. Therefore, we aimed to analyze FC levels in patients with moderate-to-severe HS to determine a possible relationship between FC and CRP.

**MATERIAL-METHODS:** In this cross-sectional study, we analyzed blood CRP levels and fecal calprotectin levels in eligible patients with moderate-to-severe HS who presented between April 2024 and December 2024.

**RESULTS:** The study included 61 patients, of which 47 (77%) were male. According to IHS4 severity scoring, 16 (26.2%) patients were classified as moderate HS and 45 (73.8%) as severe HS. The median FC level in all patients with moderate-to-severe HS was 28.2 µg/g (min= 8.3 µg/g, max=1643 µg/g). The median FC in patients with moderate HS was 24.7 µg/g, and the median FC in patients with severe HS was 43.2 µg/g (p=0.125). The median CRP level in all patients was 5.2 mg/dl. The CRP levels of patients with severe HS were significantly higher than those of moderate patients (6.1 mg/dl and 1.6 mg/dl, respectively, p=0.003). CRP and FC had a low positive correlation in all moderate-to-severe HS patients (rho=0.3, p=0.02).

**CONCLUSION:** CRP levels may be a biomarker that can be used before FC to predict the risk of inflammatory bowel disease in HS patients.

**Keywords:** C-reactive protein, fecal calprotectin, hidradenitis suppurativa, inflammatory bowel disease





## OP-08 [Corrective, Aesthetic and Cosmetic Dermatology]

### Comparative Analysis of Readability and Comprehensibility Between FAQs on Cosmetic Procedures from the American Academy of Dermatology Website and ChatGPT-4o

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**INTRODUCTION:** Individuals exploring cosmetic procedures frequently turn to online platforms to resolve their queries before seeing specialists. Among these, websites of national dermatology associations, especially their FAQ sections, are highly trusted. Google Trends data highlights the American Academy of Dermatology (AAD) website as the most visited of its kind, delivering reliable and clear information that patients depend on prior to dermatology consultations. Meanwhile, artificial intelligence tools like ChatGPT-4o have emerged as efficient alternatives, offering rapid responses to diverse inquiries, including those about cosmetic treatments. This study compares the readability and comprehensibility of AAD FAQ answers with ChatGPT-4o outputs to assess their utility in patient education.

**METHODS:** We collected questions on botulinum toxin therapy, chemical peels, fillers, and laser tattoo removal from the AAD FAQ section. Responses from both the AAD website and ChatGPT-4o were compiled into concise texts. Readability and comprehensibility were measured using four metrics: Flesch-Kincaid Grade Level, Flesch Reading Ease, Gunning Fog Index, and Coleman-Liau Readability Index. A paired t-test was applied to compare the two response sets across these metrics, with statistical significance set at  $p < 0.05$  to detect meaningful differences.

**RESULTS:** Significant differences emerged across all metrics ( $p < 0.05$ ). ChatGPT-4o responses scored higher on Flesch-Kincaid Grade Level (mean difference = -3.9975,  $t = -7.61$ ) and Coleman-Liau Index (mean

difference = -3.035,  $t = -6.26$ ), indicating greater complexity. Conversely, AAD texts outperformed in Flesch Reading Ease (mean difference = 16.5,  $t = 7.10$ ), suggesting easier comprehension, and scored lower on Gunning Fog Index (mean difference = -2.9,  $t = -13.49$ ,  $p < 0.01$ ), reflecting reduced complexity. Full data are in Table 1.

**DISCUSSION:** The Flesch-Kincaid Grade Level and Coleman-Liau Index reveal ChatGPT-4o's tendency toward complex, technical language, while Flesch Reading Ease and Gunning Fog Index favor AAD's simpler, patient-oriented style. This suggests AAD targets broader accessibility, whereas ChatGPT-4o's depth may suit advanced readers. The small sample ( $n=4$  categories) limits conclusions, but the findings align with views that AI content can be less accessible.

**CONCLUSION:** AAD FAQ responses proved more readable and comprehensible than ChatGPT-4o's across all metrics, emphasizing the value of tailored health content. While AAD excels for general audiences, ChatGPT-4o may serve those with higher literacy. Larger studies and user perspectives could enhance these findings and inform improvements in AI-driven health resources.

**Keywords:** Readability, Cosmetic Procedures, Artificial Intelligence

**Table 1.**

Metric	Mean Difference (AAD - ChatGPT)	t-Statistic	p-Value
Flesch-Kincaid Grade Level	-3.9975	-7.61	< 0.05
Flesch Reading Ease	16.5	7.10	< 0.05
Gunning Fog Index	-2.9	-13.49	< 0.01
Coleman-Liau Index	-3.035	-6.26	< 0.05

*Comparison of Readability Metrics Between AAD and ChatGPT-4o Responses*





## OP-09 [Acne and Related Disorders, Hidradenitis Suppurativa]

### Evaluation of Social Media Usage Habits in Patients with Acne Vulgaris: A Survey Study

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**INTRODUCTION:** In this study, we aimed to investigate the social media (SM) usage habits of acne vulgaris (AV) patients, their utilization of SM in relation to their disease, and their expectations.

**Materials and METHODS:** Our study was designed as a multicenter study. Between October 2024 and January 2025, a total of 282 AV patients aged 12 years and older were included in the study. Disease severity was assessed using the Grading Acne Severity Scale (GAGS). A survey prepared by the researchers was administered to the participants to evaluate their SM usage habits, and the results were documented. For data analysis, statistical programs SPSS 26.0 and JASP 0.19.3 were utilized.

**RESULTS:** The demographic and clinical data of the patients are summarized in Table 1. The SM usage habits of the study participants are summarized in Table 2. Female patients, patients over the age of 18, and those with severe to very severe AV according to the GAGS scores were more likely to research the side effects of AV medications on SM ( $p < 0.05$ ). Female patients, patients over the age of 18, those undergoing systemic isotretinoin therapy, and those with medium-to-high income levels were more likely to share what they saw on SM with their physician ( $p < 0.05$ ). Patients over the age of 18 were more likely to purchase acne-related products they saw on SM ( $p < 0.05$ ). Patients who had AV for more than one year were more likely to use SM for acne-related information ( $p < 0.05$ ).

**CONCLUSIONS:** AV patients frequently use SM to obtain information about their condition.

Dermatologists should be more active on SM and create a greater volume of informative and reliable content. Furthermore, dermatologists should inquire about the information that AV patients acquire from SM, address and correct misinformation, and thereby help prevent potential treatment failures and complications.

**Keywords:** Acne Vulgaris, Social Media, Survey Study, Instagram, Google, YouTube

**Table 1**

Gender	Female	84,4(%)
	Male	15,6(%)
Age	20,50(average)	
Duration of Disease (years)	3,71(average)	
Previous Treatments	None	28,0(%)
	Topical	25,5(%)
	Systemic antibiotic	23,4(%)
	Systemic isotretinoin	23,0(%)
Educational Status	Illiterate	1,4(%)
	Primary School	3,9(%)
	Secondary School	7,8(%)
	High School	47,2(%)
	Higher Education	39,7(%)
Profession	Student	50,7(%)
	Employee	24,5(%)
	Unemployed	24,8(%)
Income Status	Low	23,4(%)
	Middle	56,1(%)
	High	20,5(%)
Disease Severity	Mild	23,8(%)
	Middle	44,7(%)
	Severe	24,5(%)
	Very Severe	7,1(%)

*Demographic and clinical characteristics in patients with Acne Vulgaris*



Allergy and Cosmetology in Dermatology

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**Table 2**

SM Usage	Actively	74,1%
	Occasionally	20,2%
	Does not use	5,7%
Use of SM to Obtain Information About Acne	Actively	44,8%
	Occasionally	39,1%
	Does not use	16,1%
Platforms Used to Obtain Acne-Related Information	Instagram	73,3%
	Google	57,7%
	YouTube	39,8%
	TikTok	34,7%
Do You Share Acne-Related Information Seen on SM with Your Physician?	Explicitly	17,8%
	Implicitly	16,1%
	Do not	66,1%
Have You Purchased Acne-Related Products Seen on SM?	Consulted my physician before purchasing	6%
	Purchased without consulting my physician	37,9%
	Did not purchase	56%
How Did the Products You Purchased Affect You?	Benefited from them	17,7%
	Had no effect	72,5%
	Experienced adverse effects	9,6%
Have You Researched the Side Effects of Acne Medications on SM or the Internet?	Yes	61%
	No	39%
Whose Acne-Related Content Do You Follow on SM?	Dermatologists	65,1%
	Acne patients	53,4%
	Non-physician SM influencers	28,3%
	Cosmetic companies	14,9%
Who Should Create Acne-Related Content on SM?	Dermatologists	91,3%
	Acne patients	23,9%
	Dietitians	10,5%

*Social Media Usage Habits of Patients with Acne Vulgaris*

## OP-10 [Nail Disorders/Diseases]

### The Relationship Between Nail Findings And Cardiac Morbidity In Patients Visiting A Dermatology Clinic: A Prospective Study

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**BACKGROUND:** Nail disorders can be signs of systemic diseases. Nail plate and nail unit abnormalities can serve as useful diagnostic tools, the understanding of which may permit early diagnosis without a need for more costly diagnostic methods.

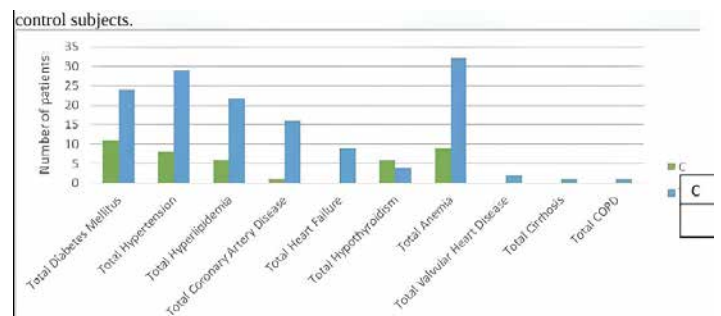
**METHODS:** All patients underwent nail examinations. Of the 192 patients included, 78 were male and 114 female; 59.2% of the patients with nail findings were female. The mean age was  $39 \pm 16.4$  years. We recorded diabetes, hypertension, hyperlipidaemia, coronary artery disease, heart failure, and heart valve disease statuses. Patients with and without nail findings were compared in terms of the risk of cardiac morbidity.

**RESULTS:** We found that patients with Muehrcke's Nail, Terry's nail, and a red lunula were at risk of cardiac morbidities ( $p:0,00-0,03$ ). The frequency of Terry's nail was higher in patients with HF or a family history of cirrhosis than in the other patients ( $p=0,0009-0,004$ ). A red lunula was more common in patients with a family history of HF than in the other patients ( $p = 0,023$ ). We found that a red lunula was associated with hypertension, hyperlipidaemia, cardiovascular disease.

**CONCLUSIONS:** Thus, nail findings can serve as valuable clues for cardiac morbidities and other systemic diseases. **Key Words:** Nail disorders, cardiac morbidity, Muehrcke's Nail, Terry's nail

**Keywords:** Nail disorders, cardiac morbidity, Muehrcke's Nail, Terry's nail

**Figure 1**



Control subjects and patients with cardiovascular disease. C: control group; N:

**Figure 2**



*Koilonychia in a patient with cardiac failure and iron-deficiency anaemia.*

**Figure 3**



*Clubbing in a patient with hypertension and chronic obstructive pulmonary disease (COPD).*



**Table 1. Table 2. Table 3. Table 4.**

Terry Nail	0,00	0,08	0,00	0,90	0,28	0,92	0,78	0,72	0,00	0,72	0,00	0,00
Red Lunula	0,07	0,02	0,00	0,08	0,07	0,36	0,17	0,77	0,77	0,77	0,67	0,03
Splinter haemorrhage	0,72	0,1	0,75	0,38	0,24	0,80	0,64	0,00	0,70	0,70	0,76	0,78

\*Chi Square Test DM: Diabetes Mellitus; HT: Hypertension; HL: Hyperlipidaemia; CAD: Coronary Artery Disease; HF: Heart Failure ;HPT: Hypothyroidism ;HVD: Heart Valve Disease; COPD: Chronic Obstructive Pulmonary Disease;CVD: Cardiovascular Disease

**Table 4:** The relationship between nail findings and family histories.

	Family History					
	DM	HT	HL	CAD	HF	Cirrhosis
Clubbing	0,29	0,62	0,32	0,36	0,12	0,73
Koilonychia	0,25	0,59	0,28	0,22	0,16	0,71
Onikomadezis	0,11	0,54	0,83	0,64	0,43	0,67
Muehrcke's Nail	0,37	0,67	0,40	0,80	0,98	0,77
Terry Nail	0,26	4,98E-05	0,19	0,28	0,0009	0,004
Red Lunula	0,07	0,69	0,56	0,70	0,023	0,77
Splinter haemorrhage	0,89	0,59	0,27	0,0001	0,74	0,70

\*Chi Square Test DM: Diabetes Mellitus; HT: Hypertension; HL: Hyperlipidaemia; CAD: Coronary Artery Disease; HF: Heart Failure

*Table 1. Age and sex distributions of the patients with nail findings and of the control subjects.*

*Table 2. Cardiac morbidities in female and male patients Table 3: The relationship between cardiac morbidities and nail findings. Table 4: The relationship between nail findings and family histories.*

## OP-11 [Wounds, Chronic Wounds, Wound Healing, Ulcer]

***“Effectiveness of using small extracellular vesicle interventions in wound healing: a systematic review and network meta-analysis “***

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**INTRODUCTION & OBJECTIVES:** Diabetic wounds pose a significant healthcare challenge due to delayed healing processes and increased risk of complications. Exosome-based therapies derived from various cellular sources have emerged as promising interventions. This study aims to evaluate the comparative efficacy of eleven exosome-based therapies in enhancing wound healing, with wound closure rate as the primary outcome.

**Materials & Methods** A network meta-analysis was conducted to compare eleven exosome-based therapies: Placebo, Melatonin-stimulated human bone marrow mesenchymal stem cells-exosomes (MT-hBMMSC-Exos), Menstrual blood-derived mesenchymal stem cells-exosomes (hMenSC-Exos), MicroRNA-126 Modified Mesenchymal Stem Cell-exosomes (miR-126-MS-Exos), Nuclear factor erythroid 2-related factor 2 overexpressing adipose-derived stem cells-exosomes (Nrf2-ADSC-Exos or hADMSC-Nrf2-Exos), Fibrocyte-derived exosomes (Fibro-Exos), MicroRNA-126-overexpressing synovium mesenchymal stem cells-exosomes (SMSCs-126-Exos), Adipose-derived mesenchymal stem cell-exosomes (ADMSC-Exos or hADMSC-Exos), Human amniotic epithelial cell-exosomes (hAEC-Exos), Platelet-rich plasma-exosomes (PRP-Exos), and Human umbilical vein endothelial cell-exosome (HUVEC-Exo). Mean differences with 95% confidence intervals (CIs) were calculated to assess relative effectiveness.

**RESULTS:** Human umbilical vein endothelial cell-exosome (HUVEC-Exo) showed significant wound closure rates compared to Placebo with a mean difference of -43.25 (95% CI: -45.50, -41.00). Other



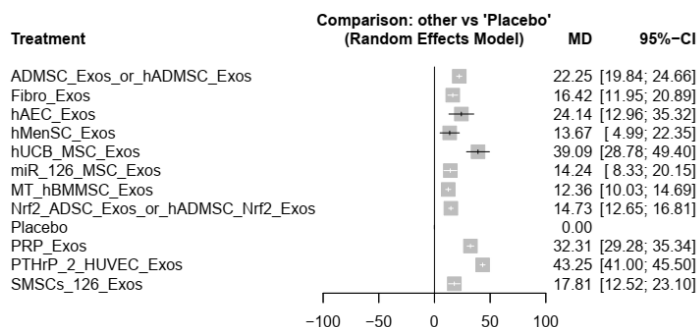


therapies, such as Human umbilical cord blood-derived mesenchymal stem cell-exosomes (hUCB-MSC-Exos, -26.73; CI: -37.30, -16.16) and Platelet-rich plasma-exosomes (PRP-Exos, -19.95; CI: -23.77, -16.13), demonstrated notable improvements. Adipose-derived mesenchymal stem cell-exosomes (ADM-SC-Exos, -9.89; CI: -13.24, -6.54) and Melatonin-stimulated human bone marrow mesenchymal stem cells-exosomes (MT-hBM-SC-Exos, -13.67; CI: -22.35, -4.99) also showed benefits over Placebo (-12.36; CI: -14.69, -10.03). Conversely, therapies like hMenSC-Exos (-1.31; CI: -10.29, 7.67) and Fibro-Exos (-2.75; CI: -12.51, 7.01) exhibited less pronounced effects.

**CONCLUSIONS:** Exosome-based therapies, particularly HUVEC-Exo, hUCB-MSC-Exos, and PRP-Exos, significantly enhance wound healing in diabetic wounds. These findings highlight their potential as innovative interventions for managing chronic wounds.

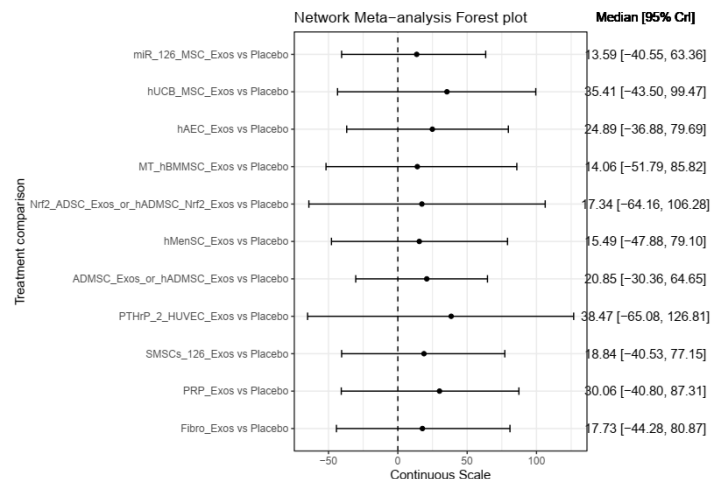
**Keywords:** Wound healing, exosome, small extracellular vesicles

## FOREST PLOT FOR WOUND CLOSURE RATE



Forest Plot of Different Exosomes in comparison to Placebo showed statistically significance

## NETWORK META ANALYSIS FOREST PLOT FOR WOUND CLOSURE RATE



## NETWORK META ANALYSIS FOREST PLOT FOR WOUND CLOSURE RATE

## OP-12 [Genetics]

### Lipoid Proteinosis in Twin Sisters: Clinical, Imaging, Histopathological, And Dermoscopic Findings Of A Rare Genodermatosis

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Lipoid proteinosis (LP), or Urbach-Wiethe disease, is a rare autosomal recessive disorder caused by ECM1 gene mutations, leading to hyaline deposits in the skin, mucous membranes, and other tissues. ECM1 gene encodes glycoproteins critical for maintaining the structural integrity of the basement membrane and extracellular matrix, skin adhesion, and protein-protein interactions. LP is inherited in an autosomal recessive pattern, often seen in families with consanguineous marriages or a history of affected relatives. Key clinical features include a hoarse voice from early infancy, vesicular and hemorrhagic crusts in the mouth and on the face and extremities, verrucous and keratotic skin lesions on extensor surfaces (particularly the elbows), and moniliform blepharosis (beaded papules along the eyelid margins and inner canthus). Extracutaneous manifestations may include epilepsy, neuropsychiatric disorders, spontaneous central nervous system (CNS) hemorrhage, and asymptomatic yellowish nodules in the gastrointestinal. We report 20-year-old identical twin sisters with classic LP features, including hoarseness since infancy, hyperkeratotic papules, moniliform blepharosis, and atrophic scars. Histopathology confirmed dermal hyaline deposits, and the patients were started on oral isotretinoin. Extracutaneous findings included elevated anti-thyroid antibodies and hematologic abnormalities. Both siblings had developmental dysplasia of hip. Site-specific dermoscopic observations play a vital role in assisting the diagnosis. This case highlights the importance of dermoscopy, early diagnosis and histopathological confirmation in LP, particularly in regions with high consanguinity rates.

**Keywords:** Lipoid Proteinosis, Twin Sisters, Hoarse Voice, Developmental Dysplasia of Hip, Moniliform Blepharosis

**Figure 1b**



*multiple hyperkeratotic, warty papules and plaques on the elbows*

**Figure c**



*multiple bright, beaded papules on both the upper and lower eyelids and distichiasis of the upper eyelid*



## OP-13 [Hair Disorders/Diseases]

### The Relationship Between Androgenetic Alopecia and Sexual Dysfunction: A Cross-sectional Study

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**INTRODUCTION:** Androgenetic alopecia, a hair loss condition caused by dihydrotestosterone's effect on hair follicles, leads to bitemporal recession in men and thinning at the vertex and frontal scalp in women. This condition may also impact sexual function due to underlying hormonal imbalances and psychological distress associated with hair loss.

**OBJECTIVES:** This study aims to contribute to a better understanding of the relationship between androgenetic alopecia and sexual function in men and women, thus shedding light on an important issue that may affect the quality of life of patients. In the literature, studies examining the effects of androgenetic alopecia on sexual function, especially in women, are limited, and further research is needed to address the deficiency in this area.

**MATERIAL-METHODS:** This retrospective study included patients who presented to the dermatology outpatient clinic with a diagnosis of androgenetic alopecia between 01 November 2024 and 01 March 2025. A total of 41 male patients were assessed using the Hamilton-Norwood classification for alopecia severity and completed the International Index of Erectile Function (IIEF) questionnaire. Similarly, 28 female patients were classified using the Ludwig scale and completed the Female Sexual Function Index (FSFI) questionnaire. Ethical approval for the study was obtained before data collection. The relationship between alopecia severity and sexual function was analyzed using Pearson correlation, linear regression, and ANOVA in SPSS 21.

**RESULTS:** A total of 41 male and 28 female patients with *female 1*

androgenetic alopecia (AGA) were included in the study. In female participants, the prevalence of sexual dysfunction (FSFI  $\leq 26.55$ ) was 82.1%. Among all women, 17.9% with sexual dysfunction were classified as Ludwig grade 1. Pearson correlation analysis showed a weak negative correlation between FSFI scores and Ludwig grades ( $r = -0.0635$ ,  $p < 0.01$ ). Linear regression analysis indicated that FSFI scores were negatively predicted by Ludwig grade ( $B = -0.140$ ,  $p < 0.001$ ), ANOVA results confirmed the significance of the regression model ( $F = 17.61$ ,  $p < 0.001$ ). In male participants, a moderate negative correlation was found between androgenetic alopecia severity (Hamilton-Norwood grade) and IIEF scores ( $r = -0.391$ ,  $p = 0.012$ ). ANOVA analysis showed that AGA severity significantly predicted overall sexual function ( $F(1,39) = 7.033$ ,  $p = 0.012$ ). Further analysis demonstrated that increasing AGA severity was significantly associated with decreased erectile function ( $p = 0.002$ ) and lower sexual desire ( $p = 0.008$ ). No significant associations were found for orgasmic function ( $p > 0.05$ ), intercourse satisfaction ( $p > 0.05$ ), or overall sexual satisfaction ( $p > 0.05$ ). **CONCLUSIONS:** In female participants, a significant correlation was found between Ludwig grade and FSFI scores. In male participants, higher AGA severity was associated with lower overall sexual function scores.

**Keywords:** alopecia, androgens, dysfunction, sexual

f1

		fsd			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	5	17.9	17.9	17.9
	1	23	82.1	82.1	100.0
	Total	28	100.0	100.0	

### Correlations

		Skoru	total_A
Skoru	Pearson Correlation	1	-.635**
	Sig. (2-tailed)		<.001
	N	28	28
total_A	Pearson Correlation	-.635**	1
	Sig. (2-tailed)	<.001	
	N	28	28

\*\* . Correlation is significant at the 0.01 level (2-tailed).





Allergy and Cosmetology in Dermatology

# 10<sup>TH</sup> INDERCOS

International Dermatology and Cosmetology Congress  
17 - 20 April 2025 | Radisson Blu Şişli Hotel-İstanbul, Türkiye

f2

## Variables Entered/Removed<sup>a</sup>

Model	Variables Entered	Variables Removed	Method
1	total_A <sup>b</sup>	.	Enter

a. Dependent Variable: Skoru

b. All requested variables entered.

## Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.635 <sup>a</sup>	.404	.381	.622

a. Predictors: (Constant), total\_A

## ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.807	1	6.807	17.610	<.001 <sup>b</sup>
	Residual	10.050	26	.387		
	Total	16.857	27			

a. Dependent Variable: Skoru

b. Predictors: (Constant), total\_A

## Coefficients<sup>a</sup>

Model		Unstandardized Coefficients	Standardized Coefficients	t	Sig.
1	(Constant)	4.744	.765	6.200	<.001
	total_A	-.140	.033	-.635	<.001

a. Dependent Variable: Skoru

female 2

m1

## Correlations

	Table 1-Table 1	total
Table 1-Table 1	Pearson Correlation 1	-.391 <sup>*</sup>
	Sig. (2-tailed)	.012
	N	41
total	Pearson Correlation	-.391 <sup>*</sup>
	Sig. (2-tailed)	.012
	N	41

\*. Correlation is significant at the 0.05 level (2-tailed).

male 1

m2

## Variables Entered/Removed<sup>a</sup>

Model	Variables Entered	Variables Removed	Method
1	Table 1-Table 1 <sup>b</sup>	.	Enter

a. Dependent Variable: total

b. All requested variables entered.

## Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.391 <sup>a</sup>	.153	.133	5.461

a. Predictors: (Constant), Table 1-Table 1

## ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	209.730	1	209.730	7.033	.012 <sup>b</sup>
	Residual	1163.051	39	29.822		
	Total	1372.780	40			

a. Dependent Variable: total

b. Predictors: (Constant), Table 1-Table 1

## Coefficients<sup>a</sup>

Model		Unstandardized Coefficients	Standardized Coefficients	t	Sig.
1	(Constant)	23.701	1.992	11.898	<.001
	Table 1-Table 1	-1.231	.464	-.391	.012

a. Dependent Variable: total

male 2

m3

## Correlations

### Correlations

	Table 1-Table 1	V2
Table 1-Table 1	Pearson Correlation 1	-.462 <sup>**</sup>
	Sig. (2-tailed)	.002
	N	41
V2	Pearson Correlation	-.462 <sup>**</sup>
	Sig. (2-tailed)	.002
	N	41

\*\*. Correlation is significant at the 0.01 level (2-tailed).

### Correlations

### Correlations

	Table 1-Table 1	V3
Table 1-Table 1	Pearson Correlation 1	-.202
	Sig. (2-tailed)	.206
	N	41
V3	Pearson Correlation	-.202
	Sig. (2-tailed)	.206
	N	41

male 3

	Table 1-Table 1	V4
Table 1-Table 1	Pearson Correlation 1	-.407 <sup>**</sup>
	Sig. (2-tailed)	.008
	N	41
V4	Pearson Correlation	-.407 <sup>**</sup>
	Sig. (2-tailed)	.008
	N	41

\*\*. Correlation is significant at the 0.01 level (2-tailed).

### Correlations

### Correlations

	Table 1-Table 1	V5
Table 1-Table 1	Pearson Correlation 1	-.292
	Sig. (2-tailed)	.064
	N	41
V5	Pearson Correlation	-.292
	Sig. (2-tailed)	.064
	N	41

### Correlations

### Correlations

	Table 1-Table 1	V6
Table 1-Table 1	Pearson Correlation 1	-.273
	Sig. (2-tailed)	.084
	N	41
V6	Pearson Correlation	-.273
	Sig. (2-tailed)	.084
	N	41





## OP-14 [Allergology and Immunology]

### Characteristics of Patients Diagnosed with Anaphylaxis: A Single Center Experience in Adana City

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**INTRODUCTION:** Anaphylaxis is a potentially life-threatening allergic reaction that progresses unpredictably and can involve multiple organ systems. It may range from mild symptoms such as urticaria to severe cardiovascular collapse. The grading of anaphylaxis severity remains challenging, with no universally accepted system. Factors that may increase the severity of anaphylaxis include endogenous factors as well as exogenous factors. Medications, foods, and insect venom are the most common triggers. Despite its proven effectiveness, intramuscular epinephrine, the first-line treatment for moderate-to-severe anaphylaxis, remains underutilized in emergency settings, contributing to increased morbidity and mortality.

**OBJECTIVE:** This study aims to assess the demographic characteristics, anaphylaxis triggers, reaction severity, and treatments administered to patients referred to our clinic from the emergency department (ED) with a diagnosis of anaphylaxis.

**METHODS:** A retrospective analysis was conducted on 117 patient records over the past year, using the ICD-10 codes T78.0, T78.2, and T88.6. Patients with incomplete data or repeated admissions were excluded. The collected data included demographics, anaphylaxis triggers, severity classification, and treatment details.

**RESULTS:** Of the 117 patients, 66.1% (n = 76) were female, and 33.9% (n = 39) were male. Drug-induced anaphylaxis accounted for 51.3% of cases, with antibiotics (50.8%) and analgesics (42.3%) being the most common culprits. Food-induced anaphylaxis occurred in 26.1% of patients, venom-induced anaphylaxis in 14.8%, and idiopathic anaphylaxis in 16.5%. Epinephrine was administered in only 60% of cases, while antihistamines and corticosteroids were more frequently used. Cutaneous involvement

was observed in 97.4% of cases, with cardiovascular and respiratory systems involved in 53% and 71.3% of cases, respectively. Severe reactions were noted in 46.1% of patients, and moderate reactions in 47.8%. Chronic diseases were present in 33.9% of patients, with asthma, hypertension, and diabetes being the most common comorbidities.

**DISCUSSION:** Consistent with previous studies, our findings indicate that medications, particularly antibiotics and NSAIDs, are the most frequent triggers of anaphylaxis, with female predominance. The rate of severe anaphylaxis was higher in our study (46.1%) compared to other studies. Although clinical guidelines recommend intramuscular epinephrine as the first-line treatment, it was administered in only 60% of cases, while the remaining cases were treated with antihistamines and corticosteroids.

**CONCLUSION:** Anaphylaxis remains a potentially fatal condition requiring prompt recognition and treatment. The low rate of epinephrine administration highlights the need for improved adherence to clinical guidelines and increased awareness among healthcare professionals. Patients should be referred to an allergy and immunology specialist for further evaluation and management.

**Keywords:** anaphylactic reaction, anaphylaxis, emergency treatment, adrenaline

## OP-15 [Paediatric Dermatology]

### The clinical, histopathological and laboratory findings in pediatric mycosis fungoides- Can blood eosinophilia be related to the clinical type of mycosis fungoides?

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**BACKGROUND:** Mycosis fungoides (MF) is the most common type of cutaneous T-cell lymphoma, however; it is very rare in the pediatric population.

**MATERIALS-METHODS:** The aim of this retrospective cohort study was to investigate the clinical presentation, histological findings, treatment modalities and response to therapy in pediatric MF patients and also compare the hemogram parameters including neutrophil, lymphocyte, monocyte and eosinophil count, neutrophil lymphocyte ratio (NLR), and platelet lymphocyte ratio (PLR), and lactate dehydrogenase levels (LDH) with the control group.

**RESULTS:** A total of 29 pediatric MF patients (11 females, 18 males), and 29 healthy controls (17 females, 12 males), were included. All patients were diagnosed with stage IA. Hypopigmented MF was the most common variant (62.06%), followed by folliculotropic (27.58%), and hyperpigmented (10.3%). Darband UVB was the most commonly used treatment method (80% of patients). The mean follow-up period was 36 months. LDH was significantly higher in the patient group ( $p=0.001$ ). No significant association was found between the treatment response, NLR, PLR, eosinophil count and LDH levels and MF type ( $P=0.779$ ). There was a significant difference in eosinophilia rates according to MF type ( $P=0.013$ ), elevated eosinophil

level was found in 66.7% of hyperpigmented, 37.5% of follicular, and 6.7% of hypopigmented.

**CONCLUSION:** Hypopigmented MF was the most common variant in our study and this clinical presentation of MF in children may be confused with childhood dermatoses. Blood eosinophilia was significantly higher in MF patients compared to the healthy control. The MF type with the least eosinophilia was hypopigmented MF, and we know that the prognosis of this type is good. We assume that the eosinophilia in children is also associated with MF as in adult patients. However, the relationship between eosinophilia, which is suggested to be a poor prognosis indicator in adults, and prognosis of childhood MF is unknown, and more prospective studies are needed on childhood MF.

**Keywords:** pediatrics, mycosis fungoides, eosinophilia

### folliculotropic mf



folliculotropic mf

### mf--2



mf--2



## OP-16 [Psoriasis]

### Correlation of Zonulin Levels with Disease Severity in Psoriasis

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Psoriasis is a chronic inflammatory systemic disease that affects 2% of the world's population. Disruptions in the gut microbial composition can trigger pathophysiological pathways in some inflammatory diseases. Chronic low-grade inflammation is associated with psoriasis and its comorbidities. Zonulin plays a crucial role in mucosal immunity as a physiological modulator of tight junctions. Problems occurring in the intestinal barrier lead to increased intestinal permeability, resulting in elevated blood zonulin levels. Increased zonulin production leads to impaired mucosal barrier function, which in turn allows antigens to pass through the mucosa uncontrollably. If this condition persists, an adaptive immune response begins, leading to increased production of pro-inflammatory cytokines. This process ultimately results in impaired immune tolerance and initiates a chronic inflammatory response.

This study is an observational, cross-sectional, prospective, case-control study. A total of 51 psoriasis patients aged 18-75 years, diagnosed clinically and/or histopathologically, and 51 healthy volunteers were included in the study. Patients receiving systemic treatment, those who had used antibiotics, probiotics, or prebiotics in the last three months, pregnant individuals, and individuals with chronic diseases, as well as those under 18 years of age, were excluded from the study. Statistical analysis was performed using the SPSS program. A p-value of  $p < 0.05$  was considered statistically significant.

Zonulin levels were found to be significantly higher in the patient group ( $p < 0.05$ ). Zonulin levels were also significantly higher in women compared to men in both the patient and control groups. Patients with genital involvement had higher zonulin levels compared to

other patients. No statistically significant correlation was found between PASI and NAPI scores and zonulin levels.

This study demonstrates that zonulin levels are significantly higher in psoriasis patients compared to healthy individuals. The increase in zonulin levels suggests impaired intestinal barrier function, which may play a role in the pathophysiology of the disease. Additionally, higher zonulin levels in female patients may indicate the potential effects of gender on intestinal permeability. The finding that patients with genital involvement had higher zonulin levels suggests that intestinal barrier dysfunction may be more pronounced in certain phenotypes of the disease. However, the absence of a significant correlation between PASI and NAPI scores and zonulin levels suggests that the relationship between disease severity and intestinal permeability requires further investigation. These findings provide new insights into the role of the intestinal barrier in the pathogenesis of psoriasis and suggest that future studies should evaluate treatment strategies targeting the gut microbiota.

**Keywords:** psoriasis, zonulin, disease severity



### OP-17 [Infectious Diseases, Parasitic Diseases, Infestations]

#### Scabies-Associated Leukocytoclastic Vasculitis: A Case Report

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**INTRODUCTION:** Scabies, an infestation caused by *Sarcoptes scabiei* var. *hominis*, is typically associated with pruritic papules and secondary bacterial infections. However, scabies-associated leukocytoclastic vasculitis (LCV) is a rare [1]. Herein, we report a rare case of severe scabies with diagnostic delay complicated by LCV in an 89-year-old man.

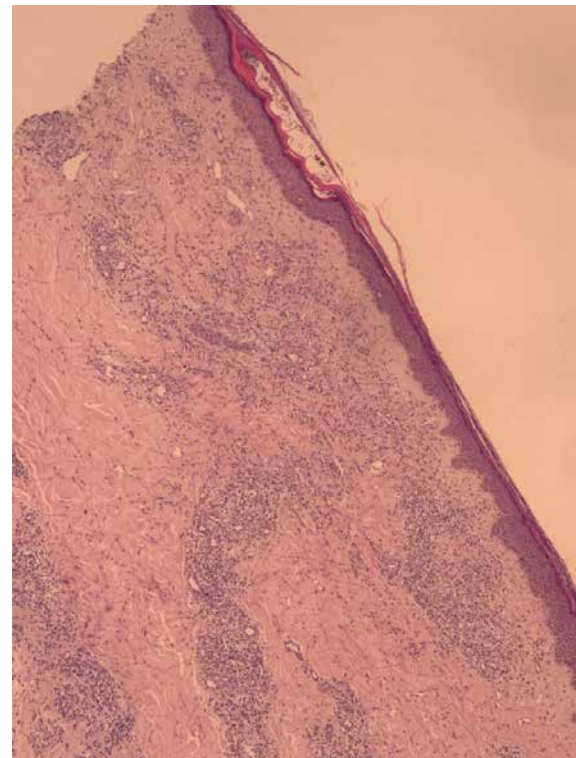
**CASE PRESENTATION:** An 89-year-old male patient presented to the dermatology clinic with a complaint of pruritus in the bilateral lower extremities. Physical examination revealed erythematous papules on both lower legs that did not blanch upon pressure. It was noted that he had been diagnosed with vasculitis and received treatment 20-25 years ago. Prior to presenting to our clinic, he had visited another hospital, where he was treated with steroids. However, as his symptoms did not improve, he sought evaluation at our clinic. A biopsy was taken from the lower leg with preliminary differential diagnoses of leukocytoclastic vasculitis, medium vessel vasculitis, and lichen planus. Microscopically fibrin deposition in vascular wall, endothelial cell prominence, and leukocytoclasia with a small number of neutrophilic leukocytes, along with erythrocyte extravasation was seen in the superficial dermis (Fig 1-2). Fibrin deposition in the vessel walls was observed with PAS staining (Fig 3). Sections demonstrated the presence of a Scabies mite, egg shells, and feces within the keratin layer of the stratum corneum (Fig 4). Given the patient's prior vasculitis diagnosis, the biopsy findings were reported as Scabies with vasculopathic changes. To determine whether vasculitis was a complication secondary to scabies, topical scabies treatment was initiated, and follow-up evaluation was recommended. During follow-up, the patient's vasculitic findings, lesions, and pruritus regressed with scabies treatment only.

**CONCLUSION:** Scabies is a common parasitic

infection caused by infestation with the mite *Sarcoptes scabiei* var. *hominis*. The microscopic organisms invade the corneal layer of the skin, and lay their eggs, causing a reactive immune response and skin changes as palpable purpura, hemorrhagic vesicles, and ulcerations, predominantly on the lower extremities [2]. LCV is a small-vessel vasculitis characterized by immune complex deposition, leading to fibrinoid necrosis, perivascular neutrophilic infiltration, and vascular damage [3]. The pathophysiology between scabies and LCV is hypothesized to involve persistent antigenic stimulation from mite-derived proteins, triggering an exaggerated immune response [4]. Scabies is usually a clinical diagnosis [5], but LCV diagnosis mainly relies on histopathological examination [6]. Previously, nine cases of LCV with scabies have been reported in the literature. Early recognition and intervention are crucial to preventing severe complications. Further studies are needed to better understand the immunopathogenic mechanisms linking scabies to LCV and to optimize treatment strategies.

**Keywords:** Scabies, LCV, Leukocytoclastic vasculitis

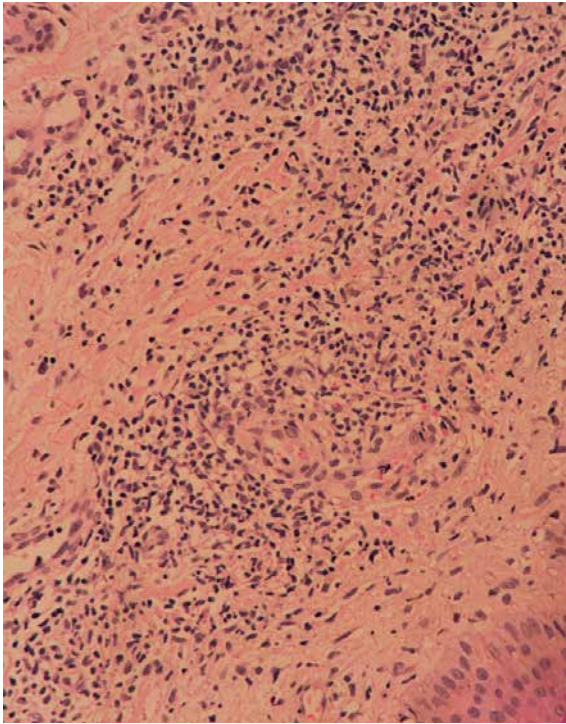
**Fig 1**



*Leukocytoclastic vasculitis in superficial dermis and a scabies egg shells and fecal pellets within the keratin layer of the stratum corneum (H&E, x40)*

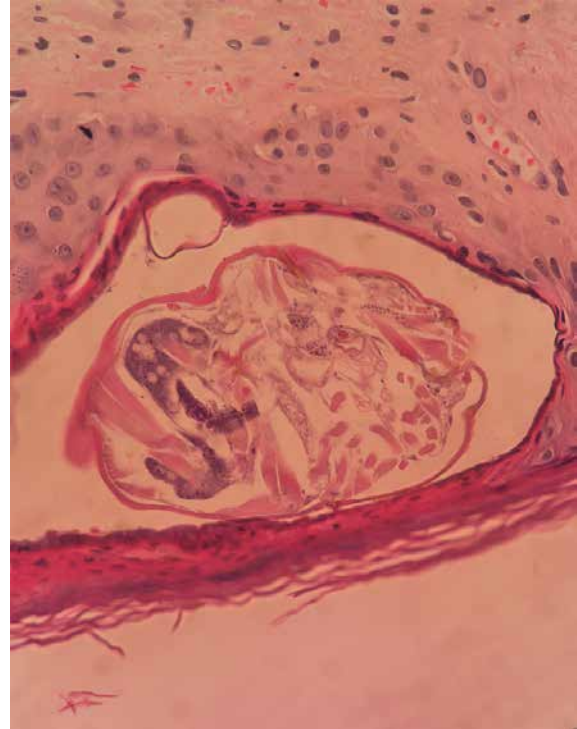


**Fig 2**



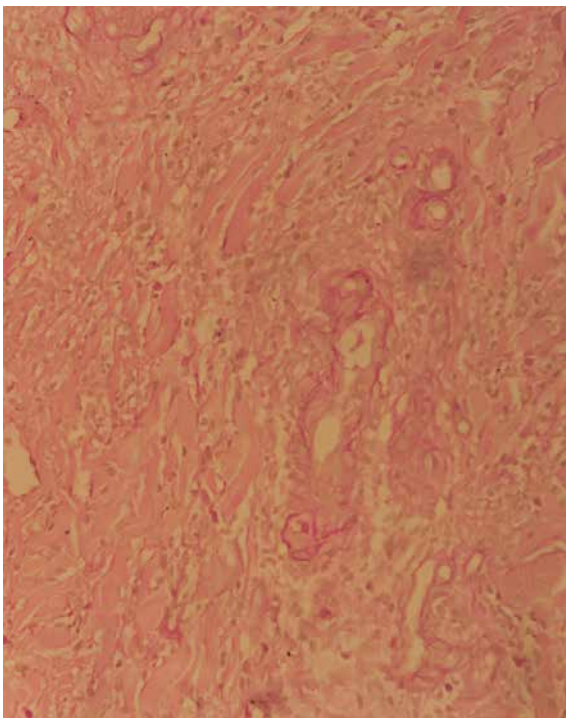
*Fibrin deposition in vascular wall, endothelial cell prominence, and leukocytoclasia with a small number of neutrophilic leukocytes, along with erythrocyte extravasation (H&E, x200)*

**Fig 4**



*Scabies mite and egg shells within the keratin layer of the stratum corneum (H&E, x400)*

**Fig 3**



*Fibrin deposition in the vessel walls was observed with PAS staining (x200)*



## OP-18 [Cutaneous Oncology]

### Bowenoid Transformation in Seborrheic Keratosis: Presentation of 2 cases

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**INTRODUCTION:** Seborrheic keratosis (SK) is one of the most common benign epidermal neoplasms, often presenting as well-demarcated, hyperpigmented, and verrucous lesions on sun-exposed and non-sun-exposed areas of the skin. Although rare cases of malignant transformation have been reported as squamous cell carcinoma (SCC) or Bowenoid transformation. Bowenoid transformation is characterized by histopathological features resembling Bowen's disease, including full-thickness epidermal dysplasia, nuclear pleomorphism, hyperchromasia, and increased mitotic activity without evidence of invasion. Immunohistochemical markers such as p16, Ki-67, and p53 have been utilized to distinguish these lesions. Here we report two cases of Bowenoid transformation in SK.

**CASE:** Our first case involved an 80-year-old female patient who underwent excision of a 7x6x5 mm nodular-keratotic lesion from the right upper eyelid with a preliminary diagnosis of papilloma. Our second case was a 65-year-old male patient who underwent excision of a 20x17x10 mm polypoid-shaped keratotic lesion along with a broad base of skin from the lateral malleolus of the right foot, with a preliminary diagnosis of SCC. Microscopic examination of both biopsies revealed mitoses extending to the upper layers of the epidermis, loss of polarization and cytological atypia in keratinocytes, all observed in focal areas on a background of seborrheic keratosis. Immunohistochemical analysis demonstrated strong block-like nuclear and cytoplasmic staining with p16, along with nuclear positivity for p53 (Fig 1 and 2). The cases were reported as Seborrheic Keratosis with Bowenoid Transformation.

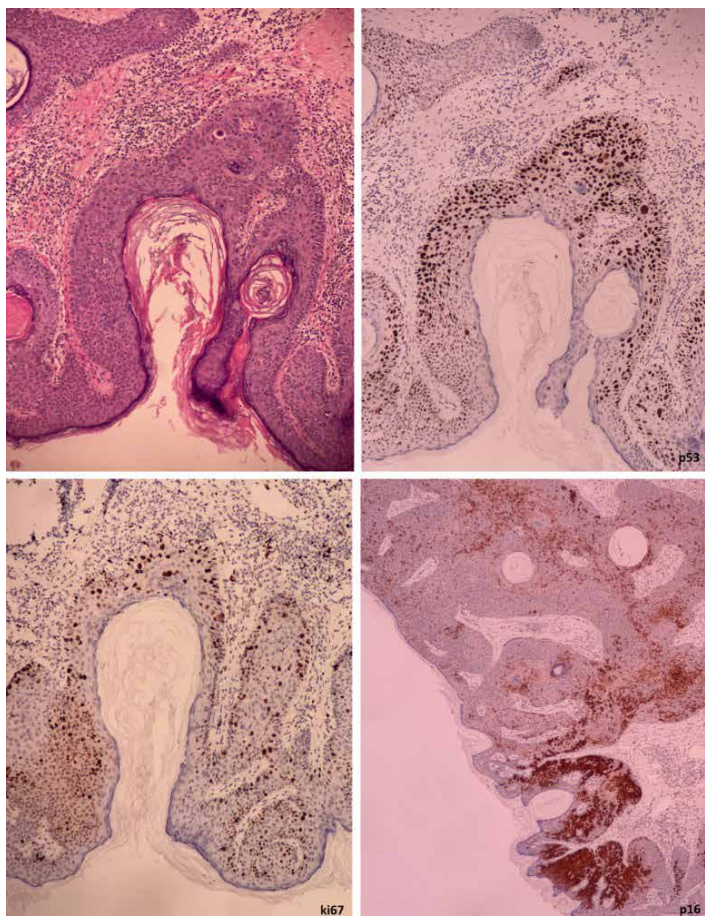
**CONCLUSION:** Although Bowenoid transformation in SK is rare, it is clinically significant due to its potential

for progression to invasive SCC. While the precise mechanisms underlying this transformation remain unclear, chronic ultraviolet radiation exposure, human papillomavirus (HPV) infection, and genetic mutations affecting cell-cycle regulation and apoptosis have been implicated in its pathogenesis. In literature malignant changes especially SCC (both in situ and invasive) seem to occur in the SK located in the head and neck. Clinically, Bowenoid-transformed SK may exhibit atypical features such as rapid enlargement, irregular pigmentation, ulceration, or a change in surface texture, raising suspicion for malignant transformation. Given the histopathological overlap between SK with Bowenoid transformation and early SCC, biopsy and histological examination are essential for accurate diagnosis. Immunohistochemical markers such as p16, Ki-67, and p53 have been utilized to distinguish between benign, dysplastic, and malignant lesions. Early recognition of Bowenoid transformation in SK is crucial for timely intervention and improved patient outcomes. Therefore, histopathologic examination of all SK cases should be considered, especially when SK has atypical clinical manifestations.

**Keywords:** Bowenoid, Seborrheic keratosis, p16, p53, ki67

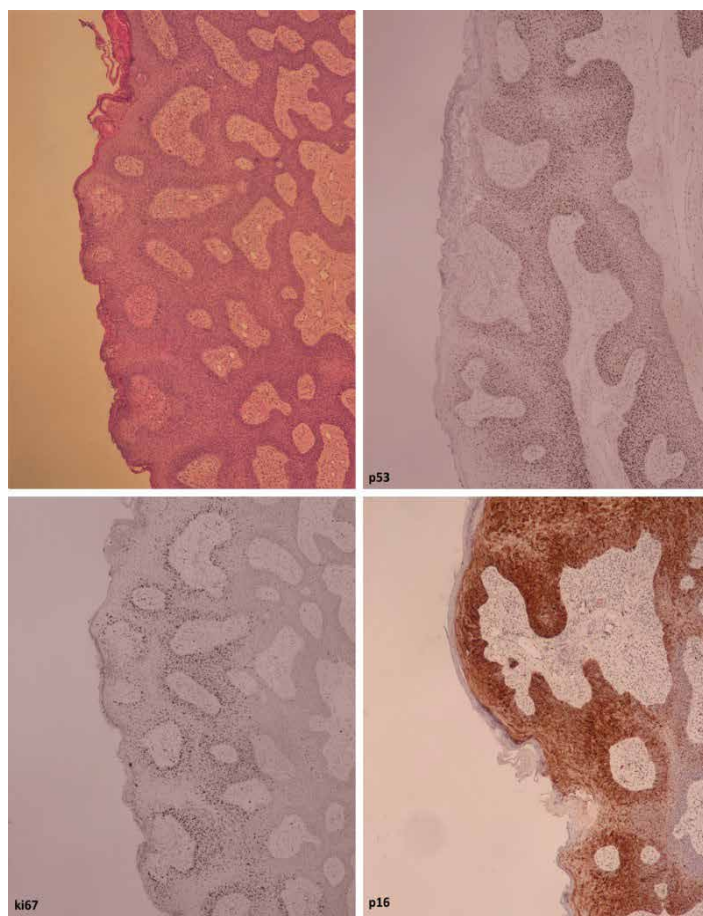


**Fig 1**



*First case: Foci of atypical keratinocytes with increased mitotic activity, p53 positivity and en bloc positive p16 staining*

**Fig 2**



*Second case: Foci of atypical keratinocytes with increased mitotic activity, p53 positivity and en bloc positive p16 staining*



## OP-19 [Media, Information and Communication Technology (ICT)]

### CAN CHATGPT 4.o and DEEPSEEK R1 PROVIDE AT LEAST SATISFACTORY ANSWERS TO COMMON PATIENT QUESTIONS ABOUT ALOPECIA?

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**INTRODUCTION:** AI-powered large language model (LLM) is being employed with increasing frequency in dermatological practice. The purpose of this study was to evaluate the accuracy, readability and educational level of the responses provided by ChatGPT 4.o and DeepSeek R1 to ten frequently asked patient questions about hair loss.

**METHODS:** The most common inquiries posed by patients regarding hair diseases were derived from the frequently asked questions sections of patient education websites belonging to various well-known institutions. The ten most frequently asked ten questions were selected for further analysis. Each question was evaluated independently of any contextual information. In February 2024, ChatGPT 4.o, a free chatbot version and DeepSeek R1, was posed the aforementioned questions.

No further prompting was done and no upper limit was set for the length of the response. Each response was then independently evaluated by two dermatologists. The evaluation of each response was conducted on a scale of 1 to 4, where 1 represented an “excellent response requiring no explanation”, 2 indicated a “satisfactory response requiring minimal explanation”, 3 denoted a “satisfactory response requiring moderate explanation”, and 4 signified an “unsatisfactory response requiring significant explanation”. In order to evaluate the ease of reading reflected in the responses, FRES and FKGL calculations were conducted.

**RESULTS:** Table 1 presents the question-answer performances, observer accuracy scores and FRES scores of ChatGPT 4.o and DeepSeek R1. In the evaluation of DeepSeek R1, Reviewer 1 rated 8 answers as ‘excellent’ and 2 answers as ‘satisfactory with minimal explanation required’. Reviewer 2

rated 9 responses as ‘excellent’ and 3 responses as ‘satisfactory requiring minimal explanation’. Regarding the performance of ChatGPT 4.o, both observers categorised 9 responses as ‘excellent’ and 1 response as ‘satisfactory with minimal explanation required’. FRES scores ranged from 49.6 to 87. In this study, inter-observer reliability for DeepSeek R1 was calculated using Cohen’s kappa analysis and the kappa value was 0.8235 (95% confidence interval, 0.700-0.900). For ChatGPT 4.o, Cohen’s kappa value was calculated as 1.0 (95% confidence interval, 1.0-1.0).’

**DISCUSSION:** It is clear that both ChatGPT 4.o and DeepSeek R1 have the capacity to serve as effective tools in educating patients with alopecia, provided that they undergo rigorous evaluation by dermatologists. However, given the difficult readability of some responses, they need to be made easier to read for effective use by a wider audience.

**Keywords:** Alopecia, Artificial intelligence, patient education





**Table 1**

Questions	DeepSeek R1's Answers	Response Accuracy Scores	FRES Score	ChatGPT 4.o's Answers	Response Accuracy Scores	FRES Score
1. How many hairs fall out per day?	On average, about 50 to 100 hairs fall out per day.	1-1	87.0 (Very easy)	On average, about 50 to 100 hairs fall out per day.	1-1	82.4 (Very easy)
2. Are all causes of hair loss the same?	No, causes vary (genetics, stress, diet, health conditions).	1-1	80.0 (Very easy)	No, there are various reasons for hair loss, including genetics, hormonal changes, medical conditions, and lifestyle factors.	1-1	67.5 (Moderate)
3. How Many Types of Hair Loss Are There	There are many types, including androgenetic alopecia, alopecia areata, and telogen effluvium.	1-1	65.0 (Moderate-difficult)	There are several types of hair loss, including male pattern baldness, female pattern hair loss, alopecia areata, telogen effluvium, and others.	1-1	54.2 (Moderate-difficult)
4. What Causes Hair Loss?	Causes include genetics, hormonal changes, stress, poor nutrition, and medical conditions.	1-1	75 (Moderate)	Hair loss can be caused by genetics, hormonal changes, medical conditions, stress, nutritional deficiencies, and certain medications.	1-1	62.3 (Moderate)
5. What Medication Causes Hair Loss?	Medications like chemotherapy, antidepressants, and blood thinners can cause hair loss.	1-1	72 (Moderate)	Some medications that can cause hair loss include chemotherapy drugs, blood thinners, antidepressants, and high-dose vitamin A.	1-1	71.8 (Moderate)
6. Can Stress Cause Hair Loss?	Yes, stress can trigger conditions like telogen effluvium or alopecia areata.	1-1	68 (Very easy)	Yes, stress can contribute to hair loss by disrupting the normal hair growth cycle.	1-1	78.9 (Very easy)
7. Is there any way I can test for hair loss at home?	You can perform a gentle pull test or monitor shedding, but consult a doctor for accurate diagnosis.	2-1	65 (Moderate)	While you can monitor the amount of hair you shed daily, a proper diagnosis of the underlying cause of hair loss requires a medical evaluation.	1-1	65.7 (Moderate)
8. Which Department Treats Hair Loss?	Hair loss is typically treated by the Dermatology Department, as dermatologists specialize in skin, hair, and scalp conditions. In some cases, an Endocrinology Department.	1-1	55 (Moderate-difficult)	Dermatologists often specialize in treating hair loss and related conditions.	1-1	58.4 (Moderate-difficult)
9. When should I go see a doctor or dermatologist for my hair loss?	You should consult a doctor or dermatologist if your hair loss is sudden, rapid, or accompanied by scalp irritation, visible patches, or excessive shedding (e.g., clumps of hair). Early evaluation is crucial.	2-2	50 (Difficult)	It is advisable to see a doctor or dermatologist if you notice sudden or excessive hair loss, changes in hair texture, or accompanying symptoms like itching or scalp irritation.	2-2	49.6 (Difficult)
10. What kind of tests are performed in case of hair loss?	Tests for hair loss include blood tests, scalp biopsies, and pull tests	1-1	68 (Very easy)	Tests such as blood tests, scalp biopsies, and microscopic hair analysis may be conducted to diagnose the cause of hair loss.	1-1	63.5 (Moderate)

*Questions Posed to ChatGPT 4.o and DeepSeek R1, Answers, Reviewer Accuracy Scores, and FRES Scores*



## OP-20 [Lasers]

### New Treatment Approaches in Genital Lichen Sclerosus

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<sup>2</sup>Antalya Bilim University, Antalya, Turkey

**INTRODUCTION:** We aimed to evaluate the outcomes of laser, PRP, and exosome treatments in women with genital lichen sclerosis.

**METHODS:** In this multicenter study, 8 patients from Center 1 and 10 patients from Center 2 diagnosed with lichen sclerosis between 2019 and 2024 were included for evaluation. These 18 patients underwent two sessions of treatment with either laser and PRP or laser and exosome combinations, followed by regular follow-ups. The positive responses in patient-reported symptoms were statistically analyzed.

**RESULTS:** Patients presented with widespread erythema, itching, and a burning sensation. A total of 18 patients aged between 47 and 81 years were included in the study. After clinical diagnosis:

- 6 patients received two sessions of CO<sub>2</sub> laser + PRP, followed by topical moisturizer and topical steroid therapy.
- 6 patients received two sessions of Er:YAG laser + PRP, followed by topical moisturizer and topical steroid therapy.
- 6 patients received two sessions of Er:YAG laser + Wharton jelly-derived mesenchymal stem cell-derived product containing 5 billion exosomes via subcutaneous application. These patients were also given topical steroid and topical moisturizer therapy.

The treatments were applied in two sessions, 3 weeks apart. Clinical follow-ups were conducted at 2, 4, and 8 weeks after treatment.

**DISCUSSION:** After the treatment period, clinical symptom scores were evaluated, revealing improvements in:

- Burning sensation by 60%
- Redness by 60%
- Stinging sensation by 80%

- Dyspareunia (painful intercourse) by 60%

Long-term follow-ups with topical therapies showed that patients maintained clinical improvement for up to one year. At the end of the first year, three patients required repeat laser + PRP treatment, and one patient underwent laser + exosome treatment. At the two-month follow-up, their symptoms had regressed.

**CONCLUSION:** Laser, PRP, and exosome treatments in women with genital lichen sclerosis were found to help alleviate disease symptoms.

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**Keywords:** laser, genital lichen sclerosis, PRP, CO<sub>2</sub> laser, exosome, Er:YAG laser



## OP-21 [Media, Information and Communication Technology (ICT)]

### Artificial Intelligence in Dermatology: Evaluating the Clarity, Accuracy, and Reliability of AI-Generated Patient Education on Allergic Skin Disorders

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**INTRODUCTION & OBJECTIVES:** The digital transformation of healthcare has accelerated the adoption of AI-based tools, including large language models (LLMs), for patient education. Given the abundance of online medical information and the risks associated with miscommunication, it is essential to assess the quality of AI-generated materials. This study aimed to compare the performance of four AI chatbots—ChatGPT 4.0, Claude 3.7 Sonnet, Google Gemini 2.0, and DeepSeek R1—in producing patient brochures on allergic skin disorders. The evaluation focused on three key areas: readability, comprehensiveness, and factual accuracy.

**Materials & METHODS:** Brochures were generated in Turkish using standardized prompts across the four AI platforms. To mitigate biases from prior user data, AI models were accessed by new users, and responses were assessed at the default user level. Each brochure was evaluated using the following instruments: the Flesch-Kincaid Grade Level, Gunning Fog Index, and Coleman-Liau Index for readability, as well as the DISCERN instrument for content quality from 16 different perspectives. Higher readability scores indicate that texts are more complex and challenging to understand. The DISCERN instrument is scored between 16 and 80, with higher scores representing better quality.

**RESULTS:** In terms of mean readability scores, Claude produced the most readable brochure ( $14.33 \pm 0.65$ ), while ChatGPT generated the most difficult ( $17.46 \pm 1.70$ ) (Table 1). A similar distribution was noted based on the other indexes, which measure text complexity from different angles. The distribution of readability scores for each disease followed a comparable trend (Figure 1 a-d). Regarding content quality, Claude also stood out with a total score of 55 points, while Gemini lagged behind the

AI chatbots with a score of 44 points (Figure 2 a-b). In terms of reliability, Claude maintained its lead with 25 points, while ChatGPT scored 20 points (Table 2). All four models failed to clearly address the questions: “Is it clear what sources of information were used to compile the publication?” and “Is it clear when the information used or reported in the publication was produced?” Additionally, none of the models effectively addressed the question, “Does it refer to areas of uncertainty?” In terms of treatment options, Claude again achieved the highest score with 26 points.

**CONCLUSION:** The findings emphasize the potential of AI chatbots in generating patient education materials, while also highlighting the need for clinician oversight and further refinement, particularly when disseminating critical health information. Although Claude appears to be the most promising model among the chatbots, the lack of key elements such as source references and comprehensive warnings about treatment options, combined with high readability scores across all brochures, underscores the necessity to enhance the prompt sensitivity and model architecture of AI systems.

**Keywords:** Artificial intelligence, Large language models, Patient information, Comprehensibility, Readability

**Figure 1: Comparison of Readability Metrics of AI Models in Generating Patient Education Materials (PEM)**

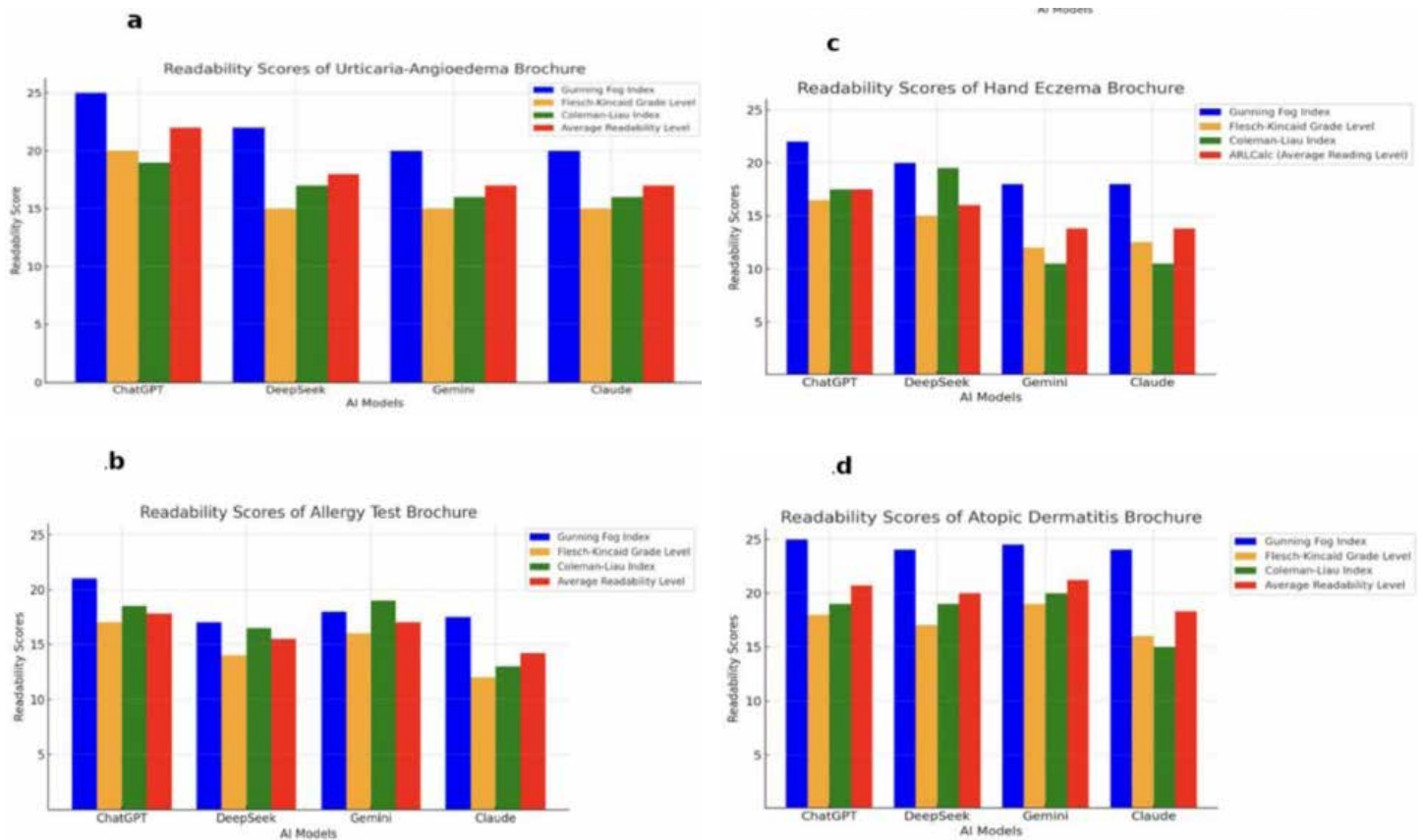
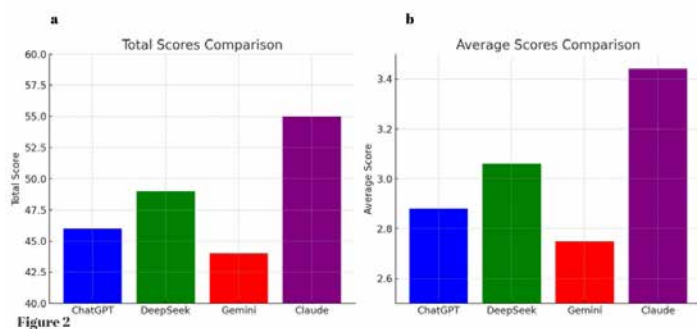


Figure 1: Flesch-Kincaid Grade Level, Gunning Fog Index, Coleman-Liau Index, and Average Reading Level results of ChatGPT, DeepSeek, Gemini, and Claude for different PEMs a)for urticaria/ angioedema brochures, b)for allergy test brochures, c)for hand eczema brochures, d)for atopic dermatitis brochures.

**Figure 2: DISCERN Scores for Content Quality**



Total(a) and average(b) scores of PEMs produced by various AI models according to the DISCERN instrument. (Scores are shown in the range 40-60 on the y-axis)



**Table 1: Readability Metrics of AI-generated PEMS**

AI models/ Metrics	Gunning Fog Index	Flesch-Kincaid Grade	Coleman-Liau Index	Average Reading Level
ChatGPT	22.82 ( $\pm 1.69$ )	17.73 ( $\pm 1.34$ )	18.71 ( $\pm 1.11$ )	17.46 ( $\pm 1.70$ )
DeepSeek	20.35 ( $\pm 2.14$ )	15.57 ( $\pm 1.06$ )	18.07 ( $\pm 1.23$ )	15.94 ( $\pm 0.92$ )
Gemini	19.77 ( $\pm 2.15$ )	15.21 ( $\pm 2.41$ )	15.66 ( $\pm 3.95$ )	15.32 ( $\pm 1.08$ )
Claude	19.62 ( $\pm 2.29$ )	13.59 ( $\pm 1.57$ )	13.00 ( $\pm 1.68$ )	14.33 ( $\pm 0.65$ )

*Mean and standard deviation of Flesch-Kincaid Class Level, Gunning Fog Index, Coleman-Liau Index and Average Reading Level results for different PEMS produced by ChatGPT, DeepSeek, Gemini and Claude*

**Table 2: DISCERN scores for each category**

Criteria	ChatGPT	DeepSeek	Gemini	Claude
Are the objectives clear?	4	4	4	4
Does it achieve its publication objectives?	4	4	4	5
Is the content relevant?	5	5	5	5
Are the sources cited?	1	1	1	1
Is the date of information production stated?	1	1	1	1
Is the content balanced and unbiased?	2	4	4	4
Are additional sources of information cited?	1	1	1	2
Are uncertainties mentioned?	2	2	2	3
Is it explained how each treatment works?	4	4	3	4
Are the benefits of each treatment explained?	4	4	3	4
Are the risks of each treatment explained?	2	2	2	3
Is it explained what happens if untreated?	3	3	2	4
Is the impact of treatment options on quality of life explained?	2	2	2	3
Are multiple treatment options presented?	5	5	5	5
Is shared decision-making supported?	3	3	2	3
General Evaluation	3	4	3	4
Total Score	46	49	44	55
Average Score	2.88	3.06	2.75	3.44



Allergy and Cosmetology in Dermatology

# 10<sup>TH</sup> INDERCOS

International Dermatology and Cosmetology Congress  
17 - 20 April 2025 | Radisson Blu Şişli Hotel-İstanbul, Türkiye

## OP-22 [Research in D/V, Experimental D/V]

### "Level of Awareness of Sun Protection among Patients Admitted to the Dermatology Outpatient Clinic"

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"A survey study was conducted to determine the awareness level of awareness and habits of sun protection among patients who applied to the dermatology clinic for any reason. For this purpose, a questionnaire was administered to 100 patients aged between 18-60 who applied to the Kırşehir Training and Research Hospital Dermatology and Venereal Diseases outpatient clinic. In the evaluation of the survey results, it was determined that the majority of the participants (82%) were aware of the harmful effects of the sun and its relationship with skin cancer (61%). It was found that only half of the participants (21%-73%) had knowledge about the risk factors for skin cancers (fair skin color, presence of nevus, sunburns, prolonged sun exposure and family history). It was determined that sunscreens were used as a protection method at a rate of 83%, but the effective usage rate was low."

**Keywords:** Sun rays, sunscreen, skin cancer

## survey form

### Table 1: Survey Form

AHI EVRAN UNIVERSITY FACULTY OF MEDICINE  
DEPARTMENT OF DERMATOLOGY

Gender: E K Age: ...

Education Level: ...

Occupation: ...

Hair Color: ... Eye Color: ... Skin Type: ... (fair-skinned, light-brown, dark-skinned, etc.)

1. How much of your daily life do you spend outdoors (or in the sun)? Less than 1 hour 1-3 hours 4-6 hours 6-8 hours More than 8 hours

2. How long do you spend in the sun daily (doing activities like fishing, gardening, etc.)? Less than 1 hour 1-3 hours 4-6 hours 6-8 hours More than 8 hours

3. During what hours do you work in the sun? Before 10 AM 10-12 AM 12-2 PM 2-4 PM After 4 PM

4. Have you ever had a sunburn? Yes No

5. Do you think sun protection is necessary? Yes No

6. What do you do specifically to protect yourself from the sun, especially in the summer? (Multiple options can be selected) I don't go outside between 10 AM and 4 PM. I sit in the shade. I wear a hat. I use an umbrella. I wear light-colored clothes. I wear thin but covered clothes. I wear sunglasses. I use sunscreen. Other: ...

7. Do you use sunscreen or lotion when going out in the sun? Yes No If your answer is "Yes," proceed to questions 8-14. If your answer is "No," proceed to question 15.

8. Since what age have you been using sunscreen? ...

9. What do you use sunscreen for? (Multiple options can be selected) To be able to work longer in the sun. To protect myself from the harmful effects of the sun.



## survey form2

Other: ...

1. What is your primary criterion for choosing sunscreens? (Multiple options can be selected)

By brand

By price

By the level of protection factor

By the perfume it contains

I specifically pay attention to it being fragrance-free

Other: ...

1. What SPF sunscreen creams/lotions do you prefer? ...

2. When do you use sunscreen creams/lotions?

1 hour before going out in the sun

15 minutes before going out in the sun

While sunbathing

After sunbathing

Other: ...

1. Which areas of your body do you apply sunscreen to?

Face

Earlobes

Nose

Backs of hands

Back

Arms and legs

Torso

1. How often do you reapply sunscreen while in the sun?

I only apply it in the morning

Regularly every 2 hours

I only use it if I get sunburned

1. Do you protect your children from the sun? Yes No

How?

I don't take them outside between 10 AM and 4 PM.

I keep them in the shade.

I put a hat on them.

I use an umbrella.

## survey form3

• I dress them in light-colored clothes.

• I dress them in thin but covered clothes.

• I put sunglasses on them.

• I apply sunscreen to them.

1. Do you think sunscreen products should be used on children? Yes No

2. Do sun rays have harmful effects? Yes NoYes; It can cause cataracts in the eyes. Yes NoYes; It can cause skin cancer. Yes No

3. Is the amount of sunlight reaching the earth affected by the following?Can change with the presence of clouds. Yes NoCan change according to the hours of the day. (It is highest at noon) Yes NoCan change according to the altitude of our location above sea level. Yes NoCan change according to the latitude of our location. Yes NoCan change according to the seasons. (More in summer, less in winter) Yes NoIs not affected by anything. Yes No

4. Do the following reflect sunlight and increase its effects?Sand Yes NoWater Yes NoSnow Yes NoGrass Yes NoSidewalks Yes No

5. Does the use of some medications increase sun sensitivity? Yes No

6. Do some foods increase sun sensitivity? Yes No

7. Which of the following increase the risk of skin cancer?✓ Having fair skinHaving brown moles on the bodyGetting sunburnedWorking in the sun for long periods throughout lifeHaving a family history of skin cancer

8. Do you think public education on these issues is necessary? Yes No

Thank you for participating in this survey prepared by Ahi Evran University Faculty of Medicine, Department of Dermatology.

**Information Level regarding factors increasing skin carcinoma development risk, conditions affecting the amount of sunlight reaching the earth surface, and factors that increasing sun rays**

Having fair skin	%49
Presence of nevi	%50
Sunburn	%61
Cumulative effect	%21
Presence of family history	%73
Presence of clouds	%73
Time of day	%89
Altitude above sea level	%70
Latitude	%84
Season	%87
Not effected	%2
Sand	%44
Water	%37
Snow	%3
Grass	%1
Pavement	%25





## Practices of participants for sun protection, reasons for using sunscreen, effective features in sunscreen, applied regions, of application frequency

Not going out in the sun between 10:00-16:00	%44
Sitting in the shade	%69
Wearing a hat	%33
Using an umbrella	%3
Wearing light-colored clothes	%39
Wearing thin but covered the clothes	%33
Using sunglasses	%65
Using sunscreen	%83
To be able to sunbathe for a longer time	%68
To protect from the harmful effects of the sun	%43
To provide softness to the body	%14
To get regular tan	%1
Other reasons	%17
Brand	%41
Price	%14
Protective factor level	%75
Being perfumed	%1
Being fragrance-free	%23
Other	%2
Face	%85
Earlobes	%45
Nose	%50
Back of hand	%26
Back	%7

## OP-23 [Acne and Related Disorders, Hidradenitis Suppurativa]

### The Effect of Oral Isotretinoin on Liver Enzymes in Patients with Acne

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**INTRODUCTION & OBJECTIVES:** Acne is a common dermatological condition that results from a multifactorial process, including hormonal changes, increased sebum production, follicular hyperkeratinization, microbial colonization, and inflammation. Genetic predisposition and environmental factors also play a crucial role in its development. Oral isotretinoin remains a cornerstone treatment due to its effectiveness in targeting multiple pathogenic pathways in the management of severe acne. While the treatment of acne patients is performed effectively, potential complications must be closely monitored. In the current literature, the effects of oral isotretinoin one of the most effective treatments for acne on liver functions remain a significant topic of discussion. This study aims to investigate the effects of oral isotretinoin therapy on liver enzyme levels in acne patients.

**Materials & METHODS:** This multicenter, retrospective, observational study evaluated a total of 60 patients aged 14–35 years who were receiving regular oral isotretinoin therapy and had complete clinical records. The biochemical parameters (Alanine Aminotransferase (ALT), Aspartate Aminotransferases (AST), Total Bilirubin, and Alkaline Phosphatase (ALP)) of the participants were systematically analyzed before and after the treatment. Measurements and acne severity were recorded throughout the treatment period. Data were retrospectively collected from patient files and electronic health records while adhering to anonymity and data security principles. Acne severity was classified according to the Global Acne Grading System (GAGS), and treatment responses were comprehensively assessed.

Statistical analyses were performed using IBM SPSS Statistics 26 software. Parametric tests were used for normally distributed data, and non-parametric tests were





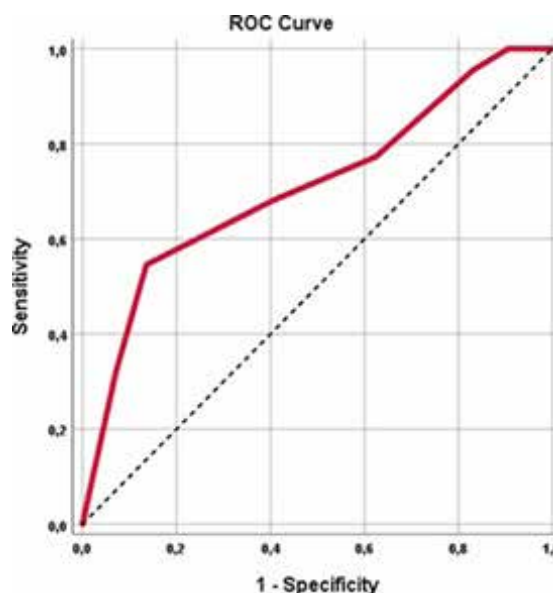
applied for non-normal- ly distributed data. Additionally, the diagnostic value of biochemical changes was evaluated using ROC analysis. The findings aimed to understand the effects of isotretinoin therapy on biochem- ical parameters and to provide clinical guidance for treatment management.

**RESULTS:** During the treatment period, significant increases were observed in ALT (mean  $5.66 \pm 9.92$ ,  $p < 0.001$ ) and AST (mean  $3.51 \pm 9.40$ ,  $p = 0.005$ ) levels, while no significant changes were detected in Total Bilirubin and Alkaline Phosphatase levels ( $p > 0.05$ ). A positive correlation was found between ALT/AST levels and drug doses, with higher doses noted in patients with ALT/AST levels  $\geq 40$  ( $p < 0.01$ ). The most frequently used dose was 30 mg (26.4%). ROC analysis and diagnostic performance tests were applied to determine the cut-off points for drug doses.

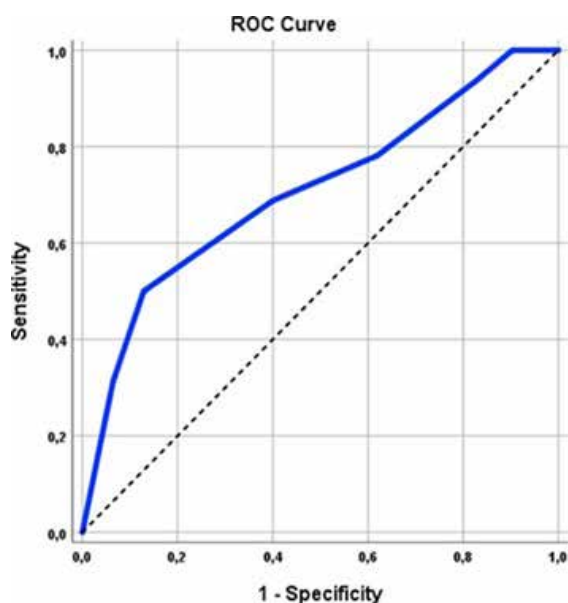
**CONCLUSIONS:** This study provides data supporting the safe use of oral isotretinoin treatment and offers recommendations for monitoring biochemical side effects from peipheral blood. The findings contribute to the national and international literature on this treatment and provide a foundation for future research.

**Keywords:** isotretinoin, acne vulgaris, alanine transaminases, aspartate aminotransferases

## ROC Curve for Drug Dosage Based on Aspartate Aminotransferase (AST) Levels



## ROC Curve for Drug Dosage Based on Alanine Aminotransferase (ALT) Levels





## Distribution of Descriptive Characteristics

n=60		N	%
Age (Year)	Median (Min-Max); Mean±SD	18,9 (14-32,6)	19,60±4,21
Sex	Female Male	22 38	36,7 63,3
Weight (kg)	Median (Min-Max); Mean±SD	63,5 (45-91)	64,80±11,08
Acne Severity	Medium Medium-Heavy Heavy Severe	17 26 1 16	28,3 43,3 1,7 26,7
Number of Visits	3 times 4 times 5 times 6 times 7 times 8 times 9 times 10 times 11 times 23 times	7 4 7 12 11 6 9 1 2 1	11,7 6,7 11,7 20,0 18,3 10,0 15,0 1,7 3,3 1,7
Duration between the first and last measurement (day)	Median (Min-Max); Mean±SD	273,5 (108-1035)	292,63±130,78
Duration between the first and last measurement (month)	Median (Min-Max); Mean±SD	9,1 (3,6-34,5)	9,75±4,36

The weight measurements ranged from 45 to 91 kg, with a mean of  $64.80 \pm 11.08$  kg. The acne severity levels were as follows: 28.3% (n=17) had moderate, 43.3% (n=26) had moderate-heavy, 1.7% (n=1) had severe, and 26.7% (n=16) had very severe acne. In terms of visit frequency: 11.7% (n=7) visited 3 times, 6.7% (n=4) visited 4 times, 11.7% (n=7) visited 5 times, 20.0% (n=12) visited 6 times, 18.3% (n=11) visited 7 times, 10.0% (n=6) visited 8 times, 15.0% (n=9) visited 9 times, 1.7% (n=1) visited 10 times, 3.3% (n=2) visited 11 times, and 1.7% (n=1) visited 23 times. The duration between the first and last visits ranged from 3.6 to 34.5 months, with a mean of  $9.75 \pm 4.36$  months and a median of 9.1 months.

## Distribution of the Oral Isotretinoin Dosage Amounts

n=60 n (%)		The First Measurement n (%)	The Last Measurement n (%)
Dose (Mg)	Median (Min-Max) Mean±SD	20 (8-32) 20,40±4,83	24 (5-40) 24,15±7,77
	5 dose 8 dose 10 dose 16 dose 20 dose 24 dose 30 dose 32 dose 40 dose	0 (0) 2 (3,3) 1 (1,7) 10 (16,7) 32 (53,3) 10 (16,7) 1 (1,7) 4 (6,7) 0 (0)	1 (1,7) 1 (1,7) 3 (5,0) 5 (8,3) 14 (23,3) 14 (23,3) 13 (21,7) 5 (8,3) 4 (6,7)

The initial dosage amounts for the cases ranged from 8 to 32 mg, with a mean of  $20.40 \pm 4.83$  mg and a median of 20 mg. The final dosage amounts ranged from 5 to 40 mg, with a mean of  $24.15 \pm 7.77$  mg and a median of 24 mg.



## Evaluation of Laboratory Findings

n=60		The First Measurement	The Last Measurement	Difference	p
Alanine Aminotransferase	Mean±SD Median (Min-Max)	17,16±6,83 16 (5-41)	22,82±9,31 20,5 (9-49)	5,66±9,92 5 (-26 -29)	a<0,001**
Aspartate Aminotransferase	Mean±SD Median (Min-Max)	18,43±6,11 18 (6-37)	21,94±7,40 20,3 (10-47)	3,51±9,40 3 (-24 -28,8)	a0,005**
Total Bilurubin (n=38)	Mean±SD Median (Min-Max)	10,81±4,43 10 (1,4-22,7)	12,18±7,06 10,6 (3,1-43,5)	1,38±5,71 0,9 (-7,3 - 28,5)	b0,194
Alkaline Phosphatase	Mean±SD Median (Min-Max)	137,94±111,59 79,5 (57-376,4)	136,40±106,28 83 (52-360,7)	-1,54 ±11,70 0,5 (-18 -18)	b0,838

(n=10) aPaired Samples t Test, bWilcoxon Signed Ranks Test, \*\*p<0,01 In the initial assessment, the average ALT levels were 17.16±6.83, while in the final assessment, the average levels were 22.82±9.31. The average increase in ALT levels from the initial to the final measurement was 5.66±9.92, which was statistically significant (p<0.001). In the initial assessment, the average AST levels were 18.43±6.11, while in the final assessment, the average levels were 21.94±7.40. The average increase in AST levels from the initial to the final measurement was 3.51±9.40, which was statistically significant (p=0.005; p<0.01).

## Evaluation of Drug Dosage Based on Alanine Aminotransferase (ALT) and Aspartate Aminotransferase (AST) Levels

n=405		Dose (Mg)	Dose (Mg)	Dose (Mg)	
n		Median (Min-Max)	Mean±SD		
Alanine Aminotransferase (ALT)	ALT < 40 ALT ≥ 40	373 32	24 (5-40) 31 (16-40)	24,18±7,99 30,50±8,06	0,001**
Aspartate Aminotransferase (AST)	ALT < 40 ALT ≥ 40	383 22	24 (5-40) 31 (16-40)	24,34±8,05 30,64±8,10	0,001**

Independent Samples t Test \*\*p<0,01 A statistically significant difference was found in drug dosages based on Alanine Aminotransferase (ALT) levels (p=0.001; p<0.01); individuals with ALT levels of 40 and above had higher drug dosages. A statistically significant difference was found in drug dosages based on Aspartate Aminotransferase (AST) levels (p=0.001; p<0.01); individuals with AST levels of 40 and above had higher drug dosages.

## The Relationship Between Alanine Aminotransferase (ALT) and Aspartate Aminotransferase (AST) Measurements and Drug Dosage

n=405	r	p
Alanine Aminotransferase (ALT) & Dose (Mg)	0,260	<0,001**
Aspartate Aminotransferase (AST) & Dose (Mg)	0,160	0,001**

A statistically significant weak positive correlation was found between Alanine Aminotransferase (ALT) and drug dosage (r: 0.260; p<0.001), indicating that as one increases, the other also tends to increase, or vice versa. A statistically significant very weak positive correlation was found between Aspartate Aminotransferase (AST) and drug dosage (r: 0.160; p<0.001).



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Allergy and Cosmetology in Dermatology

## Diagnostic Screening Tests and ROC Curve Results for Drug Dosage Based on Alanine Aminotransferase (ALT) Levels

		Diagnostic Scan		Roc Curve				
Characteristic Alanine Aminotransferase (ALT)	Cut off	Sensitive	Spesifite	Positive Predictive Value	Negative Predictive Value	Area	95% Confidence Interval	p
Drug dosage	$\geq 30$	68,75	60,05	12,87	95,73	0,707	0,604-0,811	< 0,001**

**\*\* $p < 0,01$**  The cutoff point for drug dosage based on Alanine Aminotransferase (ALT) levels was determined to be 30 and above. For the cutoff value of 30 for drug dosage, the sensitivity was 68.75%, specificity was 60.05%, positive predictive value was 12.87%, negative predictive value was 95.73%, and accuracy was 60.74%. The area under the ROC curve was determined to be 70.7%, with a standard error of 5.3%.

## The Relationship Between Alanine Aminotransferase (ALT) and Drug Dosage (Cutoff Values)

n		Alanine Aminotransferase (ALT) < 40	Alanine Aminotransferase (ALT) < 40	Alanine Aminotransferase (ALT) $\geq 40$	Alanine Aminotransferase (ALT) $\geq 40$	
		%	n	%		p
Drug dosage	< 30	224	60,1	10	31,3	0,002**
Drug dosage	$\geq 30$	149	39,9	22	68,8	

**Pearson Chi-Square Test** **\*\* $p < 0,01$**  A statistically significant relationship was found between the drug dosage cutoff value of 30 and Alanine Aminotransferase (ALT) levels ( $p = 0.002$ ;  $p < 0.01$ ). The risk of having ALT levels of 40 or higher is 3.307 times greater in individuals with a drug dosage of 30 or more. The odds ratio for drug dosage is 3.307 (95% CI: 1.523-7.184).

## Diagnostic Screening Tests and ROC Curve Results for Drug Dosage Based on Aspartate Aminotransferase (AST) Levels

		Diagnostic Scan	Diagnostic Scan	Diagnostic Scan	Diagnostic Scan	Roc Curve	Roc Curve	
Characteristic Aspartate Aminotransferase (AST)	Cut off	Sensitive	Spesifite	Positive Predictive Value	Negative Predictive Value	Area	95% Confidence Interval	p
Drug dosage	$\geq 30$	68,18	59,27	8,77	97,01	0,710	0,586-0,834	0,001**

For the 30mg cutoff value for drug dosage, the sensitivity is 68.18%, specificity is 59.27%, positive predictive value is 8.77%, negative predictive value is 97.01%, and accuracy is 59.75%. The area under the ROC curve is 71.0%, with a standard error of 6.3%.

## The Relationship Between Aspartate Aminotransferase (AST) and Drug Dosage (Cutoff Values)

n		Aspartate Aminotransferase (AST) < 40	Aspartate Aminotransferase (AST) < 40	Aminotransferase (AST) $\geq 40$	Aminotransferase (AST) $\geq 40$	
		%	n	%		p
Drug dosage	< 30	227	59,3	7	31,8	0,011**
Drug dosage	$\geq 30$	156	40,7	15	68,2	

**Pearson Chi-Square Test** **\* $p < 0,05$**  A statistically significant relationship was found between the 30 mg cutoff value for drug dosage and Aspartate Aminotransferase (AST) levels ( $p = 0.011$ ;  $p < 0.05$ ). The risk of having AST levels of 40 or higher is 3.118 times greater in individuals with a drug dosage of 30 mg or more. The odds ratio for drug dosage is 3.118 (95% CI: 1.243-7.824).





## OP-24 [Autoimmune Bullous Diseases]

### Retrospective Analysis of Patients with Pemphigus: Clinical and Social Characteristics, Factors of Disability, and Disease Onset Patterns

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Tashkent

**Introduction & OBJECTIVES:** Pemphigus is a rare autoimmune disease with a chronic relapsing course that significantly impacts patients' quality of life. Studying its clinical manifestations, factors of disability, and social aspects can help optimize treatment approaches and patient rehabilitation. To analyze the clinical and socio-demographic characteristics, recurrence frequency, and factors of disability in patients with pemphigus treated at the Republican Scientific and Practical Center of Dermatology and Cosmetology in the Republic of Uzbekistan between 2019 and 2024.

**MATERIALS-METHODS:** Medical records of 444 patients (212 men and 232 women) diagnosed with pemphigus, aged 23 to 75 years, were analyzed.

**RESULTS:** Gender and Age Characteristics: The average age of disease onset was 48 years for men and 43 years for women. Clinical Course and Onset Patterns: Among the 444 patients, the initial symptoms were observed on the oral mucosa in 39 men (18.4%), while in 105 women (45.3%), the disease started with a skin lesion on the trunk. Disability: A total of 79 patients (17.8%) had a second-degree disability due to the severe chronic relapsing course, extensive skin and mucosal lesions, and insufficient effectiveness of standard therapy. Frequency of Rehospitalizations: Nineteen patients (4.3%) underwent 5 to 8 recurrent courses of inpatient treatment due to relapses and resistance to basic therapy. Social Aspects: A total of 266 patients (60%) were unemployed due to reduced work capacity, stigmatization, and the need for prolonged or recurrent treatment.

**CONCLUSION:** The study highlights significant variability in the clinical onset of pemphigus across genders, a high frequency of relapses, and a considerable

level of disability. Particular attention should be given to timely diagnosis of mucosal involvement, as well as tailored therapeutic and rehabilitation approaches. Addressing social issues and employment challenges remains critical to improving treatment outcomes and enhancing the quality of life for patients with pemphigus.

**Keywords:** pemphigus, retrospective analysis, relapses, disability, clinical features



## OP-25 [Genetics]

### Single-cell spatiotemporal atlas of human skin and appendages

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**INTRODUCTION:** The skin, the largest organ of the human body and a crucial immune organ, along with its appendages—eccrine sweat glands, apocrine sweat glands, sebaceous glands, and hair follicles—plays a significant role in maintaining the local microenvironment and ecological immune homeostasis. Research has shown that skin and appendages are significant for the morphological maintenance of each other[1]. Moreover, the interaction between eccrine sweat glands and hair follicles is involved in wound healing and promotes epidermal regeneration[2]. Therefore, it is particularly urgent to construct a comprehensive and systematic reference atlas of skin and appendages, identifying and describing all cell types and their states present in the skin and appendages. We collected samples from the axillary region, known for its abundant skin appendages, and performed single-nucleus and spatiotemporal transcriptomic sequencing.

**METHODS:** We collected axillary skin tissue samples from six patients with bromhidrosis at the First Affiliated Hospital of Baotou Medical College, Inner Mongolia University of Science and Technology. Using single-nucleus RNA sequencing (snRNA-seq) and spatial transcriptomics sequencing (stereo-seq) technologies, we performed transcriptomic analysis of

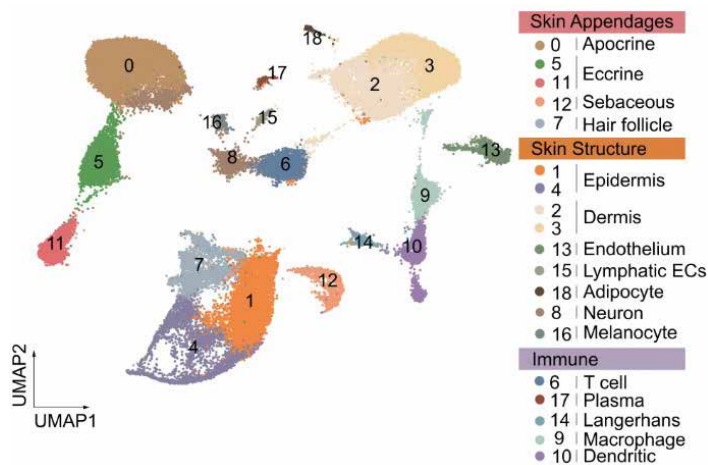
the tissue samples at single-nucleus resolution and in spatial dimensions.

**RESULTS:** We constructed a single-cell spatiotemporal atlas of human skin and appendages. snRNA-seq identified 48,481 high-quality nuclei representing 16 major cell types, including skin appendages, cutaneous tissues, vascular endothelium and lymphatic and immune cells. Spatial mapping revealed distinct distributions of these cell types within the skin tissue. Subclustering of eccrine glands revealed two subtypes—clear and dark cells—with distinct gene expression profiles. We first identified that clear cells highly express two chemokines, CCL28 and CX3CL1. Analysis revealed an extensive communication network between the various appendages of the skin and different cell types. Apocrine glands interacted with eccrine glands through androgen signaling network (SRD5A1-AR), suggesting regulatory roles in sweat secretion and gland development. Further investigation revealed significant intercellular interactions among apocrine sweat glands, sebaceous glands, and hair follicles, primarily mediated through the binding of COL1A2 ligands to SDC1 receptors. Additionally, apocrine glands communicated with endothelial and dendritic cells via CXCL13-ACKR1, highlighting their involvement in immune regulation.

**CONCLUSIONS:** This study provides a comprehensive single-cell spatiotemporal atlas of human skin and its appendages, elucidating the structure of skin homeostasis and microecology, along with the interactions between tissue organization and cells. These insights may guide future research on the physiological and pathological aspects of skin appendages, disease pathogenesis, and therapeutic mechanisms.

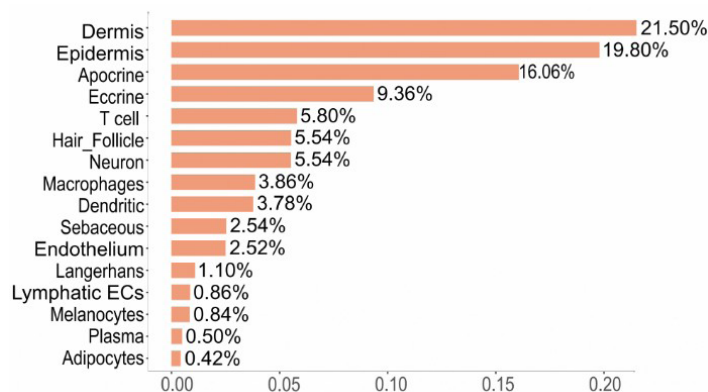
**Keywords:** Skin appendages, Sweat gland, Single-nucleus RNA sequencing, Spatiotemporal atlas, Cell type

**Figure1**



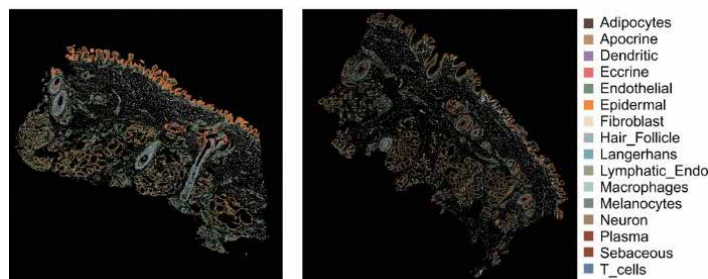
UMAP of the snRNA-seq transcriptome profile of the skin and its appendages.

**Figure2**



The cell proportion of each cell type from six sample.

**Figure3**



Robust cell type decomposition (RCTD) annotation in Spatial transcriptome

## OP-26 [Wounds, Chronic Wounds, Wound Healing, Ulcer]

### A case of pyoderma gangrenosum associated with monoclonal gammopathy and antiphospholipid syndrome

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**Introduction & OBJECTIVES:** Pyoderma gangrenosum (PG) is a rare neutrophilic dermatosis marked by rapidly progressing, painful skin ulcers. It typically presents as an inflamed papule or pustule that evolves into a painful ulcer with violaceous, undermined edges and a purulent base. It is commonly associated with inflammatory bowel disease (IBD), hematological disorders, and autoimmune diseases. Antiphospholipid syndrome (APS) is an autoimmune condition characterized by thromboses, pregnancy complications, and presence antiphospholipid antibodies, resulting in a hypercoagulable state. The association between PG and APS is rare and remains poorly understood. This case report describes a patient diagnosed with PG who subsequently developed monoclonal gammopathy of undetermined significance (MGUS) and APS seven years after the initial PG diagnosis. It underscores the importance of long-term monitoring for hematological malignancies and autoimmune conditions, including APS, in patients with PG.

**Materials & METHODS:** A 65-year-old male with recurrent skin ulcers presented with a history of multiple hospitalizations since 2017. PG was confirmed through biopsy, but further investigations were inconclusive. Treatment included oral methylprednisolone, cyclosporine, and adalimumab, which provided partial improvement. On examination, three ulcers were identified: 10x7 cm on the right lumbar region, 6x4 cm left scapula, and 5x4 cm anterior trunk. These ulcers exhibited violaceous, undermined edges, purulent bases, and well-defined borders. Additionally, multiple hypopigmented atrophic scars were observed on the trunk and upper extremities. A punch biopsy showed neutrophilic abscesses, orthokeratosis, acanthosis.

**RESULTS:** Laboratory tests, including CBC and biochemistry, were normal. Colonoscopy revealed diverticula, polyps, and hemorrhoids. After 15 months



of adalimumab therapy, treatment was stopped due to no active lesions. CBC showed thrombocytopenia (platelet count: 35,000/ $\mu$ L), and immunofixation electrophoresis detected an IgA monoclonal band. In May 2024, a hematology consult and bone marrow biopsy confirmed MGUS and immune thrombocytopenia (ITP). The patient started oral methylprednisolone for ITP, with no skin lesion recurrence. After stopping methylprednisolone, new skin lesions appeared, and IVIG was given. Worsening thrombocytopenia led to further tests, revealing positive lupus anticoagulant and anti-beta-2 glycoprotein 1 IgM, confirming APS.

**CONCLUSIONS:** PG is associated with underlying conditions in 50–75% of cases, most commonly IBD, arthritis, and hematological disorders. The association between PG and APS is rare, with only a few cases reported. PG can develop before or after the onset of associated conditions and may parallel their clinical course. Therefore, regular follow-up and comprehensive screening for malignancies and autoimmune diseases are essential in PG patients, even in the absence of comorbidities at the time of diagnosis.

**Keywords:** pyoderma gangrenosum, monoclonal gammopathy, antiphospholipid syndrome, ulcer

1



*Three ulcers with brownish-livid borders, undermined and irregular yet well-defined edges, purulent bases, and central areas exhibiting hemorrhagic crusts and hypertrophic granulation tissue were observed in the right lumbar region, left scapula, and anterior trunk.*

2



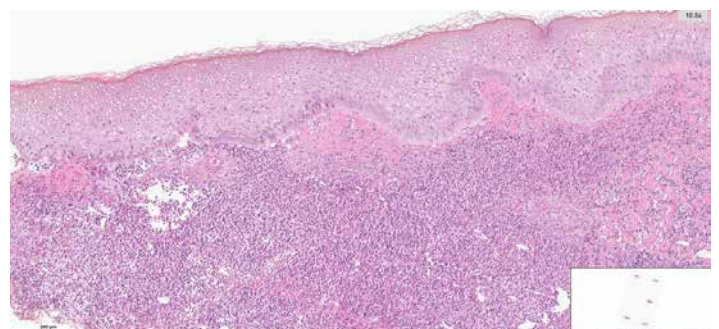
*Three ulcers with brownish-livid borders, undermined and irregular yet well-defined edges, purulent bases, and central areas exhibiting hemorrhagic crusts and hypertrophic granulation tissue were observed in the right lumbar region, left scapula, and anterior trunk.*

3



*Depressed plaque lesions on the right elbow, consistent with hypopigmented atrophic scar tissue*

4



*Punch biopsy showed orthokeratosis, epidermal acanthosis, fragmented hair follicles, keratin debris, and neutrophilic abscess formation in the dermis.*





## OP-27 [Systemic Treatment]

### “A Retrospective Evaluation of Side Effects, Treatment Adherence, and Lack of Efficacy in the Use of Colchicine for Recurrent Aphthous Stomatitis”

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**INTRODUCTION:** Recurrent aphthous stomatitis (RAS) is a common oral mucosal condition of unknown etiology characterized by recurrent, painful ulcers that heal within 7–14 days. The frequency of lesions varies widely among patients, and RAS is prevalent worldwide—particularly in the Middle East, Mediterranean, and South Asia—with about one in five North Americans affected. Colchicine is used as an alternative to systemic corticosteroids for patients with recurrent aphthae, starting at 0.6 mg daily and titrated as tolerated, although higher doses are often limited by gastrointestinal side effects.

**METHODS:** In this retrospective study, 84 patients diagnosed with recurrent oral aphthae and treated with colchicine at Bilkent City Hospital between January 2022 and January 2024 were evaluated. Data collected included demographics (age, gender), comorbidities, concomitant medications, and smoking history (pack/year). Laboratory parameters at the 3-month follow-up (ALT, AST, WBC, neutrophils, lymphocytes, platelets, and neutrophil-to-lymphocyte ratio [NLR]) were recorded. Clinical variables such as the frequency of new aphthae outbreaks, presence of genital aphthae, family history (first- or second-degree relatives), treatment response (complete, partial, none), and reasons for discontinuation (side effects or ineffectiveness) were also documented. Statistical analysis was performed using IBM SPSS Statistics 29.0.2.0.

**RESULTS:** The mean age of the cohort was 37.76 years (range 18–65) with 35 males (41.7%) and 49 females (58.3%). Fifteen patients (17.85%) were smokers, with an average smoking history of 1.71 pack/year (range 0–20). The average number of aphthae per month was 3.15 (range 1–10). At 3 months, mean ALT was 24.25 U/L (range 8–176) and AST was 20.71 U/L (range 4–150). Mean WBC was 3.44 (range 1.1–6.5), neutrophils 3.44 (range 1.1–6.5), lymphocytes 2.26

(range 1–3.6), and platelets 274.12 (range 100–400). A family history of RAS was absent in 71 patients (84.5%), present in 8 (9.5%) as first-degree and in 5 (6%) as second-degree relatives. Increased smoking was associated with fewer aphthae, though no relationship was found with treatment response ( $p=0.335$ ), and there was no gender difference in aphthae frequency ( $p=0.644$ ). Treatment discontinuation occurred in 7 patients (8.3%) due to side effects and in 15 (17.9%) due to ineffectiveness. The pre-treatment NLR was 1.866 (SD 1.17) and decreased significantly to 1.67 (SD 1.01) post-treatment ( $p=0.000$ ). Among 63 evaluable patients, 75% achieved a complete response; 2 patients discontinued treatment because of elevated liver enzymes.

**CONCLUSION:** Colchicine significantly reduced NLR and demonstrated a high complete response rate in RAS patients, with a favorable safety profile. Although discontinuation due to ineffectiveness was noted in some cases, this may be related to adherence issues, warranting further research and improved patient education regarding treatment expectations.

**Keywords:** Recurrent aphthous stomatitis, colchicine, aphthae

### Laboratory Findings Following Treatment

	Mean	Standart Deviation	Min	Max
ALT	24,25	20,0	8	176
AST	20,71	17,05	4	150
WBC	6,38	1,981	2,8	12
Neutrophile	3,44	1,68	1,1	6,5
Lymphocyte	2,26	0,73	1	3,6
NLR	1,67	0,11	0,43	5,64
PLT	274,12	93,93	100	400

*NLR: Neutrophile Lymphocyte Ratio*

### Demographic and Clinical Data

	Mean	Standard Deviation	Min	Max
Age	37,76	10,6	18	65
Smoking	1,71	4,15	0	20
Aphthae per Month	3,15	2,5	1	10



## OP-28 [Dermatology and Internal Medicine, including Skin Manifestations of Systemic Diseases]

### Seronegative Sneddon Syndrome: Case Presentation

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**INTRODUCTION-OBJECTIVES:** Sneddon syndrome (SS) is a rare, non-inflammatory thrombotic vasculopathy characterized by cerebrovascular disease and livedo racemosa (LR). The presence of antiphospholipid antibodies in SS patients varies widely (0–41%), and some researchers suggest screening for anticardiolipin antibodies to identify an antiphospholipid syndrome (APS) subset. We present a case of seronegative SS with recurrent cerebrovascular events, history of miscarriages, negative autoantibodies, and LR, aiming to discuss differential diagnoses and clinical features aiding diagnosis.

**MATERIALS & METHODS:** A 58-year-old female presented with non-blanching, reticular, blue-red macules on the upper extremities and back. (Figures 1,2) She had a history of cerebrovascular stroke and six recurrent miscarriages before 10 weeks of gestation. She was under follow-up for hypertension and immune thrombocytopenia (ITP). Laboratory tests revealed low hemoglobin (11.1 g/dL) and an elevated erythrocyte sedimentation rate (24 mm/h), while coagulation parameters, autoantibodies, platelet counts, complement levels were normal. Brain MRI showed ischemic gliotic changes and hyperintense foci in the periventricular white matter. (Figure-3) A skin biopsy from the wrist demonstrated vascular thrombosis and inflammation, while direct immunofluorescence was negative. (Figure-4) The patient was diagnosed with seronegative SS and initiated oral antiplatelet therapy.

**DISCUSSION:** SS primarily affects women aged 20–40 years, presenting with recurrent ischemic strokes, cognitive impairment, hypertension, and cardiac or renal involvement. LR, a distinguishing cutaneous feature,

differs from livedo reticularis as it persists and exhibits a broken, branching pattern due to permanent arteriolar occlusion. Francès et al. categorized SS is classified into three subtypes: seronegative, APS-associated, and systemic lupus erythematosus (SLE)-associated. While 80% of SS patients exhibit antiphospholipid antibodies, thrombosis and pregnancy loss can occur in seronegative cases. Seronegative SS is associated with more extensive LR, whereas APS-associated SS more frequently presents with mitral regurgitation and thrombocytopenia. Genetic studies have implicated ADA-2 mutations in 13% of idiopathic SS cases. In acute ischemic stroke, thrombolytic therapy is considered safe, while antiplatelet and anticoagulant therapy reduces thrombotic events. Smoking cessation and avoiding estrogen-containing contraceptives may reduce disease severity.

**CONCLUSION:** SS is a rare neurocutaneous vasculopathy with significant morbidity. Recurrent neurovascular events and LR are hallmark features. While the exact etiology remains unclear, autoimmune and genetic factors are suspected. Comprehensive diagnostic workup, including APS and SLE screening, is essential, especially in seronegative cases. A multidisciplinary approach, incorporating medical therapy and lifestyle modifications, is crucial for improving patient outcomes.

**Keywords:** Sneddon Syndrome, Livedo Racemosa, Antiphospholipid Antibodies, Ischemic Stroke



Allergy and Cosmetology in Dermatology

# 10<sup>TH</sup> INDERCOS

International Dermatology and Cosmetology Congress  
17 - 20 April 2025 | Radisson Blu Şişli Hotel-İstanbul, Türkiye

**Figure 1**



*Red-purple lesions with a scattered, reticular arrangement starting from the dorsal surface of both hands and extending to the middle of the forearm. The lesions show broken, mesh-like structures with no merging edges.*

**Figure 2**



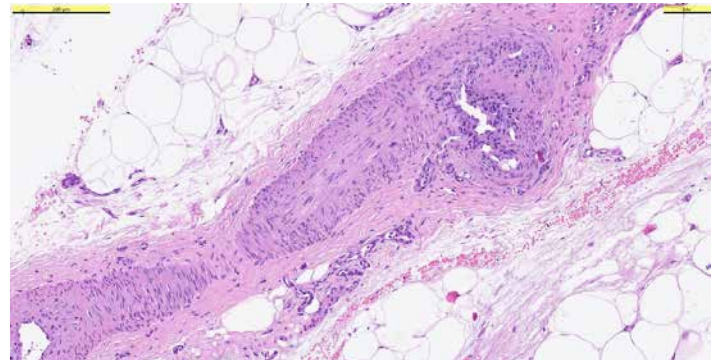
*Reticular lesions with scattered broken mesh-like structures and non-joining edges symmetrically distributed along the laterals of the midline of the back.*

**Figure 3**



*Axial T2 imaging in FLAIR sequence shows ischemic, gliotic changes and hyperintense signal foci in the supratentorial periventricular white matter.*

**Figure 4**



*Irregular subendothelial hypertrophy, focal areas of recanalization, and focal arterial thrombosis are observed (H&E, 24x magnification).*





## OP-29 [Genetics]

### Comparative Effectiveness of using Advanced therapeutical Medicinal Products (ATMPs) in Epidermolysis Bullosa (EB): Network Meta-Analysis

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**Introduction & OBJECTIVES:** Epidermolysis bullosa (EB) is a rare, inherited group of disorders characterized by fragile skin and mucosal blistering. Advanced therapy medicinal products (ATMPs), including cell and gene therapies, offer new potential treatment avenues. A network meta-analysis was conducted to evaluate the efficacy of various treatments.

**Materials & METHODS:** Treatments included in this analysis were Allogeneic Fibroblasts, Beremagene Geperpavec (B-VEC), Mycophenolate Mofetil (MMF), Oleogel-S10 (Betulae Cortex), Thymosin Beta-4, Transvamic, Biocellulose Carboxymethyl Cellulose, Phenytoin, and Trimethoprim. Odds ratios (ORs) and 95% confidence intervals (CIs) were used to assess treatment effectiveness compared to placebo and, where applicable, between treatments. The statistical significance of each result was evaluated.

**RESULTS:** Allogeneic Fibroblasts, Beremagene Geperpavec (B-VEC), Mycophenolate Mofetil (MMF), Oleogel-S10 (Betulae Cortex), Thymosin Beta-4, and Transvamic showed statistically significant improvements compared to placebo (OR = 0.12, 95% CI [0.05; 0.31] for Allogeneic Fibroblasts; OR = 0.02, 95% CI [0.00; 0.40] for B-VEC; OR = 0.13, 95% CI [0.03; 0.48] for MMF; OR = 0.21, 95% CI [0.10; 0.44] for Oleogel-S10; OR = 0.09, 95% CI [0.04; 0.19] for Thymosin Beta-4, and OR = 0.12, 95% CI [0.05; 0.32] for Transvamic). In contrast, Biocellulose Carboxymethyl Cellulose (OR = 0.20, 95% CI [0.03; 1.24]), Phenytoin (OR = 0.66, 95% CI [0.22; 1.99]), and Trimethoprim (OR = 0.44, 95% CI [0.18; 1.02]) did not yield statistically significant differences compared to placebo

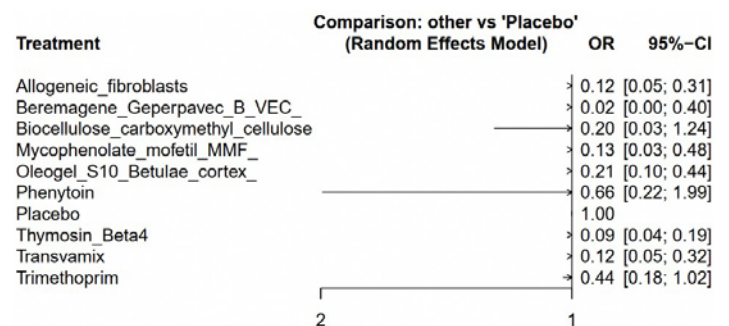
Among treatments, Beremagene Geperpavec (B-VEC) was significantly more effective than Phenytoin (OR = 0.03, 95% CI [0.00; 0.74]). Thymosin Beta-4

demonstrated superiority over both Trimethoprim (OR = 0.20, 95% CI [0.06; 0.65]) and Phenytoin (OR = 0.13, 95% CI [0.03; 0.52]). Similarly, Allogeneic Fibroblasts were significantly more effective than Trimethoprim (OR = 0.27, 95% CI [0.08; 0.99]) and Phenytoin (OR = 0.18, 95% CI [0.04; 0.78]). However, Transvamic did not show statistically significant differences compared to Mycophenolate Mofetil (MMF) (OR = 0.96, 95% CI [0.18; 4.99]), Biocellulose Carboxymethyl Cellulose (OR = 0.61, 95% CI [0.08; 4.80]), Oleogel-S10 (Betulae Cortex) (OR = 0.58, 95% CI [0.17; 1.96]), or Trimethoprim (OR = 0.28, 95% CI [0.08; 1.02])

**CONCLUSIONS:** This network meta-analysis highlights the efficacy of several ATMPs, including gene and cell therapies, in treating epidermolysis bullosa. Allogeneic Fibroblasts, Beremagene Geperpavec (B-VEC), Thymosin Beta-4, and Oleogel-S10 (Betulae Cortex) demonstrated strong performance both against placebo and in certain inter-treatment comparisons. Transvamic, while effective against placebo, showed no significant differences compared to select other treatments. These findings position ATMPs as promising therapeutic options for EB.

**Keywords:** gene therapy, epidermolysis bullosa, atmp, network meta analysis

### FOREST PLOT FOR WOUND CLOSURE RATE



*Effectiveness of ATMPs in Reducing Blister Formation • ATMPs including Allogeneic Fibroblasts, Beremagene Geperpavec (), Mycophenolate Mofetil (MMF), Oleogel-S10 (Betulae Cortex), Thymosin Beta-4, Transvamic showed significant results compared to placebo. • ----- Allogeneic Fibroblasts( OR: 0.12 ) Beremagene Geperpavec () ( OR: 0.02 ) Mycophenolate Mofetil (MMF) ( OR: 0.13 ) Oleogel-S10 (Betulae Cortex) ( OR: 0.12 ) Thymosin Beta-4( OR: 0.09 ) Transvamic ( OR: 0.12 )*



## OP-31 [Angiology, Haemangiomas, Vascular Malformations, Vasculitis]

### Myopericytoma on the foot: A rare benign perivascular tumor

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**INTRODUCTION & OBJECTIVES:** Myopericytoma is a rare, benign perivascular neoplasm originating from smooth muscle cells, first classified by the World Health Organization in 2002. It typically presents in young adult males as a slowly growing, well-circumscribed, subcutaneous nodule located most often on the distal extremities. Due to its clinical and anatomical similarities to malignant soft tissue tumors, early and accurate diagnosis is crucial. This report aims to describe a case of plantar myopericytoma and highlight its diagnostic features to facilitate proper differentiation. **MATERIALS & METHODS:** A 46-year-old male with no significant medical history presented with a 2-year history of a painful lesion on the lateral plantar surface of the right foot. Clinical examination revealed a 1.5 cm firm, hyperkeratotic, well-demarcated nodule with a pink-livid base. Dermoscopy showed a homogeneous blue-violet pigmentation on a scaly background (Figure 1). A 4 mm punch biopsy was performed with differential diagnoses including Kaposi's sarcoma, hemangioma, poroma, and Spitz nevus. Histological and immunohistochemical analyses were conducted.

**RESULTS:** Microscopic examination revealed a well-circumscribed subcutaneous lesion composed of spindle-shaped myoid cells with eosinophilic cytoplasm, forming concentric perivascular arrangements without nuclear atypia (Figure 2). Immunohistochemically, tumor cells were positive for SMA and desmin, negative for HHV-8, and demonstrated a low Ki-67 proliferation index (4%). Based on these findings, a diagnosis of myopericytoma was confirmed (Figure 3). Surgical excision was recommended. MRI typically

shows superficial, vascular lesions that are isointense on T1 and hyperintense on T2 sequences with strong post-contrast enhancement. The main pathological differential diagnoses include angioleiomyoma, myofibroma, and glomus tumor, which lack the hallmark concentric perivascular architecture of myopericytoma.

**CONCLUSION:** Myopericytoma is a distinct benign tumor that may clinically and radiologically malignant neoplasms. Accurate diagnosis relies on thorough histopathological and immunohistochemical evaluation. Complete surgical is the treatment choice, offering a curative outcome with excellent prognosis and low risk of recurrence. Multidisciplinary collaboration is crucial is distinguishing myopericytoma from aggressive soft tissue tumors.

**Keywords:** myopericytoma, plantar lesion, spindle cell, perivascular neoplasm

**Figure 1A**



*Figure 1. A) Clinical appearance of the lesion.*

**Figure 1B**



Figure 1.B) Dermoscopic appearance of the lesion.

**Figure 2A**

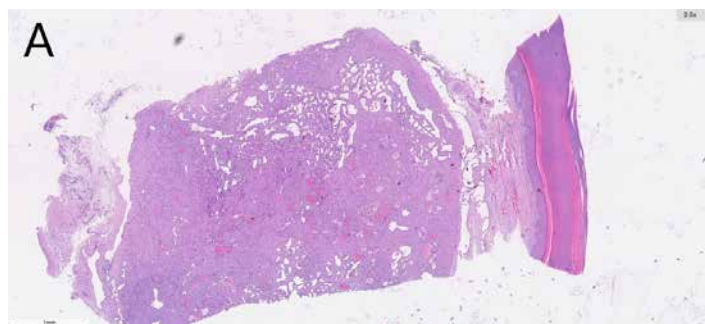


Figure 2. Hystopathology. A) Well-defined subcutaneous lesion, 2x.

**Figure 2B**

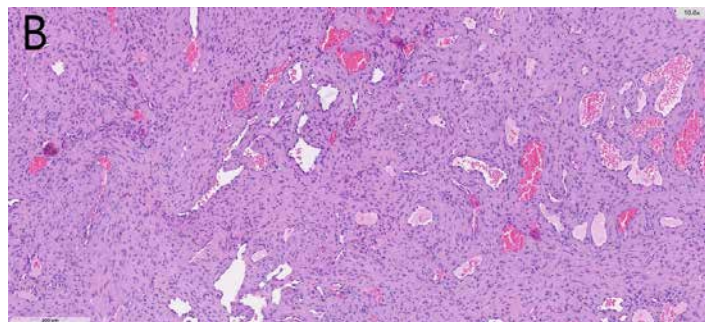


Figure 2. Hystopathology. B) Spindle-shaped myoid cells growing in a concentric pattern around numerous small blood vessels. The tumor cells have a calm appearance and do not exhibit atypia. Some vessels show a hemangiopericytoma-like appearance, 10x. H&E.

F

**Figure 3A**

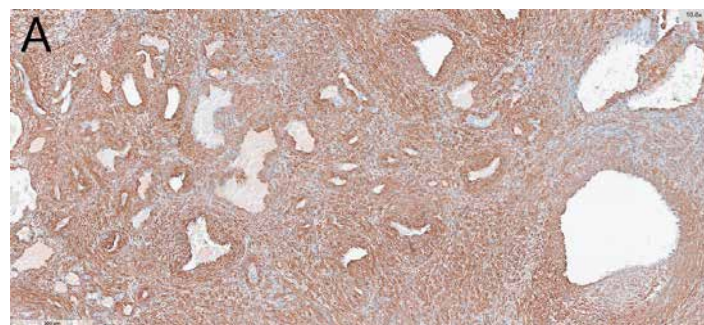


Figure 3. Immunohistochemistry. A) Tumor cells SMA +4, 10x.

**Figure 3B**

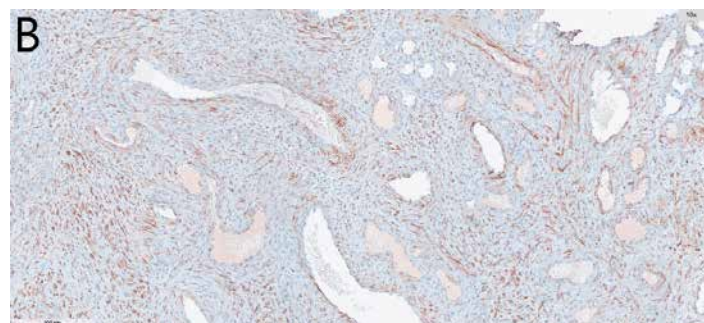


Figure 3. Immunohistochemistry. B) Tumor cells Desmin +5, 10x.

**Figure 3C**

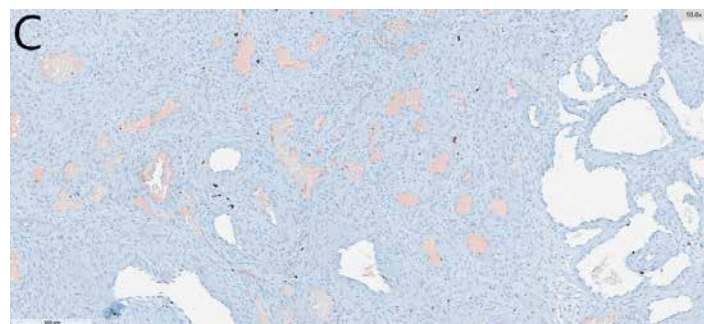


Figure 3. Immunohistochemistry. C) Ki67 proliferation index 4%, 10x



## OP-32 [Pruritus]

### A deeper look at pruritus in the post-pandemic era: what does dermoscopy tell us?

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“BACKGROUND: Changes in habits following the COVID-19 pandemic, along with a substantial part of the population having experienced COVID-19 or received vaccination, have influenced the incidence patterns of certain diseases. Our study aimed to analyze and compare the diagnostic distribution and dermoscopic images of pruritus cases during the post-COVID period.

METHODS: Dermoscopy was performed on 299 patients with pruritus, all of whom had a history of either prior COVID-19 infection or vaccination. Current diagnoses and their dermoscopic findings were documented. Age, gender, medications, and chronic illnesses were also noted. The chi-square test, Yate's continuity correction, Fisher's exact test and Fisher-Freeman-Halton test were used to compare the variables.

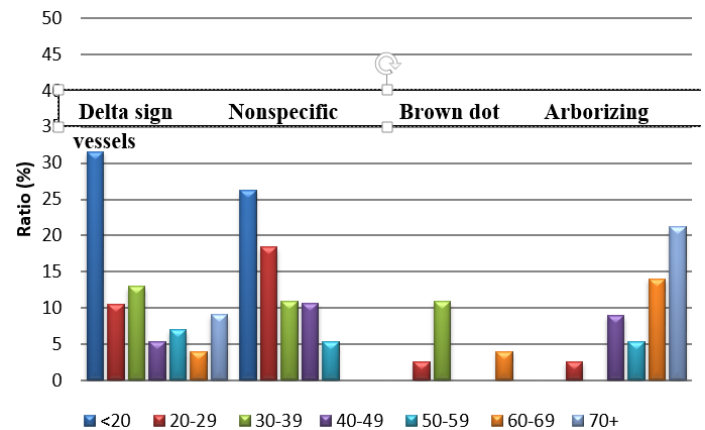
RESULTS: The most observed dermoscopic signs were irregular white scales (30.8%), red globules (20.1%), erythematous background (16.4%), delta sign (9.4%), hemorrhagic crust (8%), and arborizing vessels (7.7%). Cutaneous xerosis was observed in 35.8% of the patients (with the dermoscopy of patchy white scales 70%, erythematous background 27.1%, red globules 25.2%), scabies in 19.1% (delta sign 49.1%, hemorrhagic crusts 17.5%), prurigo nodularis 11% (peripheral streaks 42.4%, white globules 24.2%, red globules 18.2%), atopic dermatitis 11% (red globules 27.3%, patchy white scales 18.2%), lichen simplex chronicus 7.7%, (pearl white area 30.4%, hyperpigmented areas 21.7%, patchy white scales 21.7%).

CONCLUSIONS: The evolving post-pandemic lifestyle, characterized by changes in chemical usage, widespread adoption of personal protective equipment, and increased psychosocial stress, along with the immunological effects of both COVID-19

and vaccines, may have influenced the prevalence and etiopathogenesis of certain dermatological diseases, consequently affecting their dermoscopic images.”

**Keywords:** pruritus, dermoscopy, COVID-19

**Figure 1**



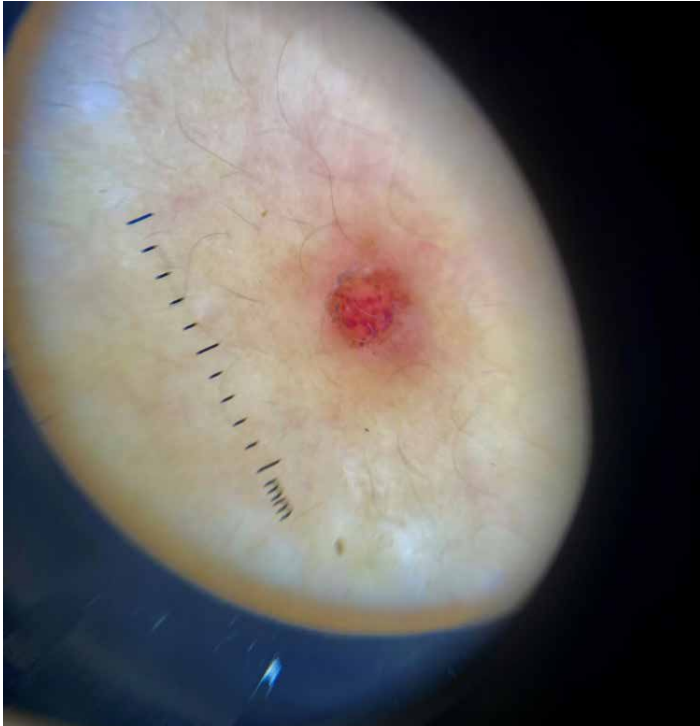
*Comparison of dermoscopic findings by age groups*

**Figure 2**



*White scales and yellow crusts (black arrows) in a patient with atopic dermatitis*

**Figure 3**



*Dermoscopic image of the forearm in a patient with atopic dermatitis showing irregular scales and punctate venous clusters (red dots) (black arrows) on a pink background, with a tissue fibre appearance on the lower part (yellow arrows) (20×).*

**Figure 4**



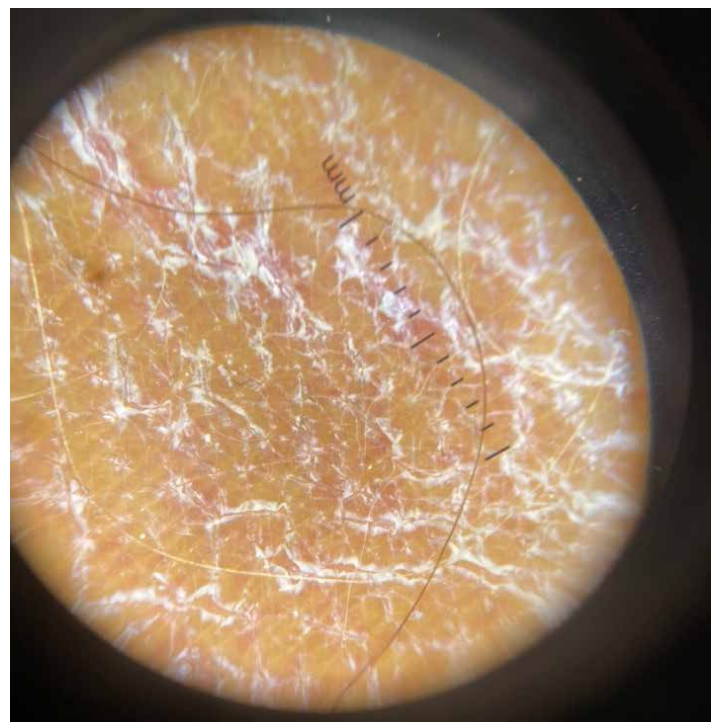
*Dermoscopic image of the anterior aspect of the trunk in a patient with prurigo nodularis shows irregular yellow-white crusts and tissue fibres (black arrow).*

**Figure 5**



*Dermoscopic image showing red blood cells in a patient with prurigo nodularis.*

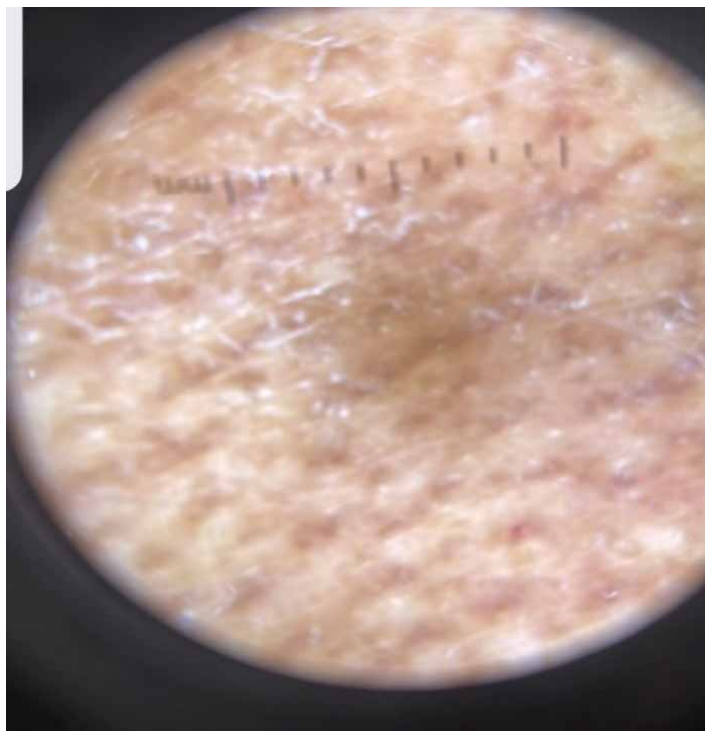
**Figure 6**



*Irregular white scales in a patient with pityriasis lichenoides chronica.*

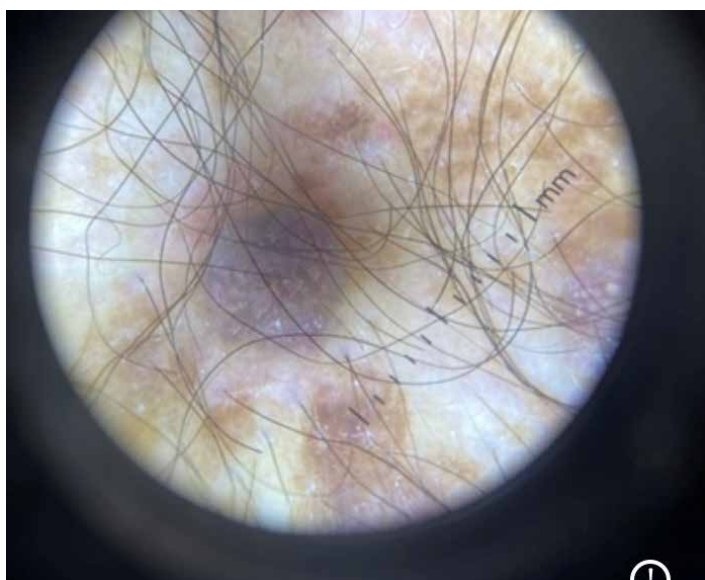


**Figure 7**



*Pigmented area in a patient with lichen simplex chronicus.*

**Figure 8**



*Brown pigment network in a patient with diabetic dermopathy.*

**Figure 9**



*Delta sign (jet and cloud) in a patient with scabies*

**Table 1**

		n	%
Age	<20	19	6,4
	20-29	38	12,7
	30-39	46	15,4
	40-49	56	18,7
	50-59	57	19,1
	60-69	50	16,7
	70 and above	33	11,0
Sex	Female	180	60,2
	Male	119	39,8

*Age and sex distribution*



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**Table 2**

	Prurigo nodularis	Scabies	Lichen Simplex	Atopic Dermatitis	Senile Pruritus	Actinic Prurigo	Hypertrophic Lichen	PLC	Pityriasis Rosea	Diabetic Dermopathy
Dermoscopic findings	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Red Globules	6 (%18)	7 (%12)	2 (%8)	9 (%27)	1 (%20)	0	0	0	0	0
Fabric Fiber	3 (%9,1)	0	0	4 (%12)	0	0	0	0	0	0
Delta Sign	0	28 (%49)	0	0	0	0	0	0	0	0
Pearl White Area	0	0	7 (%30,4)	0	2 (%40)	0	2 (%40)	0	0	0
Nonspecific	0	18 (%31,6)	1 (%4,3)	6 (%18,2)	0	0	0	0	1 (%14,3)	0
Peripheral Streaks	14 (%42,4)	0	0	0	0	0	1 (%20)	0	0	0
Structureless areas	0	0	0	4 (%12,1)	1 (%20)	0	0	0	0	0
Hyperpigmented areas	0	0	5 (%21,7)	3 (%9,1)	1 (%20)	1 (%100)	0	0	0	0
Pink-White areas	0	0	0	2 (%6,1)	0	0	0	0	0	0

*Distribution of dermoscopic signs according to diagnoses*

**Table 3**

	Female (n=180) n (%)	Male (n=119) n (%)	p
Red Globules	40 (%22,2)	20 (%16,8)	0,252(1)
Fabric fiber	3 (%1,7)	4 (%3,4)	0,442(2)
Delta sign	14 (%7,8)	14 (%11,8)	0,311(3)
Pearly white area	7 (%3,9)	4 (%3,4)	1,000(2)
Nonspecific	13 (%7,2)	13 (%10,9)	0,367(3)
Peripheral Streaks	8 (%4,4)	7 (%5,9)	0,774(3)
Structureless areas	1 (%0,6)	4 (%3,4)	0,084(2)
Hyperpigmented areas	8 (%4,4)	5 (%4,2)	1,000(3)
Pink-White areas	0 (%0)	2 (%1,7)	0,158(2)
Chi-square test (1)	Fisher's Exact Test(2)	Continuity(3) (yates)	*p<0.05

*Evaluation of Dermoscopic Findings by Sex*



## OP-33 [Acne and Related Disorders, Hidradenitis Suppurativa]

### The relationship between acne vulgaris and prostate cancer: A comprehensive survey study

Taofic Makaya Diambu<sup>1</sup>, Fadime Eda Gökalp Satıcı<sup>2</sup>, Umit Tursen<sup>1</sup>, Murat Bozlu<sup>3</sup>, Yasemin Yuyucu Karabulut<sup>2</sup>

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**BACKGROUND:** Prostate cancer and acne vulgaris are distinct conditions that share common developmental mechanisms. A potential relationship between them has been frequently cited in the literature. In light of this, our study aims to investigate the presence of acne vulgaris during adolescence in patients diagnosed with prostate cancer, along with other potentially related parameters, and to explore its correlation with clinicopathological data.

**METHODS:** A retrospective study was conducted on 432 patients presenting with symptoms of prostate cancer at Mersin University Hospital over the past five years. Mini-surveys were administered to assess the presence and severity of acne during adolescence, along with additional factors such as sleep disorder, physical activities, occupational exposures, and androgenetic alopecia. The collected data were analyzed by comparing them with various parameters including prostate cancer subtypes, perineural invasion, prostate-specific antigen levels, prognostic grades, and Gleason scores.

**RESULTS:** The analysis revealed no significant association between acne vulgaris and prostate cancer. However, several other factors exhibited statistically significant correlations with different histologic subtypes of prostate cancer. Although the relationship between acne and prostate cancer remains inconclusive, our findings highlight the need for further in-depth prospective research.

**CONCLUSION:** Despite the absence of a strong link between acne vulgaris and prostate cancer, our study identified significant correlations with other investigated

parameters. This emphasizes the importance of conducting more comprehensive prospective studies to clarify the potential relationship between acne vulgaris and prostate cancer risk.

**Keywords:** Acne vulgaris, Prostate cancer, Mini-survey, Risk factors, Prognostic factors.





## OP-34 [Miscellaneous]

### Clinical, Dermatoscopic, and Histopathologic characteristics of Tattoo-Associated Cutaneous Sarcoidosis

Irina O Smirnova, Polina D Ptashnikova  
Saint-Petersburg State University

**OBJECTIVE:** The primary objective of this study was to determine the clinical, morphological, and dermatoscopic features of cutaneous sarcoidosis occurring within tattoo.

**MATERIALS-METHODS:** A cohort of 30 patients diagnosed with cutaneous sarcoidosis was under observation. Nine patients (30%) constituted the study group, exhibiting sarcoid within the tattoos, 21 patients (70%) with cutaneous sarcoidosis unrelated to tattoo constituted the comparison group. The age and sex distribution within each group, the severity of cutaneous lesions (Cutaneous Sarcoidosis Activity and Morphology Scale, CSAMI) [Rosenbach M. et al., 2013], dermatoscopic and histologic characteristics [Loo Lim A. Y. et al., 2021] were assessed.

**RESULTS:** Women predominated in both groups - 88.9% (8/9) and 66.7% (14/21), respectively. Patients in the study group were significantly younger ( $41.6 \pm 10.2$  years versus  $55.5 \pm 16.3$  years). Sarcoidosis more frequently developed within tattoos utilizing black pigment. In only 22.2% (2/9) patients lesions arose at sites of pink pigment injection within the vermilion border of the lips. In the study group, cutaneous manifestations were exclusively papulo-nodular. One patient exhibited a combination of lesions both within and outside the tattoos. The comparison group displayed a more diverse range of skin lesions, including papules (10/21, 47.6%), plaques (7/21, 33.3%), subcutaneous nodules (2/21, 9.5%), and macules (2/21, 9.5%). The mean CSAMI score in the study group was  $9.3 \pm 6.1$  and  $16.5 \pm 9.6$ , respectively. In the study group, isolated cutaneous involvement was diagnosed in 7/9 patients (77.8%), cutaneous and pulmonary involvement in 1/9 (11.1%), and cutaneous and intrathoracic lymph node involvement in 1/9 (11.1%). Among comparison group - 15/21 (71.4%) and 6/21 (28.6%), respectively. Dermatoscopic examination of the study group patients revealed more intense orange and white structureless zones, and dots or granules of the pigment, follicular

plugs in the eyebrow region. Histopathological analysis revealed a predominance of pigment aggregates surrounded by either a foreign body granulomatous reaction (7/9, 77.8%) or a sarcoid reaction with the formation of “naked” epithelioid cell granulomas (2/9, 22.2%).

**CONCLUSIONS:** Cutaneous sarcoidosis associated with tattoos occurs more frequently in younger females undergoing eyebrow or lip tattooing. The presence of skin lesions limited to tattooed areas does not preclude the involvement of the lungs or lymph nodes. Therefore, clinico-pathological correlation is essential for accurate diagnosis.

**Keywords:** Cutaneous Sarcoidosis, Tattoo-Associated sarcoidosis, histology, dermoscopy





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## OP-35 [Dermatopathology]

### Cutaneous Lymphoma Mimicking Cutaneous Leishmaniasis: A Diagnostic Challenge

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Department of Pathology, Mersin University, Mersin, Turkey

**BACKGROUND & OBJECTIVES:** Cutaneous lymphomas are a group of lymphoproliferative disorders that can be challenging to diagnose in the early stages due to their resemblance to benign inflammatory diseases. Cutaneous leishmaniasis, an endemic parasitic disease, can further complicate the diagnosis when it coexists with lymphoma. Here, we present a case of diffuse large B-cell lymphoma (DLBCL) misdiagnosed as cutaneous leishmaniasis, emphasizing the need for careful histopathological and immunohistochemical evaluation.

**METHODS:** A 41-year-old male presented with a persistent scalp lesion for one year. Initially diagnosed with cutaneous leishmaniasis at another institution due to the presence of *Leishmania amastigotes* in his blood, he was treated with intralesional meglumine antimoniate three times without improvement. A biopsy sample from the lesion was sent to our pathology department for further evaluation. Histopathological examination revealed diffuse infiltration of atypical lymphoid cells throughout the dermis. Immunohistochemistry showed CD20, PAX5 and Bcl-6 positivity, CD10 and MUM1 negativity, leading to a diagnosis of diffuse large B-cell lymphoma, germinal center like. Evaluation was recommended to exclude systemic lymphoma.

**RESULTS:** A review of the literature identified 14 reported cases where lymphoma and leishmaniasis coexisted, with eight initially misdiagnosed as leishmaniasis and two as lymphoma. This highlights the diagnostic challenge posed by these conditions.

**CONCLUSION:** The overlap between cutaneous lymphoma and leishmaniasis necessitates a high index of suspicion, particularly in endemic regions. Immunohistochemical analysis and detailed histopathological examination are essential for accurate diagnosis. This case underscores the importance of considering lymphoma in non-healing lesions presumed to be cutaneous leishmaniasis, ensuring appropriate and timely management.

**Keywords:** Lymphoma, Leishmaniasis, B-cell lymphoma

## OP-36 [Cutaneous Oncology]

### Retrospective Evaluation of the Clinical, Histopathological Characteristics and Survival Outcomes of Cutaneous Metastases in a Tertiary Care Hospital

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<sup>1</sup>Department of Dermatology, Trakya University, Edirne, Türkiye

<sup>2</sup>Department of Pathology, Trakya University, Edirne, Türkiye

**INTRODUCTION&OBJECTIVES:** Cutaneous metastasis (CM) occurs through direct, hematogenous, lymphatic spread, or iatrogenic implantation of primary tumour (PT) cells into the skin. CM, which accounts for 2% of all skin cancers, is reported in 0.6% to 10.4% of cancer patients. Although CM generally indicates advanced-stage cancer, early diagnosis is imperative given that it can represent the initial indication of cancer in 0.8% to 24% of cases. This study aimed to evaluate the demographic, clinical, histopathological characteristics, and survival outcomes of patients with CM at our tertiary care hospital.

**MATERIALS&METHODS:** All histopathologically confirmed CM cases diagnosed in our clinic between January 2009 and March 2025 were included in our single-centre retrospective observational study.

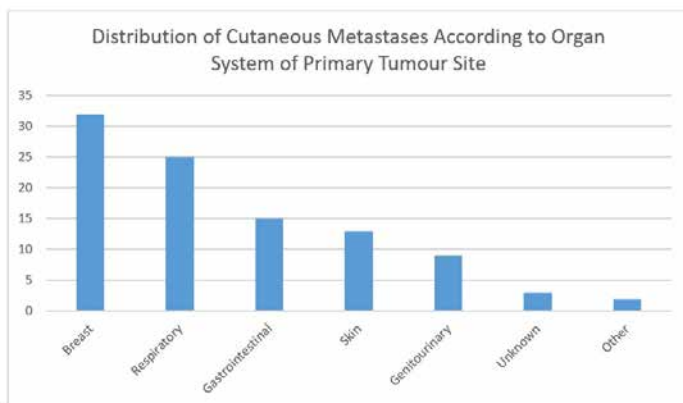
**RESULTS:** A total of 99 patients with CM were included, 47.47% (N=47) of whom were men. The mean age at diagnosis was 61.43 years (range: 35–97). The most common PT sites were breast (32.32%; N=32) and lung (24.24%; N=24). All patients had advanced-stage cancer. CM commonly affected the chest (31.37%, N=32) and the back/buttocks (13.72%, N=14). CM presented as nodules (47.47%; N=47), tumours (32.32%; N=32), plaques (13.13%; N=13), ulcerations (2.02%, N=2), erysipelioid (1.01%, N=1) and disfigurement (1.01%, N=1). Histologically, ductal carcinoma was the most common (31.31%, N=31), followed by adenocarcinoma (28.28%, N=28). Positron emission tomography/computed tomography (PET/CT) detected skin involvement in 19 patients (19.19%) before CM diagnosis. CM was the first sign of cancer in 7.07% (N=7) of patients. The occurrence of CM was categorized as early (7.07%, N=7), synchronous

(14.14%, N=14), and metachronous (74.74%, N=74). The mean interval between PT and CM diagnosis was 37 (0-300) months. The mean follow-up time until death (77.77%; N=77) was 16.51 (0-156) months and the mean follow-up time for surviving patients (22.22%; N=22) was 41.04 (2-180) months. The treatments included chemotherapy (48.48%; N=48), combination chemotherapy and radiotherapy (15.15%; N=15), and radiotherapy (9.9%; N=9).

**CONCLUSION:** CMs are rare and may be the first indication of malignancy or recurrence. In our study, the most common PTs were breast and lung cancer. PET/CT detected skin involvement in only 19 of 99 patients before CM diagnosis, suggesting that its utility in identifying CM is limited. In the literature, the mean follow-up time until death ranges from 5 to 9.4 months, whereas for surviving patients, this period is reported to be between 18.4 and 20 months. In our study, these values were determined as 16.51 months and 41.04 months, respectively. These differences may be attributed to racial and ethnic factors, as well as the accessibility of oncological treatments. Despite this results, CM continues to be indicative of a poor prognosis. Therefore, clinicians should emphasize the early diagnosis of suspicious skin lesions to improve survival outcomes.

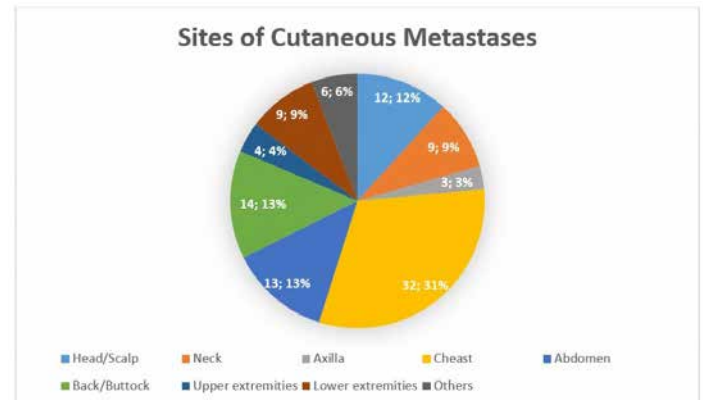
**Keywords:** cutaneous metastasis, internal tumours, prognosis

**Figure 1**



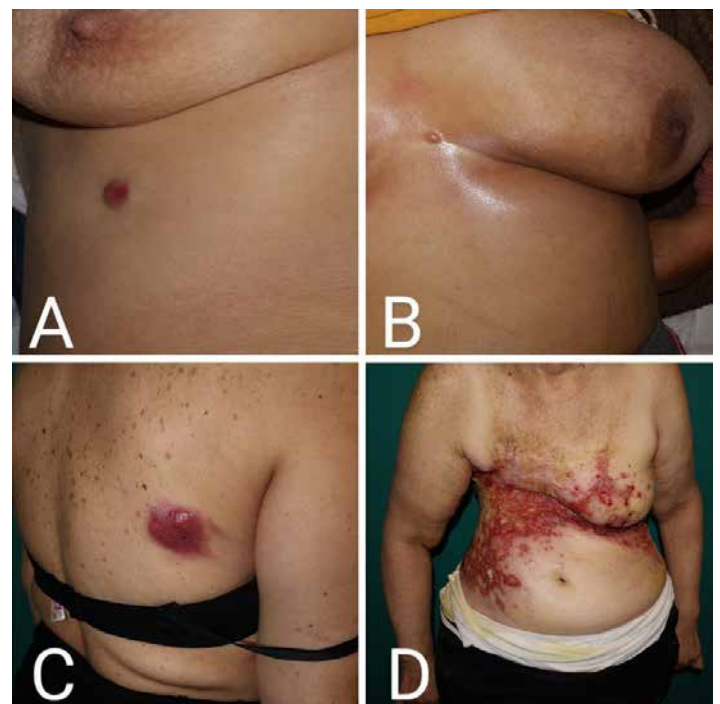
*Distribution of cutaneous metastases according to organ system of the primary tumour site*

**Figure 2**



*Sites of cutaneous metastases*

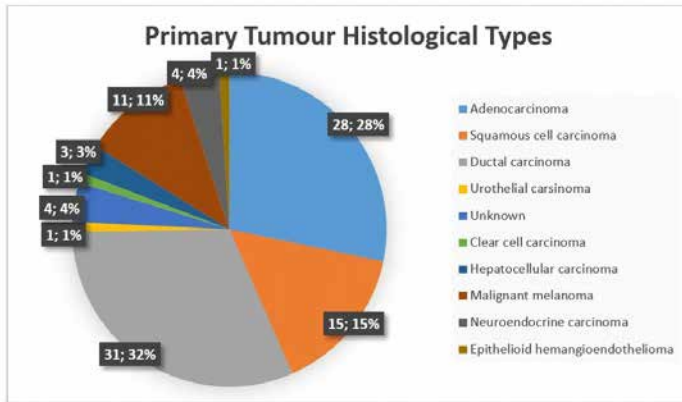
**Figure 3**



*Various presentations of cutaneous metastases of breast carcinoma. A. Erythematous nodule in the abdomen. B. Nodule in the intermammary area. C. Erythematous plaque on the back. D. Ulcerations in the chest and abdomen.*

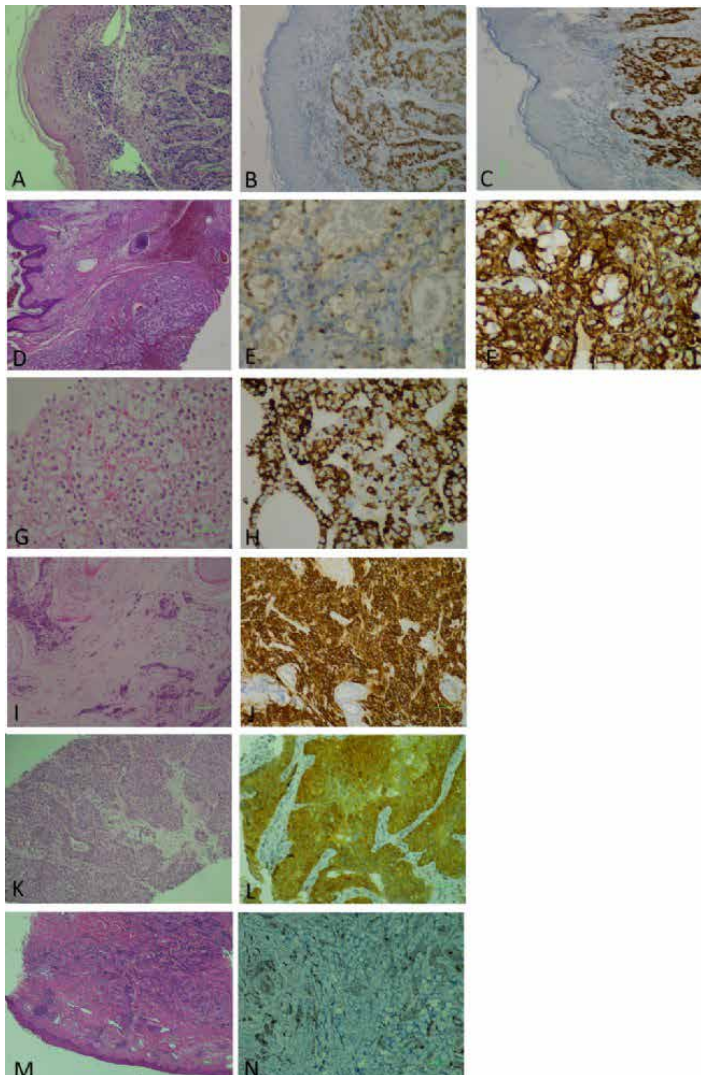


**Figure 4**



Primary tumour histological types

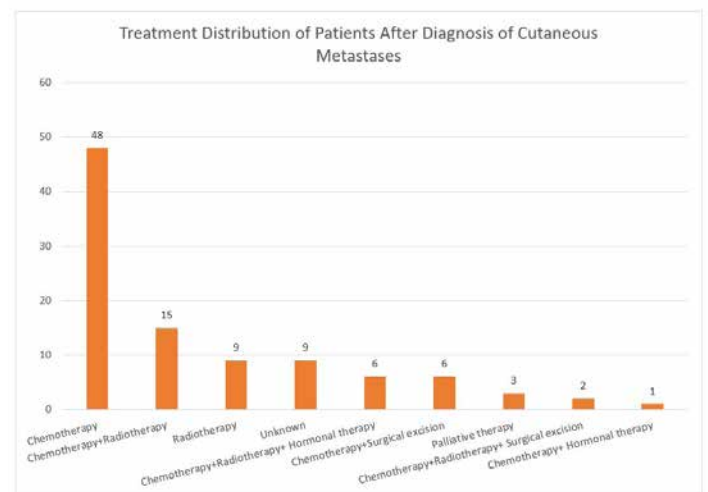
**Figure 5**



Microscopic pictures of six cutaneous metastases. A-C: Cutaneous metastasis of a colonic adenocarcinoma (A: Haematoxylin-eosin stain, 4× magnification; B:

SATB2 (special AT-rich sequence-binding protein 2/ SATB homeobox 2) stain, 4× magnification C: CDX2 (homeobox protein CDX2) stain, 4× magnification). D-F: Cutaneous metastasis of a renal cell carcinoma (D: Haematoxylin-eosin stain, 2× magnification; E: PAX8 (paired box 8) stain, 20× magnification; F: Vimentin stain, 20× magnification). G and H: Cutaneous metastasis of a hepatocellular carcinoma (G: Haematoxylin-eosin stain, 20× magnification; H: HepPar1 (hepatocyte paraffin 1) stain, 20× magnification). I and J: Cutaneous metastasis of a small cell lung carcinoma (I: Haematoxylin-eosin stain, 4× magnification; J: CD56 (cluster of differentiation 56) stain, 10× magnification). K and L: Cutaneous metastasis of a cervical squamous cell carcinoma (K: Haematoxylin-eosin stain, 4× magnification; L: p16 stain, 10× magnification). M and N: Cutaneous metastasis of a breast invasive ductal carcinoma (M: Haematoxylin-eosin stain, 10× magnification; N: Mammaglobin stain, 10× magnification).

**Figure 6**



Treatment distribution of patients after diagnosis of cutaneous metastases



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Table 1

Sex, n (%)			
Male	47 (47.47)	47	47.47
Female	52 (52.52)	52	52.52
<b>Age, mean <math>\pm</math> SD</b>	<b>61.43<math>\pm</math>13</b>	<b>61.43</b>	<b>13</b>
<b>Site of Cutaneous Metastasis, n (%)</b>			
Head/Scalp	12 (11.76)	12	11.76
Neck	9 (8.82)	9	8.82
Axilla	3 (2.94)	3	2.94
Chest	32 (31.37)	32	31.37
Abdomen	13 (12.74)	13	12.74
Back/Buttock	14 (13.72)	14	13.72
Upper extremities	4 (3.92)	4	3.92
Lower extremities	9 (8.82)	9	8.82
Others	6 (5.88)	6	5.88
<b>Morphology of Cutaneous Metastasis, n (%)</b>			
Nodule	47 (47.47)	47	47.47
Tumour	32 (32.32)	32	32.32
Plaque	13 (13.13)	13	13.13
Ulceration	2 (2.02)	2	2.02
Erysipelioid	1 (1.01)	1	1.01
Disfigurement	1 (1.01)	1	1.01
Unknown	1 (1.01)	1	1.01
<b>Stage of the Patient's Primary Tumour, n (%)</b>			
Advanced stage	99 (100)	99	100
<b>Occurrence of Cutaneous Metastasis, n (%)</b>			
Early	7 (7.07)	7	7.07
Synchronous	14 (14.14)	14	14.14
Metachronic	74 (74.74)	74	74.74
<b>PET/CT Involvement Before Diagnosis of Cutaneous Metastasis, n (%)</b>			
Presence	19 (19.19)	19	19.19
Absence	80 (80.80)	80	80.80
<b>Cutaneous Metastasis Spread with Primary Tumour, n (%)</b>			
Compatible	89 (89.89)	89	89.89
Incompatible	7 (7.07)	7	7.07
Unknown	2 (2.02)	2	2.02
<b>Cutaneous Metastasis as First Sign, n (%)</b>	<b>7 (7.07)</b>	<b>7</b>	<b>7.07</b>
<b>Interval Between Primary Tumour Diagnosis and Cutaneous Metastasis (Months), mean <math>\pm</math> SD</b>	<b>37<math>\pm</math>51.06</b>	<b>37</b>	<b>51.06</b>
<b>Follow-up Time Until Death (Months), mean <math>\pm</math> SD</b>	<b>16.51<math>\pm</math>24.76</b>	<b>16.51</b>	<b>24.76</b>
<b>Follow-up Time for Surviving Patients (Months), mean <math>\pm</math> SD</b>	<b>41.04<math>\pm</math>50.95</b>	<b>41.04</b>	<b>50.95</b>

*Demographic and clinical characteristics of patients with cutaneous metastases*

Table 2

Origin	Histopathology	Immunohistochemical Positive	Markers Negative
<b>Breast</b>	Ductal carcinoma	ER, PR, HER2, mammaglobin, CK7, E-cadherin	CK20, CK5/6
<b>Lung</b>	Adenocarcinoma	TTF1, CK7, Napsin A, CEA	CK5/6, CK20, p63
	Squamous cell carcinoma	CK5/6, p40, p63, CK7	CK20, TTF1
	Neuroendocrine carcinoma	Chromogranin A, Synaptophysin, TTF1, CD56, CK7	CK20, Napsin A, p63
<b>Skin</b>	Malignant Melanoma	S100, SOX10, MelanA, HMB45, tyrosinase	p16, CK, CD34, CD68
	Squamous cell carcinoma	pankeratin, p40	CK20, S100, MelanA
<b>Colorectal</b>	Adenocarcinoma	CK20, CEA, mucin, CDX2, SATB2, AMACR	CK7
<b>Liver</b>	Hepatocellular carcinoma	AFP, CEA, HepPar1, glypican	CK7, CK19, CK20
<b>Cervix</b>	Adenocarcinoma	CK7, CK5/6, p63, p16	CK20, PAX8
<b>Kidney</b>	Renal cell carcinoma	Vimentin, CD10, PAX8	Inhibin, MelanA, CK7, CK20
<b>Gallbladder</b>	Adenocarcinoma	CK7, CK20	
<b>Bladder</b>	Urothelial carcinoma	CK7, CK20	
<b>Thyroid</b>	Papillary	TTF1, thyroglobulin	Calcitonin
<b>Larynx</b>	Squamous cell carcinoma	p53	
<b>Vascular</b>	Epithelioid hemangioendothelioma	CD34, CD31	Desmin, S100

AFP, alpha-fetoprotein; AMACR, alpha methylacyl CoA racemase; CD, cluster of differentiation; CDX2, homeobox protein CDX2; CEA, carcinoembryonic antigen; CK, cytokeratin; EMA, epithelial membrane antigen; ER, estrogen receptor; HepPar1, hepatocyte paraffin 1; HER2, human epidermal growth factor receptor 2; HMB45, human melanoma black antibody; MelanA, melanocyte antigen; Napsin A, Novel aspartic proteinase of the pepsin family A; PAX8, paired box 8; PR, progesterone receptor; SATB2, special AT-rich sequence-binding protein 2/SATB homeobox 2; SOX10, SRY related HMG box 10 protein; TTF-1, thyroid transcription factor 1.

*Immunohistochemical markers for cutaneous metastases*





## OP-37 [Paediatric Dermatology]

### Clinical and Histopathological Evaluation of Urticaria Pigmentosa: A Retrospective Study

Gizem Fikir<sup>1</sup>, Melisa Ordu<sup>2</sup>, Ümit Türsen<sup>3</sup>, Yasemin Yuyucu Karabulut<sup>4</sup>

<sup>1</sup>Gizem Fikir

<sup>2</sup>Melisa Ordu

<sup>3</sup>Ümit Türsen

<sup>4</sup>Yasemin Yuyucu Karabulut

**BACKGROUND & OBJECTIVES:** Urticaria Pigmentosa (UP) is the most common form of cutaneous mastocytosis, characterized by excessive mast cell accumulation in the skin. It primarily affects infants and young children but can also present in adults, sometimes with systemic involvement. This study aims to evaluate the clinical and histopathological characteristics of UP, emphasizing differential diagnosis and systemic associations.

**METHODS:** A retrospective cohort study was conducted to assess the clinical and demographic characteristics of patients diagnosed with UP in our department between 2015 and 2025. Medical records were reviewed, and demographic, clinical, and histopathological data were collected.

**RESULTS:** A total of 34 patients (17 males, 17 females) were included, with 80% (n=27) in the pediatric age group and 7 adults. Organ involvement was observed in 7 patients (20%), including 5 pediatric cases. Histopathological analysis revealed characteristic mast cell infiltrates in the dermis, confirmed by tryptase and CD117 immunohistochemistry. Our findings indicate a higher prevalence of systemic involvement in pediatric patients, suggesting a need for careful monitoring in this age group.

**CONCLUSION:** Our findings align with recent studies emphasizing that pediatric mastocytosis often presents with a higher likelihood of organ infiltration compared to adult-onset cases. The literature highlights that mutations in the KIT gene, particularly KIT D816V, play a crucial role in mast cell proliferation and disease progression. Additionally, elevated serum tryptase levels and persistent skin lesions have been correlated with an increased risk of systemic mastocytosis.

Given the chronic nature of the disease, long-term follow-up is essential, particularly in pediatric cases where disease progression may be unpredictable. Current guidelines recommend a multidisciplinary approach, including dermatological, hematological, and genetic evaluations, to ensure accurate diagnosis and timely management. Further studies are warranted to explore novel therapeutic targets and improve patient outcomes.

**Keywords:** Urticaria Pigmentosa, Cutaneous Mastocytosis, KIT Mutation, Mast Cell Disorders



## OP-38 [Hair Disorders/Diseases]

### Psychiatric symptoms in patients with alopecia areata

Gülşah Apaydın, Zuhale Metin  
GÜLŞAH APAYDIN YILDIZ

Alopecia areata is the second most common cause of hair loss after androgenetic alopecia. The lifetime risk of developing alopecia areata in the general population is estimated at 2%, and the prevalence is approximately 1 in 1000. Alopecia areata is a chronic, immune-mediated autoimmune disorder that affects hair follicles, nails, and occasionally the retinal pigment epithelium. The hair cycle consists of 3 phases: anagen, catagen and telogen. During the anagen phase, 6 hair growth stages occur, with stage VI representing a fully formed anagen follicle. However, in individuals with alopecia areata, hair follicles arrest in stage III or IV, reverting to the early catagen or telogen phase, leading to abrupt hair loss and lack of hair regrowth. The classic presentation of alopecia areata involves isolated, smooth, sudden, non-scarring, and patchy hair loss on the scalp or any area with hair growth. It is currently suggested that the collapse of the immune privilege (IP) of the hair follicle (HF), probably caused by genetic and external factors, triggers the onset of the disease. Reported triggers include emotional or physical stress, vaccines, viral infections, and medications. In some patients, acute or chronic psychoemotional stress may lead to the onset or progression of alopecia areata. It is suggested that psychological stress may trigger or exacerbate inflammatory skin diseases through the neuroendocrine system, an important link between the brain and skin. Some researchers argue that personality traits associated with reduced ability to cope with stress create individual susceptibility to the development of AA rather than the view that stressful events directly increase the risk of developing AA. There are conflicting results regarding the incidence of stress-related psychopathologies such as depression and anxiety disorder in AA patients, and it is thought that these conditions may occur secondary to hair loss rather than triggering the disease. Approximately 50% of patients will experience natural hair growth within 1 year without intervention, and some may decide not to seek treatment. For those who choose treatment, intralesional and topical corticosteroids are

often the initial treatment for patchy alopecia areata. Patients with widespread disease characterized by hair loss of more than 50% of the scalp may seek treatment alternatives such as topical immunotherapy or oral JAK inhibitors to reduce the need for multiple injections associated with intralesional corticosteroids. In addition to these treatments, psychological support should also be included among the treatment options for patients with alopecia areata.

**Keywords:** alopecia areata, psychiatric symptom, depression, anxiety



## OP-39 [Paediatric Dermatology]

### Dermatology Consultations Referred from the Pediatric Emergency Department: A Tertiary Center Experience

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**INTRODUCTION & OBJECTIVES:** This study aimed to analyze the dermatology consultations requested from the pediatric emergency department in order to identify undermet necessities in this particular field. **MATERIALS & METHODS:** From March 1, 2024, to March 1, 2025, a retrospective evaluation of all patients admitted to the tertiary hospital pediatric emergency department and referred to the dermatology department was conducted using the medical record system.

**RESULTS:** During the specified period, out of the total 3167 consultations requested from other specialties to the dermatology department, 789 (24.9%) were from the pediatrics department. It is noteworthy that the pediatric emergency department accounted for a significant proportion of consultations from the pediatric department (71.3%). The mean age of the 563 patients who were included in the analysis was  $7.8 \pm 5.4$  years; 226 (40.1%) were female and 337 (59.9%) were male. The frequency of consultations exhibits a peak in May, with the highest number of consultations occurring at 2:00 p.m. The most prevalent diagnosis was skin infections, constituting 39.1% of the total cases. Of these skin infections, viral infections accounted for 61.8% (n=136) of the cases. The most common specific diagnoses were scabies (n=82), impetigo (n=33), herpes virus infections (n=31), atopic dermatitis (n=29) and urticaria (n=25) respectively. It was determined that 3.2% of the consulted cases were categorized as true emergencies and required hospitalization with the diagnoses of eczema herpeticum, vasculitis, urticaria with angioedema, zoster and erythema multiforme major respectively. Of the cases that 331 (58.7%) were consulted for diagnosis, 162 (28.7%) were correctly diagnosed by the pediatrician and consulted for treatment. Diagnosis discordance was observed in 69 (12.2%) cases. The most frequently prescribed treatments were topical corticosteroids (31.79%),

antiparasitics (14.5%), and systemic antihistamines (11.19%). A total of 90 patients were observed without undergoing any treatment. Furthermore, 237 patients (42.1%) were referred to the dermatology outpatient clinic for subsequent follow-up. Thirty patients underwent dermatosurgical procedures; the three most common of which were biopsy, cryotherapy, and lateral matricectomy, with 12, 11, and 4 cases, respectively.

**CONCLUSIONS:** Pediatric dermatology is a privileged field of particular importance due to the necessity of close interdisciplinary communication in order to provide effective treatment and care. However, a significant global health system challenge is the preoccupation of emergency departments with non-emergent admissions. The present study stated that nearly half of patients opt to visit the emergency department rather than attend the outpatient clinic. In order to develop cost- and time-effective approaches that can reduce this burden there is a need for public health education as well as the optimization of primary health care services.

**Keywords:** Pediatric Emergency, Dermatology Consultations, Skin Infections







Allergy and Cosmetology in Dermatology

# 10<sup>TH</sup> INDERCOS

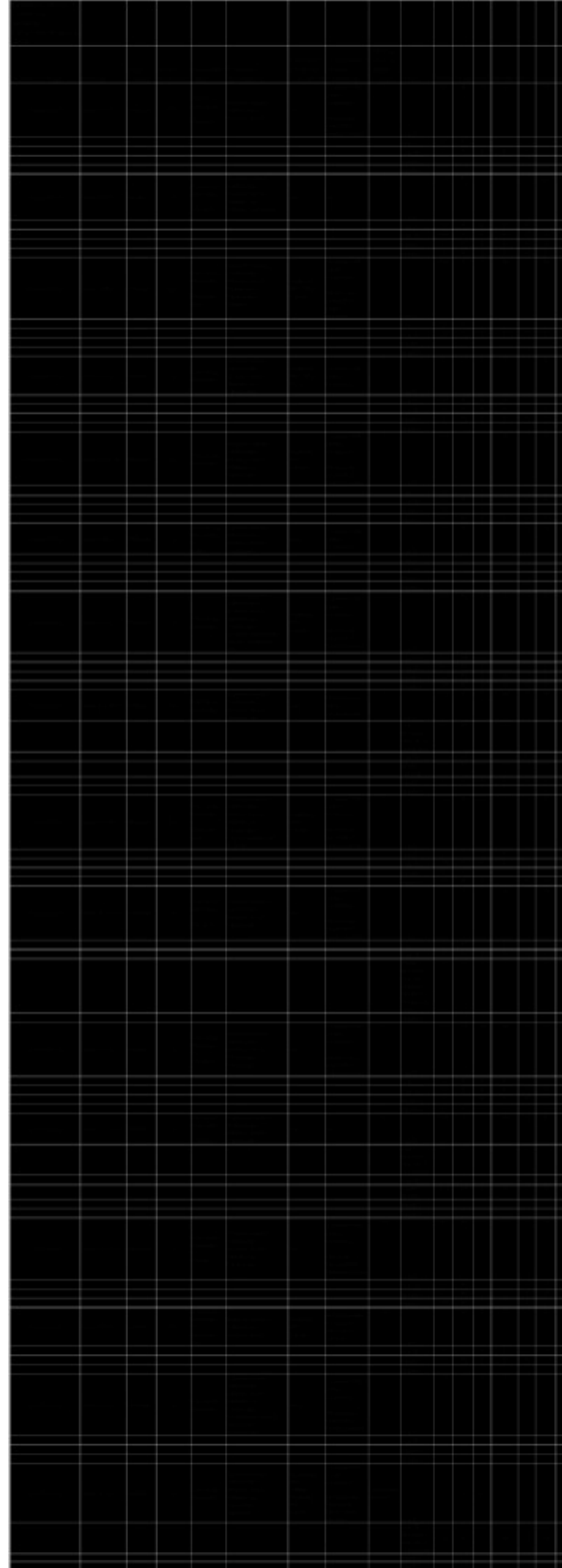
International Dermatology and Cosmetology Congress  
17 - 20 April 2025 | Radisson Blu Şişli Hotel-İstanbul, Türkiye

## Laboratory



*Abbreviations ANA: Anti-Nuclear Antibody ASO: Anti-Streptolysin O CK-MB: Creatine Kinase Myocardial Band CRP: C-Reactive Protein dsDNA: Double-Stranded DNA ESH: Erythrocyte Sedimentation Height Hb: Hemoglobin IgE: Immunoglobulin E LDH: Lactate Dehydrogenase MCV: Mean Corpuscular Volume MPV: Mean Platelet Volume PLT: Platelet RF: Rheumatoid Factor TSH: Thyroid Stimulating Hormone TPO: Thyroid Peroxidase URTI: Upper Respiratory Tract Infections WBC: White Blood Cell*

## Scores



*Abbreviations ADCT: Atopic Dermatitis Control Tool DLQI: Dermatological Life Quality Index EASI: Eczema Area and Severity Index IGA: Investigator's Global Assessment LL: Life Limitation NRS: Pruritus Numerical Rating Scale PP-NRS: Peak Pruritus Numerical Rating Scale*

## OP-41 [Diagnostic Procedures]

# The evolution of tzanck smear publications: a bibliometric analysis with research trends and global productivity

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Daye, Recep Dursun

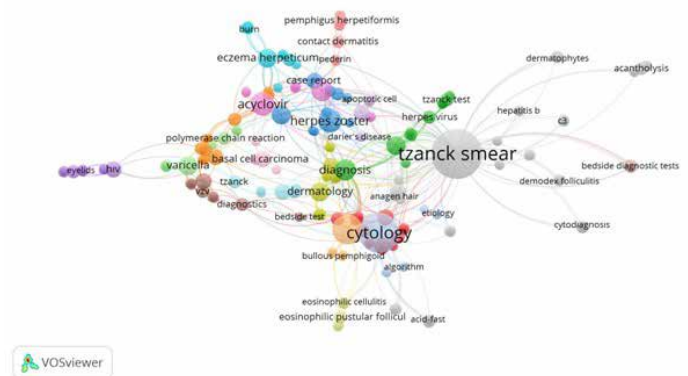
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The Tzanck smear is a cytological diagnostic tool in which the structural features of cells are examined under a microscope after undergoing various staining procedures. The Tzanck smear is primarily used in dermatology for the diagnosis of diseases in the vesiculobullous, infectious, genodermatosis groups, and cutaneous malignancies. Bibliometric analysis is a review that visualizes study topics, authors, countries, and trends in a scientific field, along with numerical data. This study aims to summarize the Tzanck smear literature from 1983 to 2024 through bibliometric analyses, exploring trends in the field, author and country inclinations, and highlighting both prominent and underexplored areas in the literature. The Tzanck smear has been studied in various topics in dermatology, including vesiculobullous diseases (pemphigus group diseases, Stevens-Johnson syndrome/toxic epidermal necrolysis etc.), infectious diseases (impetigo, fungal infections, herpes group diseases and other viral diseases, cutaneous leishmaniasis), genodermatoses (Hailey-Hailey disease, Darier disease), cutaneous tumors (basal cell carcinoma, squamous cell carcinoma, Langerhans cell histiocytosis, etc.). According to the bibliometric data we obtained; since previous years, herpes group and pemphigus group diseases have formed the central focus of Tzanck smear studies. Recently, these two topics have maintained their trend, and there has been an increase in Tzanck smear publications related to the Monkeypox virus. The leading authors in terms of number of publications are Durdu M, Seckin D and Folkers E, while the most cited authors are Durdu M, Leonardi CL and Nahass GT. Identifying prominent authors based on their number of publications and citations can help researchers prioritize relevant publications during their literature review. The leading countries in publishing studies on the Tzanck smear are the United States, India, and Turkey. Based

on this, it can be suggested that the increasing focus of other countries, which are currently less prominent in this field, on Tzanck smear would not only contribute to the literature but also benefit the global perspective. The journals with the highest number of publications and citations on the topic of the Tzanck smear include the Journal of the American Academy of Dermatology, International Journal of Dermatology, Indian Journal of Dermatology, Venereology & Leprosy, JAMA - Journal of the American Medical Association, and Archives of Dermatology. This indicates that studies on the Tzanck smear have attracted the attention of prestigious journals. Furthermore, identifying these journals can assist researchers in both pre-publication literature searches and in identifying suitable publishing outlets for their articles. This study represents the first comprehensive bibliometric analysis specifically focusing on the Tzanck smear. This evaluation can provide a roadmap for researchers who are considering working on Tzanck smear.

**Keywords:** tzanck smear, cytology, bibliometric analysis, herpes, pemfigus, monkeypox

**Figure 1. Most frequently used keyword links in Tzanck smear publications**



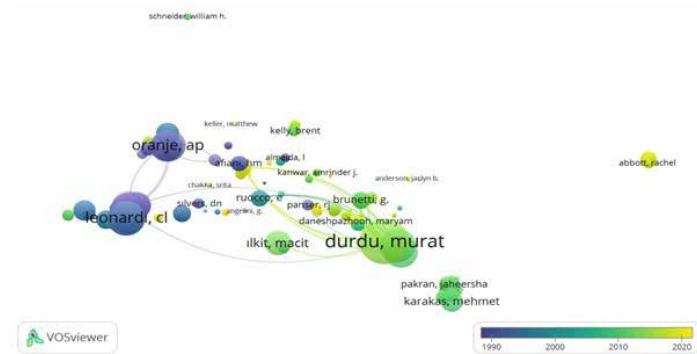


Allergy and Cosmetology in Dermatology

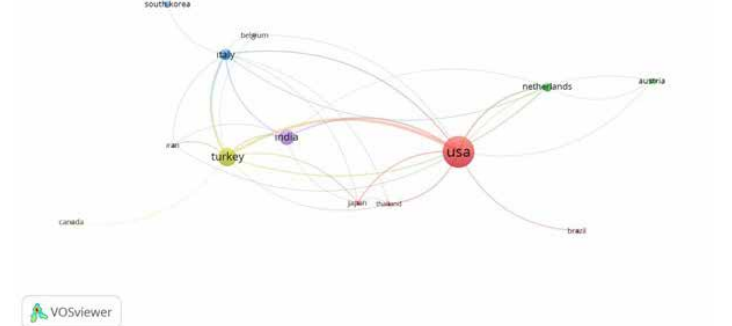
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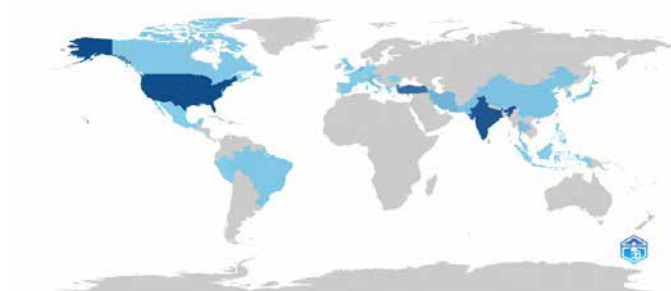
**Figure 2. Citation Links of Authors in Tzanck smear Publications by Year**



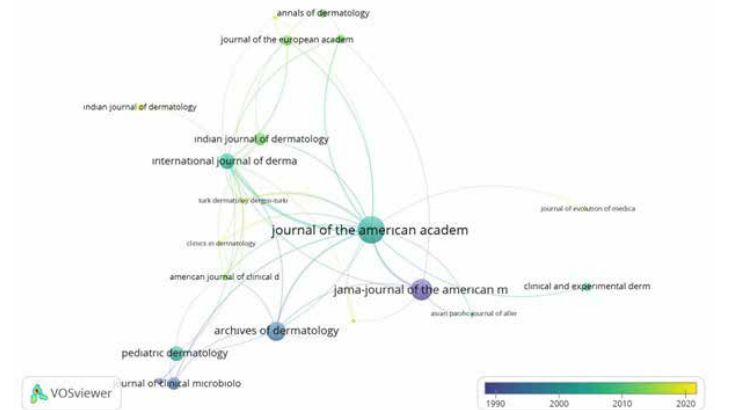
**Figure 4. Citation Links of Countries of Tzanck smear publications**



**Figure 3. Countries that publish the most on tzanck smear**



**Figure 5. The journals that publish the most on the subject of tzanck smear**





## OP-42 [Autoimmune Connective Tissue Disorders]

### An important disease that can be easily overlooked: “Relapsing polychondritis in a patient with myelodysplastic syndrome” a case report

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Relapsing polychondritis (RP) is a rare systemic inflammatory disease primarily affecting cartilage. The most commonly affected organs are the nose, ears, airways, and joints, but it can also involve non-cartilage-rich organs like blood vessels, skin, inner ear, and eyes. Due to its rarity and recurrent nature, diagnosing RP can be challenging. Patients often consult otolaryngologists, dermatologists, rheumatologists and etc. Therefore, it is important for all physicians to recognize the visible lesions and other symptoms of relapsing polychondritis. We want to present a case of relapsing polychondritis in a patient with myelodysplastic syndrome, which is rare and may be overlooked. A 72-year-old male patient presented with complaints of swelling, redness, pain in both ears and nose, nasal congestion, hoarseness, fatigue, and joint pain. His symptoms began a week ago in the left ear, followed by right ear and nasal symptoms, with hoarseness starting in the last 2 days. The patient had experienced similar symptoms 4 months ago, which resolved with pain relief within 10 days. His medical history included myelodysplastic syndrome, chronic obstructive pulmonary disease, radiofrequency ablation for cardiac arrhythmia. Physical examination revealed erythema, edema, tenderness, and warmth in the right ear helix, antihelix, antitragus, and conchal cavity. The left ear showed mild erythema and increased warmth in the lower middle helix. Erythema, tenderness, and warmth, with impetiginized crusted plaques, were found on the inferolateral part of the nostrils, extending to the septal cartilage. Endoscopic examination revealed erythematous nodules on the nasal septal cartilage and epiglottis. The patient was referred to us for dermatological differential diagnosis. No additional dermatological lesions were found aside

from the previously mentioned findings. Based on these findings, a diagnosis of relapsing polychondritis was made. The patient was referred to rheumatology for further investigation. Relapsing polychondritis is a rare autoimmune connective tissue disease. The diagnosis relies on clinical findings. In the differential diagnosis from a dermatological perspective, various infectious diseases (erysipelas, cellulitis, herpes, leishmaniasis, fungal infections) and inflammatory diseases (sarcoidosis, lupus erythematosus, neutrophilic dermatoses) must be considered. Treatment options for RP include anti-inflammatory, immunomodulatory, and immunosuppressive drugs. About 30% of RP patients may have concurrent autoimmune diseases or hematological conditions like myelodysplastic syndrome, and clinicians must exclude these comorbidities. In elderly male patients, atypical resistant symptoms, skin manifestations, constitutional symptoms, and hematological involvement, particularly myelodysplastic syndrome, warrant investigation for VEXAS syndrome alongside RP. We also referred our case to the genetics and hematology departments for further examination for VEXAS syndrome.

**Keywords:** Relapsing Polychondritis, VEXAS syndrome, Myelodysplastic Syndrome



**Figure 1. Front view of the patient**



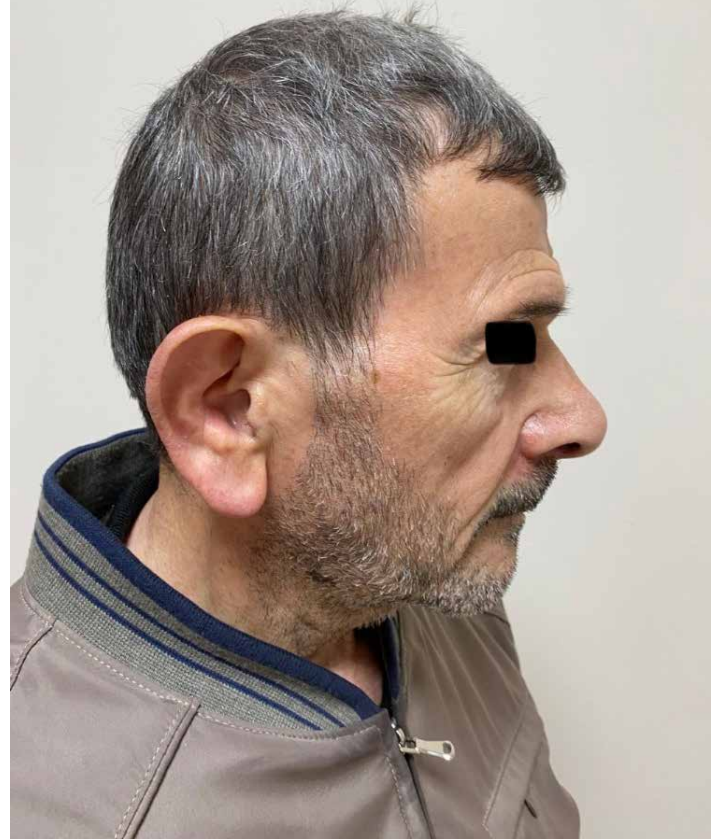
*erythematous impetiginous inflammatory plaque around the nostrils*

**Figure 2. Anterior lower view of the patient**



*erythematous impetiginous inflammatory plaque is reaching to internal region of nose*

**Figure 3. Right view of the patient**



*erythematous inflammatory appearance in the right ear*



## OP-43 [Psychodermatology]

### Evaluation of sleep quality in patients with mycosis fungoides and its impact on quality of life

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**BACKGROUND:** Mycosis fungoides (MF), the most common subtype of cutaneous T-cell lymphomas, is a chronic malignancy that progresses slowly from patches to plaques and tumors. Although skin-related symptoms such as pruritus may affect sleep, there is limited data on sleep quality and its impact on patients' quality of life in MF.

**OBJECTIVE:** To assess sleep quality and its relationship with dermatological quality of life in patients diagnosed with MF.

**METHODS:** This cross-sectional study included 23 patients diagnosed with MF at a dermatology outpatient clinic between September 2024 and February 2025. Sociodemographic data were collected through structured interviews. Sleep quality was assessed using the Pittsburgh Sleep Quality Index (PSQI), and dermatological quality of life was evaluated with the Dermatology Life Quality Index (DLQI). Data were analyzed using R software. Statistical comparisons were conducted using appropriate tests based on data distribution (e.g., Mann-Whitney U test, t-test, Fisher's exact test). A p-value of <0.05 was considered statistically significant.

**RESULTS:** The study sample included 11 females (47.8%) and 12 males (52.2%), with a mean age of  $57.1 \pm 14.6$  years. Poor sleep quality (PSQI >5) was identified in 56.5% of participants. The most affected components were subjective sleep quality, sleep latency, and sleep disturbances. No statistically significant association was found between sleep quality and demographic factors, disease phase, or DLQI scores ( $p > 0.05$ ).

**CONCLUSION:** More than half of the patients with MF experienced poor sleep quality, regardless of disease stage or dermatological life quality scores. These findings suggest that sleep disturbances may be

a prevalent but under-recognized issue in MF patients. Routine assessment of sleep quality may help identify patients who could benefit from targeted interventions. Further large-scale and controlled studies are warranted to better understand the contributing factors and consequences of impaired sleep in this patient population.

**Keywords:** Mycosis fungoides, sleep quality, dermatology life quality index, cutaneous T-cell lymphoma, PSQI



## OP-44 [Dermatological Surgery]

### Comparative Recurrence Timeline and Risk Factors for Chronic Lymphocytic Leukemia Versus Immunocompetent Patients - A Narrative Review

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**INTRODUCTION & OBJECTIVES:** Cutaneous neoplasms occur 8-13 times more frequently in CLL patients than in healthy individuals, representing the most prevalent secondary cancer in population. Chronic lymphocytic leukemia (CLL) patients develop aggressive cutaneous squamous cell carcinomas (cSCCs) with early post-Mohs recurrence timelines compared to healthy individuals. This narrative review examines the differences in recurrence rates and timing of recurrence between patients with CLL and controls. It will also talk about factors that lead to recurrence and clinical outcomes.

**MATERIALS & METHODS:** PubMed was systematically searched using: ("cutaneous squamous cell carcinoma" OR cSCC) AND ("recurrent" OR "recurrence" OR "time to recurrence" OR "local recurrence" OR "disease-free survival") AND ("chronic lymphocytic leukemia" OR CLL) with no date restrictions and in English language. The initial search yielded 12 articles, which expanded to 45 studies through manual reference review and citation tracking. Data were synthesized to compare recurrence timelines in patients with CLL vs controls, factors for recurrence, and clinical outcomes.

**RESULTS:** Recurrence Rates: Mehrany et al. demonstrated substantially higher cumulative recurrence rates for cSCC in CLL patients compared to immunocompetent controls across all timepoints. Per-tumor analysis revealed recurrence rates of 4.3% (1-year), 14.8% (3-year), and 19.0% (5-year) in the CLL cohort, versus 0.9%, 1.8%, and 4.1% respectively in controls. In total, cSCC recurrence risk was 7.1 times higher in CLL patients versus controls in the same study. Size-adjusted analysis revealed a 7 times greater recurrence risk in CLL patients versus controls. The study concluded that tumor size and differentiation status

do not account for the significantly higher recurrence rates observed in CLL patients. In another study, after surgical removal, previously recurrent cSCCs have a twofold higher likelihood of re-recurrence compared to initial tumors. Even after Mohs surgery, previously recurrent cSCCs have a 10% chance of recurring.

**RISK FACTORS:** cSCC risk correlates strongly with total lifetime UV exposure, demonstrating clear dose-dependence. cSCC risk is also elevated in fair-skinned individuals, older males, immunosuppression, HPV infection, chronic wounds, cancer syndromes, or arsenic exposure. The immunosuppressed state, particularly in transplant recipients, confers dramatically higher cSCC risk (65-250x greater than the general population).

**CONCLUSIONS:** This narrative review synthesizes all available evidence on cSCC recurrence post-Mohs surgery in CLL versus non-CLL patients, revealing a consistently higher and earlier recurrence risk in CLL patients independent of tumor characteristics. The aggregated data underscore the critical need for CLL-specific surveillance protocols and adjuvant strategies.

**Keywords:** CLL, cSCC, recurrence, risk factors, Mohs surgery





## OP-45 [Cutaneous Oncology]

### Histopathological Variations in Early-Stage Mycosis Fungoides: A Multicenter Analysis of Geriatric and Non-Geriatric Patients

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**BACKGROUND:** Mycosis fungoides (MF), the most common cutaneous T-cell lymphoma, is challenging to diagnose early due to its overlap with inflammatory dermatoses. Aging may influence the histopathological presentation of MF by altering immune responses and skin structure. However, data on age-related differences in early-stage MF remain limited. This study aims to compare the histopathological features of early-stage MF between geriatric and non-geriatric patients in a large multicenter cohort, identifying potential age-related diagnostic variations.

**METHODS:** This multicenter, retrospective cross-sectional study included patients diagnosed with early-stage MF between 2000 and 2024. Patients  $\geq 65$  years were classified as geriatric, and a comparable number of non-geriatric patients (18–64 years) were selected. Clinical, histopathological, and immunohistochemical data were extracted from medical records.





**RESULTS:** A total of 541 patients were analyzed. The geriatric group ( $\geq 65$  years) had a significantly higher proportion of male patients (59.5% vs. 47.1%,  $p=0.004$ ). No significant differences were observed in lesion type, duration, surface area involvement, or DLQI scores between groups. Histopathologically, epidermotropism (81.3% vs. 63.3%), basilar lymphocytes (57.1% vs. 45.7%), epidermal atrophy (26.6% vs. 13.8%), and dermal papillary fibrosis (55.2% vs. 38.4%) were significantly more frequent in geriatric patients ( $p<0.05$ ). Additionally, the presence of plasma cells (13.5% vs. 6.2%) and eosinophils (21.8% vs. 13.8%) was significantly more common in the geriatric group compared to the non-geriatric group ( $p=0.004$  and  $p=0.015$ , respectively). Immunohistochemically, “CD4-dominant” phenotype was significantly higher in geriatric patients (70.2% vs. 60.6%,  $p=0.043$ ), while CD8(+), CD4(-) phenotype was more common in the non-geriatric group (8.5% vs. 2.6%,  $p=0.012$ ).

**CONCLUSION:** This study highlights distinct histopathological differences in geriatric patients with early-stage MF, despite comparable clinical features. The increased frequency of epidermotropism, dermal fibrosis, and CD4-dominant immunophenotype in older patients may aid diagnosis. These differences may reflect age-related immunosenescence and chronic inflammation rather than disease progression. Long-term follow-up is needed to determine the prognostic significance of these findings.

**Keywords:** Aging skin, Cutaneous T-cell lymphoma, Geriatric dermatology, Histopathology, Immunosenescence, Mycosis fungoides

**Table-1**

**Table-1.** Comparison of demographic characteristics, and clinical features between geriatric and nongeriatric patients.

	Non-geriatric (n= 289)	Geriatric patients (n=252)	p-value
<b>Sex</b>			
female	153 (52.9%)	102 (40.5%)	
male	136 (47.1%)	150 (59.5%)	<b>0.004</b>
<b>Age (years)</b>	45.6 $\pm$ 12.8	72.7 $\pm$ 6.3	<b>&lt;0.001</b>
<b>Family History of MF</b>	3 (1.0%)	3 (1.2%)	0.866
<b>Number of Biopsies Until Diagnosis</b>	1.0 (1.0-2.0)	2.0 (1.0-2.0)	0.452
<b>Time from Symptom Onset to Diagnosis (months)</b>	12.0 (4.0-60.0)	6.5 (4.0-12.0)	0.212
<b>Duration of Biopsied Lesions (months)</b>	3.0 (2.0-6.0)	6.0 (4.0-8.0)	0.104
<b>Involved Area (%)</b>	36.1 $\pm$ 16.8	38.3 $\pm$ 19.8	0.966
<b>DLQI Score</b>	4.5 $\pm$ 2.4	5.0 $\pm$ 1.7	0.342
<b>Lesion Type (n=118)*</b>			
Patch	41 (43.6%)	15 (62.5%)	
Plaque	53 (56.4%)	9 (37.5%)	0.249
<b>MF Subtype (n=535)*</b>			
Classic	244 (84.4%)	210 (75.0%)	
Varyantlar	41 (14.2%)	35 (12.5%)	0.603
Folliculotropic	30 (10.5%)	29 (10.4%)	
Hypopigmented	6 (2.1%)	1 (0.4%)	
Purpuric	2 (0.7%)	2 (0.7%)	
Poikilodermic	2 (0.7%)	2 (0.7%)	
Hyperpigmented	1 (0.4%)	0	
Atrophic	0	1 (0.4%)	

DLQI: Dermatology Life Quality Index, MF: Mycosis Fungoides, \* Missing data were not included in the analysis. Statistically significant p-values are indicated in bold.

*Comparison of demographic characteristics, and clinical features between geriatric and nongeriatric patients.*

**Table-2**

**Table-2.** Comparison of histopathological features between geriatric and non-geriatric patients.

	Non-geriatric (n= 289)	Geriatric patients (n=252)	p-value
<b>Foci of Parakeratosis</b>	108 (37.4%)	108 (42.9%)	0.194
<b>Epidermotropism</b>	183 (63.3%)	205 (81.3%)	<b>&lt;0.001</b>
Basilar lymphocytes	132 (45.7%)	144 (57.1%)	<b>0.008</b>
Haloeo lymphocytes	146 (50.5%)	143 (56.7%)	0.168
Pautrier's microabscesses	62 (21.5%)	71 (28.2%)	0.070
<b>Epidermal Atrophy</b>	40 (13.8%)	67 (26.6%)	<b>&lt;0.001</b>
<b>Epidermal Hyperplasia</b>	75 (26.0%)	76 (30.2%)	0.276
<b>Atypical Lymphocytes in the Epidermis</b>	182 (63.0%)	191 (75.8%)	<b>0.001</b>
<b>Dermal Lymphocytic Infiltration</b>	169 (58.5%)	191 (75.8%)	<b>&lt;0.001</b>
<b>Plasma Cells</b>	18 (6.2%)	34 (13.5%)	<b>0.004</b>
<b>Eosinophils</b>	40 (13.8%)	55 (21.8%)	<b>0.015</b>
<b>Dermal Papillary Fibrosis</b>	111 (38.4%)	139 (55.2%)	<b>&lt;0.001</b>
<b>Large Cell Transformation</b>	6 (2.1%)	2 (0.8%)	0.218
<b>Follicular Infiltration</b>	42 (14.5%)	32 (12.7%)	0.536

Statistically significant p-values are indicated in bold.

*Comparison of histopathological features between geriatric and non-geriatric patients.*

**Table-3**

**Table-3.** Comparison of immunohistochemical findings between geriatric and non-geriatric patients.

	Non-geriatric (n= 289)	Geriatric patients (n=252)	p-value
<b>CD4-CD8 Status (n=404)*</b>			
CD4 dominant**	129 (60.6%)	134 (70.2%)	<b>0.043</b>
CD8 (+), CD4 (-)	18 (8.5%)	5 (2.6%)	<b>0.012</b>
CD4 (+), CD8 (+)***	63 (29.6%)	51 (26.7%)	0.521
CD4 (-), CD8 (-)	3 (1.4%)	1 (0.5%)	0.625
<b>CD7 Expression Loss (n=66)*</b>	25 (64.1%)	15 (55.6%)	0.485
<b>CD20 Positivity</b>	19 (6.6%)	18 (7.1%)	0.794
<b>CD30 Positivity</b>	34 (11.8%)	42 (16.7%)	0.102

\*Missing data were not included in the analysis. \*\*CD4/CD8  $\geq 2$ , \*\*\*1<CD4/CD8<2. Statistically significant p-values are indicated in bold.

*Comparison of immunohistochemical findings between geriatric and non-geriatric patients.*



## OP-46 [Dermatopathology]

### Enhancing Diagnostic Accuracy for Cutaneous Drug Eruptions: A Deep Learning Approach Using Whole-Slide Imaging

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**BACKGROUND & OBJECTIVES:** Cutaneous drug eruptions represent 1-2% of outpatient dermatology consultations and 5-10% of inpatient dermatological cases worldwide. These reactions exhibit a broad spectrum of clinical and histopathological features, from mild maculopapular rashes to severe, life-threatening conditions like Stevens-Johnson syndrome and toxic epidermal necrolysis. This study aims to evaluate the performance of deep learning algorithms in improving diagnostic accuracy for drug eruptions across diverse patient populations.

**METHODS:** A retrospective analysis was conducted using archived cases diagnosed as drug eruptions in a pathology department between 2014–2024. A control group comprised histologically normal skin tissues from reduction mammoplasty procedures. All slides were digitized using a slide scanner. The patient and control group images were analyzed with Vision Transformers (ViTs), specifically the ViT-Large/16 architecture, which utilized pre-trained weights from IMAGENET1K\_SWAG\_E2E\_V1. The model's diagnostic accuracy rates were systematically recorded and compared between the two groups.

**RESULTS:** The Vision Transformer model achieved a training accuracy of 88.92% (loss: 0.407) and a test accuracy of 86.00% (loss: 0.4801), demonstrating robust performance in classifying biopsy images as normal or abnormal. The study highlights ViTs' effectiveness in analyzing subtle histopathological patterns, supported by extensive experimental evaluations. Results indicate that transformer-based architectures may hold advantages over conventional deep learning models for

medical image classification tasks, particularly in early detection scenarios requiring high precision.

**CONCLUSION:** Deep learning models like Vision Transformers offer a promising tool for improving the detection of cutaneous drug eruptions, which remain diagnostically challenging due to their variable presentations. By enhancing accuracy and enabling personalized risk stratification, these algorithms could support clinical decision-making. The study underscores the importance of standardized AI implementation frameworks that prioritize ethical considerations, algorithmic transparency, and equitable performance across diverse demographic groups to ensure reliability in real-world settings.

**Keywords:** Cutaneous drug eruptions, deep learning, artificial intelligence, digital pathology

## OP-47

### Efficacy and Safety of IL-23 Inhibitors in the Geriatric Population: A Multicenter Retrospective Study

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**Introduction:** Psoriasis is a chronic inflammatory skin disease that significantly affects the quality of life of individuals. The efficacy and safety of IL-23 inhibitors have been demonstrated by phase 3 trials. However, data on geriatric patients (>65 years) are limited in the literature due to the exclusion of patients with comorbidities and geriatric population in phase studies. In this study, real-life data of psoriasis patients treated with guselkumab and risankizumab were evaluated in the sub-analysis, clinical response, change in PASI scores and adverse events were examined in the geriatric population.

**Materials and Methods:** This retrospective multicenter study evaluated demographics, clinical features, and comorbidities of 413 psoriasis patients treated with guselkumab or risankizumab between September 2021 and March 2025 at 14 centers in Turkey. Psoriasis Area and Severity Index (PASI) scores at baseline and at weeks 4, 16, and 52 were used to assess treatment response. Adverse events and reasons for treatment discontinuation were also analyzed.

**Results:** The patients' demographic and clinical characteristics were grouped into geriatric and non-geriatric categories, and summarized as median (min-max) in Table 1. Diabetes mellitus was present in 106 (25.7%), hypertension in 96 (23.2%), coronary artery disease in 19 (4.6%) and hyperlipidemia in 27 (6.5%) of the participants. There was no significant difference between baseline PASI values in the patients included in the study. In guselkumab, PASI scores at weeks 0, 4, 16, and 52 were 14 (1.2-41), 4 (0-25), 1 (0-14) and 0 (0-12) respectively ( $p < 0.001$ ). In risankizumab, scores were 14 (0.1-45), 4 (0-71), 0.4 (0-45) and 0 (0-20) respectively ( $p < 0.001$ ), indicating significant improvement in both. When PASI values were analyzed in geriatric and non-geriatric groups, in the geriatric group, 15 (5-41), 3.9 (0-20.3), 1 (0-14), 0.2 (0-0.6) for guselkumab and 17.5 (2.7-40), 5 (0-

71), 0.8 (0-45) 0 (0-15) for risankizumab. While the decrease in PASI values showed a significant change in all endpoints in the non-geriatric patient group ( $p < 0.05$ ), no statistically significant difference was found between weeks 16 and 52 in geriatric patients ( $p > 0.05$ ). Clinical and demographic data such as gender, disease duration, psoriasis type, clinic, BMI, presence of PsA, and special area involvement did not have a significant effect on treatment response in logistic regression analyses.

**Conclusion:** Our study shows that guselkumab and risankizumab are effective and safe in psoriasis patients, which is consistent with the existing literature. No significant differences in adverse events or treatment efficacy were observed between the geriatric and non-geriatric groups. While PASI improvement continued through week 52 in younger patients, the lack of change between weeks 16 and 52 in the geriatric group suggests that week 16 responses may be a guide to treatment outcome in this population.

Table 1. Demographic and Clinical Data

Parameters	Geriatric n=135	Non- Geriatric n=278	P
Age	68 (65-86)	45 (18-64)	<0.001
Female gender, n (%)	55 (29.3)	133 (70.7)	0.174
Disease duration (months)	20 (2-60)	14 (2-45)	<0.001
Family history, n (%)	48 (36.1)	85 (63.9)	0.310
Type of Psoriasis			<0.001
Type 1	47 (19.9)	189 (80.1)	
Type 2	88 (49.7)	89 (50.3)	
Clinical form			0.078
Plaque	125 (92.6)	262 (94.2)	
Pustular	4 (3.0)	6 (2.2)	
Erythrodermic	0 (0)	4 (1.4)	
Guttate	3 (2.2)	6 (2.2)	
Plaque, Guttate	3 (2.2)	0 (0)	
BMI	28 (17-37.1)	27.2 (18.7-45.9)	0.166
Special Areas			<0.001
Scalp	46 (34.1)	152 (54.7)	
Nail	48 (35.6)	132 (47.5)	0.022
Genital	12 (8.9)	58 (20.9)	0.002
Inverse	1 (0.7)	8 (2.9)	0.282
Palmoplantar	13 (9.6)	19 (6.8)	0.319
Baseline PASI	16 (2.7-41)	14 (1.2-45)	<0.001
PASI Week 4	5 (0-71)	4 (0-25)	0.128
PASI Week 16	0.8 (0-14)	0.3 (0-12.2)	0.499
PASI Week 52	0 (0-15)	0 (0-20)	0.870
PSA	32 (23.7)	70 (25.2)	0.744
Treatment response	123 (91.1)	252 (90.6)	0.878
TB prophylaxis	66 (48.9)	97 (34.9)	0.006

\*Unless otherwise specified, all values are presented as median (min-max)



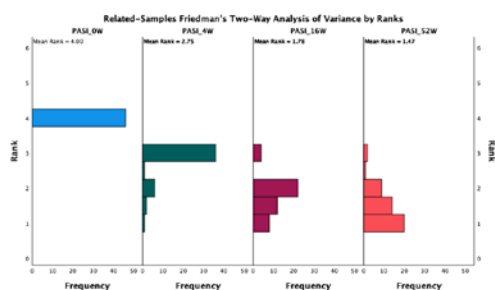


Allergy and Cosmetology in Dermatology

# 10<sup>TH</sup> INDERCOS

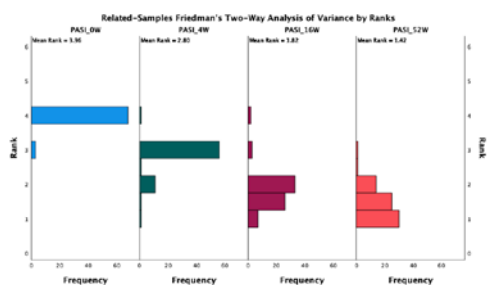
International Dermatology and Cosmetology Congress  
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Figure 1a



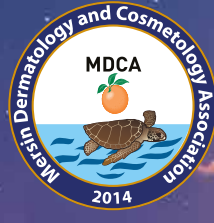
There was no significant difference between weeks 16 and 52 in geriatric patients receiving guselkumab ( $p=0.42$ ).

Figure 1b



There was no significant difference between weeks 16 and 52 in geriatric patients receiving risankizumab ( $p=0.69$ ).





# POSTER PRESENTATIONS





# 10<sup>TH</sup> INDERCOS

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PP 6	Elephantiasis Nostras Verrucosa: A Rare Case	Çağdaş Boyvadoğlu
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PP 21	Finding of {Candida spp}. isolates from patients with atopic dermatitis in Uzbekistan	Elena Esionova
PP 22	Keloid Formation Following Herpes Zoster: A Case Report On Wolf's Isotopic Phenomenon	Umutcan Ayhan
PP 23	A Case Report of Pseudoxanthoma Elasticum (PXE) with Cutaneous and Ocular Involvement	Merve Markal Bay
PP 24	According to the latest literature data and our own research, some sexually transmitted infections play a major role in the development of erosive-ulcerative and background diseases of the genitals, in particular, human papillomavirus (HPV),	Fayzieva Khilola
PP 25	Pyoderma Gangrenosum Associated with Vedolizumab: A Rare Case Report	Doğukan Bulğurcu
PP 26	two feet-one hand syndrome	gizem dayı
PP 27	"Use of Intravenous Immunoglobulin and Rituximab in the Management of Severe Pemphigus Vulgaris: A Case Report"	Beyza Tok
PP 28	Unexpected Systemic Sclerosis in an Atopic Dermatitis Patient Receiving Dupilumab: A Novel Case Report	Ela Gazal
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PP 32	Successful CO2 Laser Treatment of Facial Angiofibromas in a Male Patient with Tuberous Sclerosis: Case Report	Beyza Köstek
PP 33	A Case of Linear Morphea	Elif Çakir



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PP 35	The effect of systemic isotretinoin treatment on thyroid function tests in acne vulgaris	Selami Aykut Temiz
PP 36	Intralesional Vitamin C Injection: A New Approach for Treating Skin Ulcers	Mehmet Kaplan
PP 37	The results of the comorbid state in patients with psoriasis	Shakhnoza Mavlyanova
PP 38	Microbiological research methods - cultural studies. Molecular-genetic - examination of staphylococcal genotypes.	Sadiyev Shamsiddin
PP 39	A case of livedoid vasculopathy associated with protein s deficiency demonstrating dramatic response to rivaroxaban treatment	Ezgi Köse
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PP 41	FOLFIRINOX induced hyperpigmentation in a patient with pancreatic cancer	Serdar Ergenc
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PP 45	A Case Report: Red nodular lesion located on the face	Fatma Karataş Albayrak
PP 46	DRESS Syndrome: A Severe Drug Reaction Successfully Treated with Plasmapheresis and Steroids	Zeynep Keskiner
PP 47	Correlation between 25(OH)D level and C-reactive protein (CRP) in patients with plaque psoriasis in Uzbekistan region	Elena Esionova
PP 48	A rare cause of cutaneous metastasis: Submandibular adenoid cystic carcinoma	Ebsar Nur Velioğlu
PP 49	Is pulmonary involvement possible in pyoderma gangrenosum?	Mehmet Zeki Turğut
PP 50	Capecitabine-induced Photosensitive Lichenoid Drug Reaction: A Case Report	Mustafa Akın
PP 51	Is it necessary to check liver function tests during terbinafine treatment?	Gülhan Aksoy Saraç
PP 52	Combination of KTP, CO2 Laser and PRP in the Treatment of Posttraumatic Facial Hypertrophic Scars: A Case Report	Rahime Ekmekcioğlu
PP 53	Livedoid Vasculopathy in a Patient with Polycythemia Secondary to Congenital Cyanotic Heart Disease: A Case Report	Samet Korkulu
PP 54	Is synthetic cannabinoid use a trigger for lichen planus pemphigoides ? : A rare case report	Başak Şişda
PP 55	Unveiling the hidden duo: secondary syphilis and HIV co-Infection	Neşecan Çalicioğlu
PP 56	Primary Cutaneous B-Cell Lymphoma Presenting with Atypical Cutaneous Lesions: Case Report and Diagnostic Approach	Havva Nur Yüce Çeti
PP 57	CO2 laser treatment of porokeratosis mibelli:good results	Merve Karabulut
PP 58	Dermatofibrosarcoma Protuberans with Atypical Clinical Presentation in a Young Adult: A Case Report	Buğra Burç Dağtaş
PP 59	Pemphigus foliaceus exacerbated by acute retroviral syndrome	Muhammed Ensar Bildirici
PP 60	Areolar hypopigmentation following imatinib therapy: A case report	Esra Demir Mavis
PP 61	A Case Report: Red nodular lesion located on the face	Fatma Karataş Albayrak
PP 62	Wolf's Isotopic Response in Action: A Case of Zosteriform Lichen Planus	Mehmet Doğuhan Çoşlu
PP 63	Pancreatic Panniculitis as a Cutaneous Marker of Acute Biliary Pancreatitis: A Case Report	Yasemin Yuyucu Karabulut
PP 64	Dermatofibrosarcoma Protuberance: A Case Report	Mustafa Akın





## PP-01 [Infectious Diseases, Parasitic Diseases, Infestations]

### Cutaneous Wound Myiasis in Childhood, Case Report

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**INTRODUCTION:** Myiasis is defined as the infestation of live vertebrates (humans or animals) by dipterous larvae. While many organs can be infested by these larvae, the most common form is cutaneous myiasis (CM). Here, we present a case of cutaneous wound myiasis in an 8-year-old child.

**CASE REPORT:** An 8-year-old girl was admitted to the pediatric emergency department due to wounds on her scalp that had persisted for two months. Dermatological examination revealed a 2x2 cm opening in the occipital region of the scalp, containing larvae within the cavity (Figure 1). The scalp showed widespread scaling and an oily appearance, with most of the hair sticking together. Numerous flies were observed around the affected area. According to the patient's history, the wound initially formed on the scalp, gradually enlarged, and became infested with maggots. Poor hygiene practices were noted in both the patient and the family. However, no similar findings were observed in other family members. It was also reported that the family was engaged in livestock farming. The patient had no underlying diseases or history of immunosuppressive drug use. Based on these findings, the patient was diagnosed with cutaneous wound myiasis. Systemic antibiotics were initiated due to secondary bacterial infection, and the patient was referred to the plastic surgery department for cavity cleaning.

**DISCUSSION:** The term myiasis was first proposed by Hope in 1840 and is derived from the Greek word myia, meaning fly. Wound myiasis occurs when fly larvae infest open wounds. Predisposing factors for wound myiasis include open wounds, poor hygiene, advanced age, psychiatric disorders, alcoholism, diabetes, vascular occlusive diseases, and physical barriers that allow flies to lay eggs or larvae on the skin undisturbed. In our case, poor hygiene and open wounds were identified as predisposing factors. However, the patient differed from reported cases due to

her young age and the absence of underlying diseases. Cases of CM with massive larval infestations have been reported to result in death due to toxic shock. Particularly in head and neck region myiasis, penetration of larvae into internal organs or cavities may cause life-threatening complications. Therefore, careful attention and prompt treatment are crucial for myiasis cases involving the head and neck region. Treatment options for CM include occlusion, larval removal, and the use of larvicides. In developed countries, the occurrence of CM in a patient may indicate an underlying disease. However, in our country, CM can still emerge solely due to poor hygiene conditions. As it is a preventable condition with improved socioeconomic status, CM stands out as a public health issue. This case report emphasizes that CM should also be considered in pediatric patients without underlying diseases and highlights the importance of planning early surgical intervention in cases of head and neck CM.

**Keywords:** Cutaneous Myiasis, Wound Myiasis, Infectious Diseases, Parasitic Diseases, Infestations

**Figure 1**



*There was a 2x2 cm opening in the occipital region of the scalp containing larvae. In addition, the hairs were adherent to each other and oily in appearance.*



## PP-02 [Infectious Diseases, Parasitic Diseases, Infestations]

### Rare clinical manifestation of hand-foot-and-mouth disease in an adult

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Hand-foot-and-mouth disease (HFMD) is a self-limiting viral infection caused by coxsackieviruses and enteroviruses (EVs) and is most common in children. Erythematous maculopapular or, rarely vesicular lesions on the palmoplantar region; painful ulcerations of the oral mucosa; and mild fever are the main features of disease. We present an adult case of HFMD with severe pruritus and atypical clinical findings. A 36-year-old woman presented with a high fever of up to 39 degrees, itchy erythematous blisters on the palms of the hands and soles of the feet, blisters, and sore throat that had started two days previously. Dermatologic examination revealed erythematous maculopapular and papulovesicular lesions on the perioral, perinasal, palmoplantar, and the dorsal aspect of the fingers (Figure 1a-d). According to the visual analog scale, pruritus was evaluated as very severe (9 points). The clinical findings were consistent with the diagnosis of HFMD. Laboratory tests revealed elevated transaminases (ALT: 272 U/L; AST: 82 U/L), hyperglycemia (fasting glucose: 115 mg/dL), and mild thrombocytosis (393 K/ $\mu$ L). She did not benefit from the recommended topical clobetasol propionate, oral cetirizine, paracetamol, hydration, and a single dose of parenteral dexamethasone. Systemic methylprednisolone was started at a dose of 0.5 mg/kg/day. On the 3rd day of treatment, the corticosteroid dose was decreased and, it was discontinued at one week after a significant regression was observed in pruritus (from 9 points to 2) and other clinical findings. HFMD is characterized by symptoms that usually last less than one week. In recent years, Gomes et al reported that coxsackievirus A6 (CA6) causes an atypical clinical course in adults characterized by high fever, vesicular-ulcerative skin lesions, and disease lasting up to two weeks, similar to our case. Another study reported that

CA16, CA6, and EV71 were mostly responsible for atypical clinical pediatric cases with bullous lesions, leukocytosis, and ALT and CRP elevation, and CA6 was associated with marked pruritic HFMD in children. However, no similar study was found in adult patients with HFMD. Previous studies have shown that early use of systemic methylprednisolone and intravenous immunoglobulin in severe cases may reduce the risk of complications, as well as fever and erythema. In our case, systemic methylprednisolone early in the course of the disease provided rapid relief of pruritus, which, to our knowledge has not been previously reported in adult patients with HFMD. In this report, we aimed to emphasize that methylprednisolone should be considered as a systemic treatment option especially in the early period in adult patients with HFMD accompanied by severe pruritus and atypical clinical findings.

**Keywords:** contagious infectious disease, hand-foot-mouth disease, hand-foot-mouth disease in adults, viral illness

Figure 1a



*Erythematous maculopapular and papulovesicular lesions on the perioral, perinasal, palmoplantar, and the dorsal aspect of the fingers*

**Figure 1b**



*Erythematous maculopapular and papulovesicular lesions on the perioral, perinasal, palmoplantar, and the dorsal aspect of the fingers*

**Figure 1c**



*Erythematous maculopapular and papulovesicular lesions on the perioral, perinasal, palmoplantar, and the dorsal aspect of the fingers*

**Figure 1d**



*Erythematous maculopapular and papulovesicular lesions on the perioral, perinasal, palmoplantar, and the dorsal aspect of the fingers*



### PP-03 [Systemic Treatment]

#### Oral Erosive Lichen Planus Successfully Treated with IVIg

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**INTRODUCTION:** Lichen planus is an inflammatory dermatosis that can affect the skin, mucosa, scalp, or nails. Mucosal lesions are important because of their chronic course, lack of tendency to heal spontaneously, being more resistant to treatment, having symptoms such as pain and burning as well as pruritus, and some forms tend to become malignant. Herein, we present a case of using IVIg therapy for erosive oral lichen planus (OLP).

**CASE REPORT:** A 65-year-old male patient was admitted to our clinic with complaints of a wound in the mouth that started fifteen years ago. Dermatologic examination revealed erosive lesions in the buccal mucosa and the dorsum of the tongue (Figure 1). He had no signs or symptoms in his skin or nails. He had previously used systemic corticosteroids, topical tacrolimus, colchicine, methotrexate, and systemic cyclosporine, but no improvement was observed. A biopsy was taken for a definite diagnosis from the dorsum of the tongue, where the lesion was widespread. In the histopathological examination of the tissue, an acanthotic multilayered flat epithelium, intense inflammatory cell infiltration in the form of a dermal band, exudate, and fibrin accumulation were observed in place of a fully drained tongue epithelium in a particular area (Figure 2). With these clinical and histopathological findings, the patient was diagnosed with erosive OLP. IVIg treatment was initiated in the form of monthly cures with a total dose of 2 g/kg in five consecutive days. A significant improvement in oral mucosa was observed, and there was a decline in the ulcerative plaques (Figure 3) in the fifth dose of the patient, who underwent a total of nine cycles of IVIg treatment.

**DISCUSSION:** OLP is a chronic inflammatory disease with mainly reticular, erythematous, atrophic, or erosive forms. OLP is often asymptomatic, but in erosive forms

it can often lead to discomfort. The erosive form is especially important because of its malignant potential. IVIg is the preferred immunosystem regulatory agent in immunocompromised patients. It is used in the treatment of certain dermatological diseases such as pemphigus vulgaris, atopic dermatitis, pyoderma gangrenosum, and psoriasis, as well as many hematological, neurological, and rheumatic diseases. There are few reported cases where IVIg treatment is used for erosive OLP.

**CONCLUSION:** Our patient, who had not improved despite using many medications, observed that IVIg treatment markedly improved the oral erosive areas and the symptoms after the fifth cure. Although IVIg is an expensive treatment option, it should be kept in mind as an effective treatment for patients with severe erosive OLP who do not respond to immunosuppressive treatments.

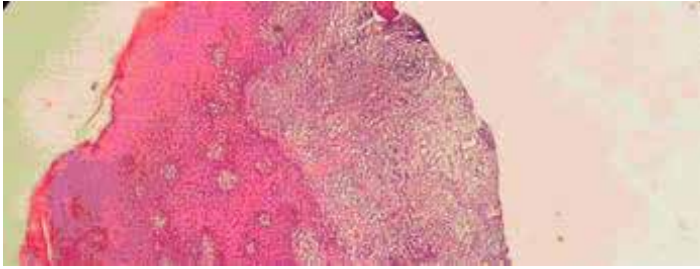
**Keywords:** Lichen Planus, Oral Erosive Lichen Planus, IVIg

**Figure 1**



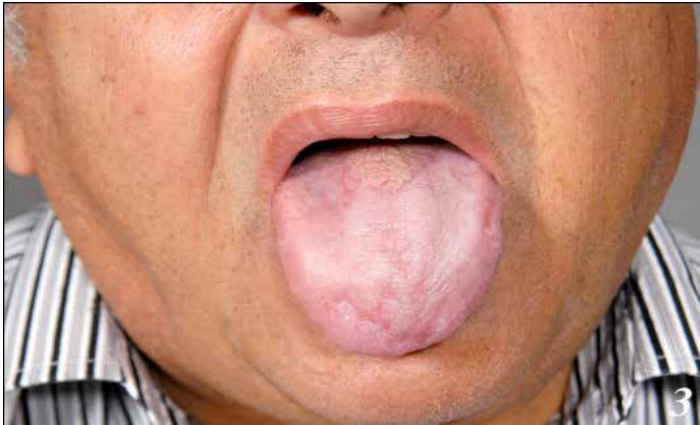
*Erosive lesions in the dorsum of the tongue*

**Figure 2**



*Acanthotic multilayered flat epithelium, intense inflammatory cell infiltration in the form of a dermis band, exudate and fibrin accumulation were observed in place of a fully drained tongue epithelium in a particular area.*

**Figure 3**



*A significant improvement in the dorsum of the tongue was observed, and there was a decline in the ulcerative plaques.*

## PP-04 [Psychodermatology]

### Gardner-Diamond Syndrome: A Case Report and Diagnostic Approach

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**INTRODUCTION:** First described by Frank Gardner and Louis Diamond in 1955, Gardner-Diamond syndrome is a rare condition predominantly affecting young and middle-aged women. It is characterized by painful, edematous skin lesions that progress to ecchymoses, often triggered by spontaneous occurrence, emotional stress, or minor trauma. Here, we present a case of a 39-year-old woman diagnosed with Gardner-Diamond syndrome.

**CASE:** A 39-year-old female patient presented to our clinic with recurrent painful bruising on her body. Her symptoms had started two years prior. On physical examination, she had painful, edematous ecchymotic lesions on the anterior chest wall, abdomen, and proximal bilateral upper extremities (Figure 1). Thrombocytopenia, platelet function disorders, coagulation factor deficiencies, rheumatologic diseases, connective tissue disorders, and metabolic conditions were ruled out. On further questioning, the patient reported a history of divorce two years ago, coinciding with the onset of her symptoms. Based on clinical suspicion, an autoerythrocyte sensitization test was performed to confirm the diagnosis of Gardner-Diamond syndrome. For the test, 0.1 mL of normal saline and 0.1 mL of the patient's venous blood plasma (obtained by centrifugation at 4000 rpm for 5 minutes) were intradermally injected into the volar aspect of her right forearm. The venous blood was further processed by washing the erythrocytes three times with normal saline at a 1:3 dilution, followed by centrifugation at 2000 rpm for 5 minutes. The washed erythrocytes were then intradermally injected at a dose of 0.1 mL into the volar aspect of the right forearm (Figure 2). The patient was evaluated at 30 minutes, 24 hours, and 48 hours, and a diagnosis of Gardner-Diamond syndrome was confirmed (Figure 3).

**CONCLUSION:** Gardner-Diamond syndrome, first described in 1955, is a rare disorder characterized by



recurrent spontaneous ecchymoses, often associated with psychiatric conditions. This case highlights the importance of recognizing Gardner-Diamond syndrome as a potential diagnosis in patients presenting with unexplained recurrent ecchymoses and underscores the need for increased awareness and a systematic diagnostic approach.

**Keywords:** Gardner-Diamond Syndrome, Psychogenic purpura, Autoerythrocyte sensitization syndrome, Ecchymoses

**Figure 1**



*Painful ecchymotic lesion on the abdomen*

**Figure 2**



*Intradermal injection at 0 minutes*

**Figure 3.1**



*Appearance of the intradermal injection site at 30 minutes*

**Figure 3.2**



*Appearance of the intradermal injection site at 24 hours.*

**Figure 3.3**



*Appearance of the intradermal injection site at 48 hours.*



## PP-05 [Autoimmune Connective Tissue Disorders]

### Lichen sclerosus et atrophicus extragenital in a woman; Case Report

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Lichen sclerosus et atrophicus (LSA) is a chronic inflammatory dermatosis of unknown etiology. Extragenital involvement is uncommon and commonly affects the neck, shoulders, and upper portion of the trunk. It is predominant in women with a male-to-female ratio of 1:6 and occurs at any age. There is no cure for LSA. Topical corticosteroids and calcineurin inhibitors, such as tacrolimus, pimecrolimus, PUVA antimalarial agents, and topical retinoids have been tried with varying results. A case of a 45-year-old woman with LSA over lower limbs and lower portion of the trunk is reported here.

**INTRODUCTION:** Lichen sclerosus et atrophicus (LSA) is a rare chronic inflammatory dermatosis with anogenital and extragenital involvement. Extragenital lichen sclerosus is most common on the neck, shoulders, and upper portion of the trunk. It is generally asymptomatic or is occasionally pruritic and presents as flat, white, polygonal papules and slight atrophic white plaques. There is no known cure for LSA. Standard treatment includes topical corticosteroid and calcineurin inhibitors, such as tacrolimus. We report a case of 45 year-old woman with extragenital LSA.

**CASE REPORT** A 45-year-old woman presented with complaints of itchy skin lesions over both her legs and thighs since five months. Lesions initially appeared over legs and gradually progressed upwards to involve thighs and lower abdomen. On examination, hypopigmented, atrophic and sclerotic plaques with follicular plugging were noted over legs, extending on to the anterolateral aspect of thighs and upper abdomen.. Histopathology showed thinning of the epidermis with hyperkeratosis and follicular plugging, with the basal layer showing hydropic degeneration. The patient was treated with a topical clobetasol propionate and tacrolimus cream along with a moisturizer. After 6 weeks of treatment, lesions regressed dramatically in the form of symptoms and morphology.

**DISCUSSION** Lichen sclerosus is a relatively rare chronic inflammatory dermatosis of unknown etiology. The association of specific HLA types and other autoimmune diseases suggests that LS is an autoimmune process. LS both genital and extragenital has no known racial predilection. The prevalence of extragenital LSA may be underestimated because it is often asymptomatic. Extragenital lesions occur in 15%-20% of patients. Linear extragenital LS represents an exceptionally rare form of LS. Our case is with involvement over both lower limbs and lower abdomen in a woman who responded well to topical corticosteroid and tacrolimus therapy. After initial therapy, some patients might only use corticosteroids as needed, while others may require a twice-weekly maintenance therapy. Lichen sclerosus is associated with a 4-6% risk of squamous cell carcinoma, making long-term follow-up essential in these patients.

**Keywords:** lichen sclerosis, no effective therapy, prognosis



## PP-06 [Dermatology and Internal Medicine, including Skin Manifestations of Systemic Diseases]

### Elephantiasis Nostras Verrucosa: A Rare Case

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**INTRODUCTION:** Elephantiasis Nostras Verrucosa (ENV) is a rare disease characterized by chronic, progressive, non-filarial edema that may cause deformity. It is characterized by firm, non-pitting edema that does not regress with elevation. The affected area undergoes progressive cutaneous hypertrophy, leading to skin thickening and a verrucous appearance (1). Herein, we present a rare case of ENV that developed due to chronic stasis.

**CASE REPORT:** A 67-year-old male patient was admitted to the emergency department with complaints of dyspnea and fever. Following diagnostic evaluation, he was diagnosed with pneumonia and admitted to the internal medicine intensive care unit of our hospital. A consultation was requested for the lesions on his legs. His medical history revealed known diagnoses of hypertension, congestive heart failure, and diabetes, for which he was not receiving treatment. It was learned that he lived alone and had poor hygiene conditions. The patient reported recurrent infections in his legs over the years, frequently requiring antibiotic use. He also stated that for approximately 10 years, he had been experiencing edema, skin thickening, and discoloration in his legs, which had gradually worsened and spread. Dermatological examination revealed firm, non-pitting edema in both lower extremities. Extensive verrucous, lichenified, thick brown plaques were observed across the entire sub-knee region, more prominent on the dorsum of the feet and the pre-tibial area (Figure 1). Desquamation was noted in some areas of the legs. Yellow discoloration and subungual hyperkeratosis were present on the toenails (Figure 2). Based on these findings, the patient was diagnosed with ENV. Symptomatic and supportive treatment was recommended.

**DISCUSSION:** ENV is a rare complication of

chronic lymphedema. Although it most commonly affects the lower extremities, it can also be observed in various other parts of the body (2). In our patient, the involvement was in the lower extremities. ENV most frequently develops as a result of lymphangitis secondary to recurrent episodes of erysipelas and cellulitis. Additionally, congenital, traumatic, or surgical damage to lymphatic vessels, venous stasis, radiation, neoplastic obstruction, portal hypertension, obesity, and congestive heart failure are among the many conditions that can lead to chronic venous or lymphatic stasis, ultimately contributing to ENV development (3). In our patient, recurrent lymphangitic episodes, poor living conditions, and congestive heart failure were identified as the primary triggering factors. ENV is a highly debilitating disease with significant morbidity and a substantial impact on quality of life. Once the disease develops, achieving satisfactory treatment outcomes remains challenging. Therefore, early identification and treatment of patients with chronic venous or lymphatic stasis are essential to prevent ENV development.

**Keywords:** Elephantiasis nostras verrucosa, chronic lymphedema, chronic stasis, case report

**Figure 1**



(A, B): Extensive verrucous, lichenified, thick brown plaques across the entire sub-knee region, more prominent on the dorsum of the feet and pre-tibial area in both lower extremities.

**Figure 2**



(A, B): Firm, non-pitting edema in both lower extremities, with desquamation in some areas. Yellow discoloration and subungual hyperkeratosis of the toenails.

## PP-07 [Dermoscopy]

### Clinical and dermoscopic features of keloid and hypertrophic scars: A case series

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**INTRODUCTION:** Hypertrophic scars and keloids are fibroproliferative disorders that can occur after any deep cutaneous lesion reaching the reticular dermis caused by burns, trauma, surgery, etc. And there are several treatments available to reduce the inflammatory process of scars. This study studied the risk factors, clinical and dermoscopic characteristics of keloid and hypertrophic scars in order to help dermatologists better understand these lesions and treat them.

**MATERIALS-METHODS:** A prospective study was carried out in the dermatology department over a period of one year, from September 2023 to September 2024. All patients with keloid/hypertrophic scars on clinical/dermoscopic characteristics were included. In total, 32 keloids and hypertrophic scars in 32 patients were examined clinically and by performing dermoscopy with a digital imaging system.

**RESULTS:** The male/female ratio of patients was 0.52 (11 men, 21 women), and age ranged from 3 to 75 years old. The duration of scar lesions varied from 12 months to 19 years. The arm was the most frequently affected area. The most common causes of scarring were the piercing and second-degree burns. In total, 29 cases out of 32 lesions showed some vascular structure on dermoscopic examination. Among the 23 patients with keloids, 17 ( 73.9 %), 12 ( 52.2 %), 7 (30.4%) and 5 ( 21.7 %) had irregular linear, tree-shaped, regular linear and comma-shaped findings, respectively. Among 9 patients with hypertrophic scars, 6 (66.7%) had irregular linear vessels, and the number of comma-shaped, regular, tree-like, or linear findings observed was only one (11.1 %).

**CONCLUSION:** A strong association of vascular structures with keloids was observed on dermoscopic examination. The results suggest dermoscopic examination of vascular structures is a clinically useful diagnostic tool for differentiating between keloids and hypertrophic scars.

**Keywords:** Hypertrophic scars, keloids, dermoscopy





## PP-08 [Atopic Dermatitis/Eczema]

### On the state of the skin microbiome in patients with atopic dermatitis and ichthyosis

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Evaluation of skin microbiota is one significant indicator of the state of the skin barrier function in patients with skin diseases. In this case, of particular importance is the study of the morphobiological characteristics of opportunistic microorganisms of the skin in patients with atopic dermatitis and ichthyosis in order to select optimal methods of external treatment of an anti-inflammatory and antimicrobial nature.

The aim of our research was to study the state of the skin microbiota taking into account the qualitative and quantitative characteristics of opportunistic microorganisms in patients with atopic dermatitis and ichthyosis.

Material and methods of research: 62 children with atopic dermatitis and 42 with ichthyosis were examined. All patients underwent clinical (dermatoscopy), microbiological, PCR and statistical research methods.

Results of the study. Microbiological studies of the skin lesions in children with ichthyosis revealed an increase in opportunistic microorganisms of the staphylococcal flora in all 48 patients, which amounted to 100%. According to species identification, st. epidermidis was isolated in 56.3% (27) of cases, st. hominis - 16.6% (8), st. aureus - 14.5% (7), st. saprophyticus - 6 (12.5%), respectively. Whereas in the group of patients with atopic dermatitis, among 62 children, the growth of opportunistic microorganisms of the staphylococcal flora was obtained in 59, which amounted to 95.2%. According to species identification, in patients with atopic dermatitis, the main number of cultures isolated were st. aureus - 52.6% (30), st. Epidermididis - 40.7% (24), St. Saprophyticus - 5.1% (3), St. Haemolyticus - 1.7% (1) and Enterobacter - in 2, which amounted to 3.5% of cases.

The PCR study method was used to determine the

genotypes of staphylococcal flora isolated from children with AD and ichthyosis. The results of the PCR study of skin scales in children with AD showed the detection of staphylococcus spp. genotypes in 59 of 62 patients, which amounted to 95.2% of cases.

Whereas in patients with ichthyosis, among 48 patients, the staphylococcus spp. genotype was detected in 32, which amounted to 66.6% of cases.

In the group of patients with AD, among the staphylococcus spp. genotypes, methicillin-resistant staphylococcus - (MRSA) was detected in 49.2% (29 of 59), and methicillin-sensitive staphylococcus (MSSA) - in 26 (44.1%) cases. Whereas in the group of patients with ichthyosis, the largest number was methicillin-resistant coagulium-negative Staphylococcus spp (MRCoNS) - 68.7% (33), and MRSA was detected in 22.9% (11) of cases, respectively.

CONCLUSION: Thus, in patients with ichthyosis, persistent forms of bacterial infection are observed, caused by MRCoNS - 66.6% of cases, and in patients with AD, the invasive form - bacterial sensitization, caused by MRSA - 49.2% of cases.

**Keywords:** atopik dermatitis, staphylococcus, MRSA, microbioma skin



## PP-09 [Atopic Dermatitis/Eczema]

### A case report: Tinea facialis case confused with preorbital cellulitis

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<sup>1</sup>döndü gül şimşek

<sup>2</sup>ümit türsen

A 7-year-old male patient developed a nose abrasion approximately 1 month ago due to long-term use of bandages, continuous scratching, and after that, it entered and reached the left eye area. He used gentamicin + betamethasone cream for 3 days 2 weeks ago. Gentamicin + betamethasone use continued to increase later. Dermatology was consulted by the emergency department with a preliminary diagnosis of preorbital cellulitis. In the examination, eye movements were normal, there was no pain. No restriction. No fever. Erythematous, edematous, pustular, squamous, sharply eczematous lesions around the left eye. A native preparation was prepared from the patient. Hyphae were seen. Laboratory tests were normal. WBC, CRP were normal. Tinea facial treatment was considered. Complete recovery was observed with systemic terbinafine and topical topicazole treatment. The ability to present with preorbital cellulitis and tinea facialis should be considered.

**Keywords:** tineafacialis,eczema,cellulite

## PP-10 [Pigmentary Diseases]

### Linear lichen planus pigmentosus on the face:A rare variant

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**INTRODUCTION-AIM:** Lichen planus pigmentosus (LPP) is a rare variant of lichen planus. It is characterized by chronic acquired hyperpigmentation with dark brown to gray macular pigmentation on sun-exposed areas of the face, neck, and flexural folds. LPP has been associated with other variants of lichen planus, endocrinopathies, autoimmune diseases, and hepatitis C virus infection. Linear LPP is considered a subtype of LPP. It shows a unilateral distribution following one or more Blaschko's lines. In general, the trunk is most commonly affected in blaschkoid and segmental patterns, while linear LPP mostly affects the face and limbs. It is thought that the migration of T lymphocytes and clonal expression during embryogenesis are associated with the localization of linear LPP along Blaschko's lines. In this report, we aim to provide information on the clinical course and management of a young male patient with facial linear LPP.

**CASE:** A 28-year-old male patient with no known history of chronic disease presented to our clinic with a complaint of increased pigmentation in the midline of the forehead that started about one year ago. The patient stated that the lesion initially measured 1 cm in diameter and had rapidly increased in size over the past six months. Physical examination revealed a 4 cm long brown patch with irregular borders located on the forehead (Figure 1). Dermoscopic examination showed blue-gray dot-globules and a pseudoreticular network structure (Figure 2). A punch biopsy was taken from the lesion. Histopathological examination showed orthokeratosis on the surface, acanthosis in the epidermis, a focal lichenoid pattern in the basal layer, and perivascular interstitial lymphocytic infiltration containing melanophages and apoptotic bodies in the papillary dermis (Figure 3). These findings were consistent with linear LPP. The patient was treated with

topical corticosteroids and topical calcineurin inhibitors and was scheduled for follow-up after two months. At the two-month follow-up, the lesion had begun to regress.

**CONCLUSION:** LPP is a rare acquired variant of lichen planus that is more commonly seen in individuals with Fitzpatrick skin types 3–4 from Indian, Latin American, African, and Asian backgrounds. It is characterized by dark brown to purple macules and patches with a tendency for symmetrical and bilateral distribution on the body and extremities. Linear LPP is rare and usually affects the trunk but can occasionally appear on the face. This type of distribution is thought to result from genetic mosaicism. Similar to other LPP variants, the treatment of linear LPP includes topical corticosteroids, calcineurin inhibitors, depigmenting agents, photoprotection, and Q-switched Nd:YAG laser. In patients presenting with linear hyperpigmented patches on the face, linear LPP should be considered in the differential diagnosis alongside inflammatory linear epidermal nevus, lichen planus, lichen striatus, and post-inflammatory hyperpigmentation.

**Keywords:** linear, lichen planus pigmentosus, lichen planus

**Figure 1**



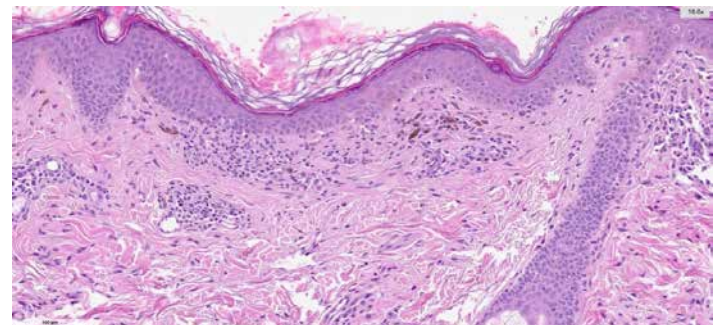
*Physical examination revealed a 4 cm long brown patch with irregular borders located on the forehead*

**Figure 2**



*Dermoscopic examination showed blue-gray dot-globules and a pseudoreticular network structure*

**Figure 3**



*Histopathological examination showed orthokeratosis on the surface, acanthosis in the epidermis, a focal lichenoid pattern in the basal layer, and perivascular interstitial lymphocytic infiltration containing melanophages and apoptotic bodies in the papillary dermis*



## PP-11 [Paediatric Dermatology]

### A case report: The Journey of a Harlequin Newborn

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**Introduction & OBJECTIVES:** Harlequin ichthyosis is a rare and severe genetic skin disorder affecting newborns, characterized by thick, armor-like skin plaques covering the body. As a genetic condition, it cannot be prevented. However, genetic testing and counseling can help families by allowing early diagnosis and management of complications affecting the face, limbs, and systemic functions. Advances in neonatal care and early oral retinoid therapy have improved survival rates. Here, we present the progress of a neonate diagnosed with harlequin ichthyosis.

**CASE:** A preterm female infant was delivered via cesarean section at 33 weeks due to maternal polyhydramnios and karyoembryonic separation indications. The infant's skin had large, rigid, diamond-shaped plaques with deep fissures. Facial features were obscured due to thickened skin, and severe ectropion, eclabium, an underdeveloped nose, and auricles were noted. Hands and feet were constricted, with hypoplastic, tapered fingers and toes in flexion. Movement was limited, and the general condition was critical. The patient was admitted to intensive care, and a preliminary diagnosis of harlequin ichthyosis was made. Genetic testing confirmed an ABCA12 gene mutation. Treatment included hydration, emollients, orogastric feeding, prophylactic antibiotics, and acitretin (1 mg/kg). The infant remained under close monitoring. Over time, widespread fish-like scaling developed, with waxy, yellowish material in seborrheic areas. Thick hyperkeratotic plaques formed on the chest, scalp, wrists, and ankles, resembling armor. Due to the risk of circulatory compromise and tissue damage, these plaques were carefully removed. Despite initial improvements, the patient's condition deteriorated, and survival was not achieved.

**DISCUSSION:** Harlequin ichthyosis is a severe genetic disorder causing distinctive features at birth. Also known as "ichthyosis congenita" or "keratosis diffusa foetalis," it follows an autosomal recessive inheritance and results from ABCA12 gene mutations. Its incidence is approximately 1 in 1 million live births, with a survival rate near 50%. Mortality is linked to dehydration, sepsis, respiratory failure, and metabolic issues. Although survival beyond the first week was historically unlikely, improved care, particularly oral retinoids, has increased survival rates. Our patient showed improvements in skin condition with intensive care, supportive therapy, and retinoids. While developmental delays are common, many affected individuals can attend mainstream schools and achieve independence. Greater awareness of this condition can enhance care and support for affected individuals and families.

**Keywords:** Harlequin baby syndrome, ichthyosis, newborn

fig1



*The moment of birth.*



**Fig2**



*40-day-old baby.*

**Fig3**



*Plaques*

**Fig4**



**fig5**



*: 61-day-old baby.*



## PP-12 [Cutaneous Oncology]

### CD4/CD8 double-positive mycosis fungoides with large cell transformation: A case report

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**Introduction&OBJECTIVES:** Mycosis fungoides (MF) is the most common form of primary cutaneous T-cell lymphoma, characterized by skin lesions that progress through patch, plaque, tumor, and erythrodermic stages. MF typically exhibits a CD3(+), CD4(+), CD45RO(+), CD8(-) phenotype; however, atypical variants, such as CD4(+)/CD8(+), CD4(-)/CD8(-) and CD4(-)/CD8(+) have been reported. Large cell transformation (LCT), defined by the presence of lymphocytes  $\geq 4$  times the size of small lymphocytes comprising  $\geq 25\%$  of the infiltrate or forming microscopic nodules, is associated with a poorer prognosis. Although MF is generally considered an indolent lymphoma, some cases demonstrate rapid progression. Here, we present a rare case of CD4(+)/CD8(+) mycosis fungoides with LCT, highlighting its aggressive clinical course and the challenges associated with its management. **Materials&METHODS:** A 57-year-old female with a 3-year history of erythema on the lumbar region and right forearm presented with well-defined erythematous, infiltrated plaques (Figure-1). Biopsy revealed epidermotropism and dermal lymphocytic infiltration composed of pleomorphic cells with prominent nucleoli. Immunohistochemistry showed CD3(+), CD4(+), CD5(+), CD8(+), and CD20(-) expression, leading to a diagnosis of MF. Investigations revealed no systemic involvement, and treatment with topical tazarotene and clobetasol cream was initiated. After two years, an ulcerated tumor and new erythematous lesions developed (Figure-2). Biopsy showed LCT with large atypical cells, CD4 positivity, sparse CD8 positivity, and CD30 negativity. PET-CT and peripheral blood evaluation showed no systemic involvement. Treatment was escalated to acitretin and PUVA, later supplemented with pegylated-interferon alpha 2a. One year after transformation, an excisional lymph node biopsy was performed due to the development of multiple

lymphadenopathies with thickened cortices and poorly defined hilum, revealing high-grade T-cell lymphoma. The patient underwent CHOEP (cyclophosphamide, doxorubicin, vincristine, etoposide, prednisone) chemotherapy but developed pancytopenia and febrile neutropenia, ultimately succumbing to the illness. **RESULTS:** The 5-year survival rate for MF is 88%, but LCT significantly worsens prognosis. Although CD30 positivity is linked to better outcomes, some studies dispute this correlation. LCT presents variably, including nodules within plaques, abrupt papule eruptions, and enlarging tumors. Different immunophenotypic variants have been reported, including CD4(+)/CD8(+) MF, as in our case, though studies suggest these variants do not significantly alter prognosis. **CONCLUSIONS:** Although MF is generally indolent, it can exhibit aggressive progression, particularly in the presence of LCT. Early biopsy of tumoral lesions is crucial for detecting transformation. Regular follow-up and systemic evaluations are essential for timely intervention in aggressive disease progression.

**Keywords:** aggressive, CD4/CD8 double-positive, cutaneous t-cell lymphoma, large cell transformation, mycosis fungoides



**Figure-1**



*Well-defined, erythematous, infiltrated plaque in the lumbar region and right forearm*

**Figure-2**



*Ulcerated tumoral lesion in the lumbar region*

## PP-13 [Autoimmune Connective Tissue Disorders]

### Refractory case of plantar discoid lupus erythematosus developed under mycophenolate mofetil treatment

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**INTRODUCTION & OBJECTIVES:** Lupus erythematosus is a multisystem disorder that predominantly affects the skin. The most common subtypes include acute cutaneous lupus (ACLE), subacute cutaneous lupus (SCLE) and chronic cutaneous lupus erythematosus (CCLE), with discoid lupus erythematosus (DLE) being the most prevalent form of CCLE.

DLE is characterized by erythematous, scaly plaques, predominantly affecting the face, neck and scalp. Although palmoplantar lesions are rare, they can be painful and often follow a refractory course. In this report, we present a case of a patient who developed cutaneous lesions approximately 5 years after being diagnosed with SLE. This case underscores that cutaneous involvement, though uncommon, can arise even during ongoing treatment.

**MATERIALS & METHODS:** A 55-year-old female patient presented to our outpatient clinic with painful lesions on her feet. The patient had been under follow-up by the rheumatology department for systemic lupus erythematosus (SLE). On her current dermatological examination, multiple erythematous plaques with yellow hyperkeratotic plugs were observed bilaterally on the plantar regions of her feet (figure-1,2,3). The patient was initially started on topical corticosteroid treatment; however, due to a lack of response, a punch biopsy was performed. Histopathological examination of the biopsy sample revealed hyperorthokeratosis on the surface, acanthosis in the epidermis, focal thickening of basal layer, and a significant accumulation of mucin extending into the subcutaneous fat in the dermis (figure-4). These findings

were consistent with cutaneous involvement in lupus. RESULTS: The complete blood count and basic metabolic panel were unremarkable. The anti-double stranded DNA antibody was positive, and the antinuclear antibody exhibited a titer of 1:1280 with a homogeneous speckled pattern. C3 and C4 levels were within the normal range. The patient was receiving mycophenolate mofetil (500 mg) and methyl-prednisolone (4 mg). Topical calcineurin inhibitors were added to treatment regimen alongside topical corticosteroids. However, only minimal regression of the lesions was observed. CONCLUSIONS: Discoid lupus erythematosus (DLE) is the most common form of chronic cutaneous lupus, typically affecting the face, scalp and ears. Palmoplantar DLE is a rare variant that can be painful and resistant to treatment. Management options include topical corticosteroids, topical calcineurin inhibitors, topical retinoids and systemic treatments such as hydroxychloroquine, mycophenolate mofetil, azathioprine, and dapsone. It is important to recognize that cutaneous lesions may develop even during lupus treatment. In cases of therapy-resistant palmoplantar DLE, additional treatment strategies should be considered.

**Keywords:** discoid lupus erythematosus, plantar lesions, mycophenolate mofetil

**figure-1**



*erythematous, yellow-crusting plaque lesions on the medial aspects of right feet*

**figure-2**



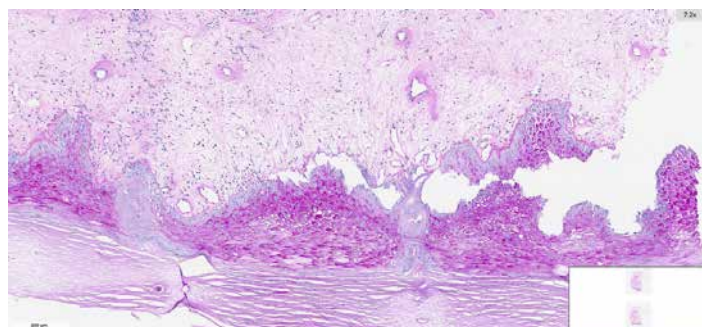
*erythematous, yellow-crusting plaque lesions on the medial aspects of left feet*

**figure-3**



*erythematous yellow scaly plaque lesions on the bilateral plantar surface of the feet.*

**figure-4**



*hyperorthokeratosis on the surface, acanthosis in the epidermis, focal thickening of basal layer, and a significant accumulation of mucin extending into the subcutaneous fat in the dermis*





## PP-14 [Psoriasis]

### Dramatic response to bimekizumab in a refractory case of erythrodermic psoriasis

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**INTRODUCTION & OBJECTIVES:** Psoriasis is a chronic autoimmune skin disorder that significantly impacts patients' quality of life. Despite advancements, a subset of patients fails to achieve satisfactory therapeutic outcomes or long-term remission with currently available therapies. Erythrodermic psoriasis (EP) is a rare severe variant of psoriasis, characterized by extensive erythema, scaling, and desquamation, frequently accompanied by systemic manifestations. In the treatment of EP, standardized global guidelines are still lacking, and most biologic treatment strategies rely on clinical expertise, individual case reports, or small-scale studies. Innovations targeting TNF- $\alpha$ , IL-12/23, and IL-17 have significantly advanced our understanding of the disease's pathophysiology, enabling more precise and effective therapeutic approaches. Among these, bimekizumab has emerged as a promising treatment option. In this article, we present a case of erythrodermic psoriasis successfully treated with bimekizumab.

**MATERIALS & METHODS:** A 49-year-old Turkish male presented to our dermatology department in January 2025 with widespread erythematous, scaly plaques covering approximately 90% of his body surface area. The patient had no known comorbidities. His medical history revealed a prior diagnosis of psoriasis in 2010, following the onset of a generalized rash triggered by an ankle sprain. Between 2010 and 2024, he experienced three episodes of erythroderma, each occurring in the context of upper respiratory tract infections. During this period, he was treated with narrow-band UVB, cyclosporine, acitretin, methotrexate, adalimumab, secukinumab, and infliximab, achieving a sustained PASI 0 response under these therapies. However, in December 2024, erythroderma persisted despite infliximab treatment and PASI score was 42 (Figure 1). We decided to start bimekizumab treatment. At the follow-up visits, a marked regression of erythroderma was observed (Figure 2).

**RESULTS:** Psoriasis is a complex immune-mediated disorder driven by the interplay between genetic predisposition and environmental triggers. EP is characterized by an increased presence of IL-17-producing cells in psoriatic lesions, similar to plaque psoriasis. IL-17A and IL-17F act on keratinocytes, inducing inflammation, aberrant proliferation, and the formation of characteristic psoriatic plaques. By simultaneously inhibiting both IL-17A and IL-17F, bimekizumab may provide a more potent and sustained therapeutic response compared to existing biologic therapies. However, data on the efficacy of bimekizumab in EP remain limited.

**CONCLUSIONS:** We present a case of erythrodermic psoriasis that responded favorably to bimekizumab, demonstrating its rapid therapeutic efficacy. Further clinical investigations are needed to better define bimekizumab's role in the management of severe psoriasis, particularly erythrodermic variants.

**Keywords:** erythrodermic, bimekizumab, psoriasis, interleukin-17

**Figure-1**



*Erythrodermic psoriasis: Before bimekizumab treatment, erythematous and scaly patches extensively involved the trunk and limbs.*

**Figure-2**



*4. Week after bimekizumab treatment: PASI score decreased significantly.*



## PP-15 [Dermatology and Internal Medicine, including Skin Manifestations of Systemic Diseases]

### Tuberous Xanthoma: A Case Report

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**INTRODUCTION&OBJECTIVES:** Cutaneous xanthomas are benign infiltrative plaques characterized by the accumulation of lipid-laden histiocytes (foam cells) in the skin, tendons, and fascia. They represent a reactive proliferation of histiocytes in response to alterations in serum lipid levels. Xanthomas develop due to hyperlipoproteinemias. Based on clinical presentation, xanthomas are classified into xanthelasma, eruptive, tuberous, tendinous, palmar, and diffuse normolipemic plane xanthomas. Tuberous xanthomas are firm, painless, yellow-red nodules, most commonly observed over extensor surfaces of the extremities and joints. In this report, we present a case diagnosed clinically and histopathologically as tuberous xanthoma, aiming to discuss the clinical characteristics and potential management strategies of the disease.

**MATERIALS&METHODS:** A 52-year-old female patient presented with complaints of firm, yellowish masses on her hands and elbows persisting for five years. She reported an increase in the number of lesions over the past year. Dermatological examination revealed multiple, asymptomatic, firm, yellow-orange papules on both palms with a tendency to coalesce (Figure 1). Similar lesions were also observed over the dorsal aspects of the hands at joint areas and bilaterally on the elbows (Figures 2–3). The patient had a medical history of diabetes mellitus, hypothyroidism, and hyperlipidemia. There was no family history of xanthoma-like lesions. Laboratory findings revealed: Triglycerides: 957 mg/dL(↑), HDL: 25 mg/dL(↓), LDL: 123 mg/dL(↑), HbA1c: 6.3%(↑), TSH: 0.0057 mIU/L(↓), T4: 2.06 ng/dL(↑). A punch biopsy was obtained from one of the lesions, and histopathological evaluation revealed lipid-laden macrophages,

confirming the diagnosis of tuberous xanthoma (Figure 4). Genetic testing was recommended; however, the patient did not return for follow-up.

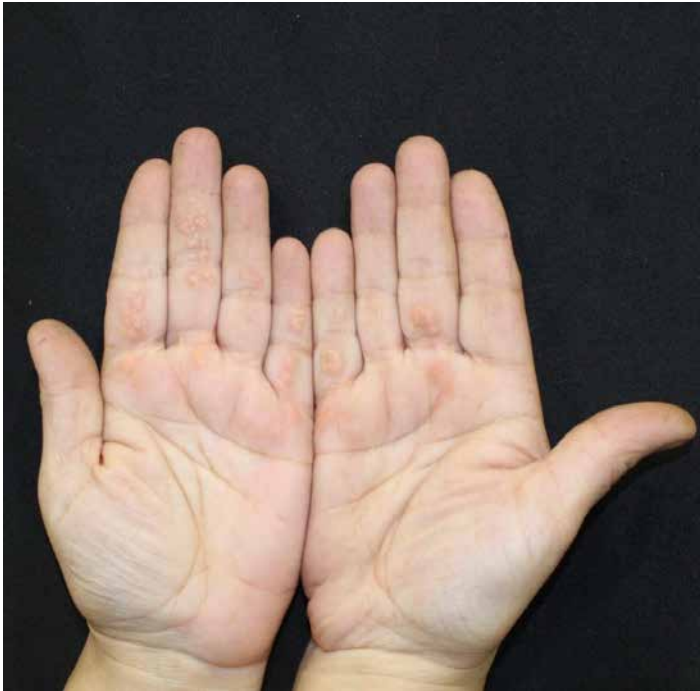
**RESULTS:** The hypothesized mechanism underlying xanthoma formation in hyperlipidemia involves the extravasation of lipoproteins from dermal capillaries followed by macrophage phagocytosis. Cutaneous xanthomas can occur idiopathically, due to inherited abnormalities in lipoprotein metabolism, secondary to hyperlipidemia, or as a result of medication use. The xanthoma subtype may provide clues to the underlying metabolic abnormality. Tuberous xanthomas may be associated with dysbetalipoproteinemia, hypercholesterolemia, beta-sitosterolemia, and cerebrotendinous xanthomatosis. In this case, due to the absence of a family history of hyperlipidemia or xanthomas, familial hyperlipidemias were ruled out. The tuberous xanthomas observed in this case can be attributed to systemic diseases causing secondary hyperlipidemia.

**CONCLUSIONS:** Tuberous xanthomas are most strongly associated with lipid metabolism disorders; thus, genetic testing is recommended. Identifying the underlying etiology is crucial for initiating appropriate treatments aimed at preventing comorbidities that may arise secondary to hyperlipidemia.

**Keywords:** Tuberous xanthoma, hyperlipidemia, histiocyte



**Figure 1**



*asymptomatic, firm, yellow-orange papules on both palms, the largest measuring 1 cm in diameter; with a tendency to coalesce*

**Figure 2**



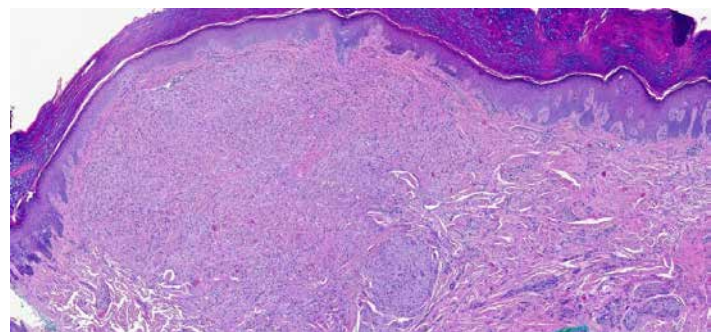
*yellow-orange papules on dorsal aspects of the hands*

**Figure 3**



*yellow-orange papules on elbow*

**Figure 4**



*histopathological evaluation revealed lipid-laden macrophages, confirming the diagnosis of tuberous xanthoma*



## PP-16 [Infectious Diseases, Parasitic Diseases, Infestations]

### The link between the 2282del4 polymorphism of the filaggrin gene and dermatophyte infections in children

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**INTRODUCTION AND OBJECTIVES:** This study aimed to explore the association between the 2282del4 polymorphism of the filaggrin gene (FLG) and the development of dermatophyte infections in children.

**MATERIALS AND METHODS:** A total of 170 children diagnosed with dermatophyte infections (88.5% caused by *Trichophyton*, 11.5% caused by *Microsporum*) were included. The children were aged 1 to 18 years. Of these, 64.3% presented with an infiltrative-purulent form of dermatophytosis affecting the scalp, while 35.7% had a superficial form involving smooth skin. Diagnosis was based on clinical, biochemical, microbiological (bacterial culture from affected areas), and mycological (fungal PCR analysis and culture) tests. Genotyping of the 2282del4 polymorphism of the FLG gene was conducted using PCR-RFLP on a Rotor Gene 6000 amplifier. The control group consisted of 165 healthy children. Statistical analysis was performed using the OpenEpi program (version 2.3), and allele and genotype frequencies were calculated.

**Results:** Genotyping of the 2282del4 polymorphism of the FLG gene showed a significant association between the mutant allele and dermatophyte infections. The mutant allele frequency in the patient group was 35.7%, while it was absent in the control group ( $\chi^2=9.92$ ,  $P<0.002$ ;  $OR=24.2$ ; 95% CI 1.29-453.2). The wild-type allele was more prevalent in the healthy control group (100% vs. 84.2% in the patient group;  $\chi^2=9.91$ ,  $P<0.002$ ;  $OR=0.04$ ; 95% CI 0.0-0.77). These findings indicate that carrying the mutant allele increases the risk of developing dermatophyte infections by 24.2 times. Further analysis revealed that the heterozygous genotype was more frequent in patients (31.4% vs. 0% in the control group;

$\chi^2=10.52$ ,  $P<0.005$ ;  $OR=29.2$ ; 95% CI 1.49-570.6), whereas the control group exhibited 100% wild-type genotypes ( $\chi^2=10.5$ ,  $P<0.005$ ;  $OR=0.03$ ; 95% CI 0.0-0.67). No homozygous mutant genotypes were found in either group. Hardy-Weinberg equilibrium analysis showed an increase in the expected frequency of the mutant genotype by 2.44% ( $\chi^2=10.52$ ,  $P<0.005$ ;  $OR=1.8$ ; 95% CI 0.04-97.5), while the frequency of the heterozygous genotype decreased (from 31.2% to 25.4%;  $\chi^2=8.738$ ,  $P<0.01$ ;  $OR=15.09$ ; 95% CI 0.86-265.5).

**CONCLUSIONS:** The heterozygous genotype of the 2282del4 polymorphism of the FLG gene is a significant marker of increased risk for developing dermatophyte infections caused by *Trichophyton* (88.5%) and *Microsporum* (11.5%) in children. These findings suggest a potential involvement of the FLG gene polymorphism in the pathogenesis and progression of fungal skin infections. The results emphasize the need for early identification of children in families with fungal infections and targeted primary prevention strategies.

**Keywords:** Filaggrin gene, 2282del4 polymorphism, dermatophyte infections, children, *Trichophyton*, *Microsporum*



## PP-17 [Inflammatory Skin Diseases]

### Pyoderma Gangrenosum of the Breast: A Report of Two Cases

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**INTRODUCTION:** Pyoderma gangrenosum (PG) is a rare neutrophilic dermatosis characterized by rapidly progressive, painful and necrotic ulcers. Post-surgical pyoderma gangrenosum (PSPG) is a special form of PG that develops after surgical intervention and usually occurs within 2-3 weeks after surgery [1, 2]. Although the pathogenesis of PSPG is not fully known, an immunologic response triggered by surgical trauma is thought to play a role [3]. The diagnosis is based on clinical findings, histopathologic examination and exclusion of infectious causes. Systemic corticosteroids, immunomodulatory agents and biological therapies are used in treatment [4, 5]. Two cases of PSPG after breast surgery are presented with the diagnostic process, follow-up and treatment results.

**CASE 1A** 38-year-old female patient underwent free flap reconstruction of the right breast in the Plastic and Reconstructive Surgery (PRC) clinic due to breast cancer. In the postoperative period, an incisional biopsy was taken by PRC due to tissue defects medial and lateral to the flap. The biopsy revealed severe active inflammation with ulceration, necrobiosis and granulation tissue. Infectious causes were excluded. The patient was consulted to our clinic due to the progressive enlargement of the tissue defect and was interned to our service with the diagnosis of PG. Dermatologic examination revealed ulcerated lesions with necrotic discharge accompanied by an operative halo in the right breast.(Fig.1) Laboratory tests showed leukocytosis (WBC: 6700 / $\mu$ L) and elevated CRP (28.5 mg/L). PSPG was diagnosed and methylprednisolone 80 mg/day was started and the dose was gradually decreased. Dapsone 2x1 100 mg and VAC therapy was applied. IVIG 160 grams was added as 3 courses due to slow response. Rapid response was obtained after IVIG and significant healing and epithelialization of ulcers were observed in 6 months. (Fig.2)

**CASEX** 230-year-old female patient underwent

reduction mammoplasty and was re-operated for the second time due to necrotic changes around the breast areola in the postoperative period. Despite hyperbaric oxygen therapy at an external center, healing was not achieved, and she was referred to our clinic. Dermatological examination revealed a 10 cm diameter ulcerative lesion with livedoid edges around the right breast areola. (Fig.3). Biopsy showed necrosis, chronic inflammation, and granulomatous response. Laboratory tests revealed leukocytosis and elevated CRP. Methylprednisolone 60 mg/day and colchicine were started with the diagnosis of PSPG. Due to an inadequate response, cyclosporine 350 mg/day was added. Steroid side effects developed, and infliximab 400 mg was started. Epithelialization was achieved after 4 doses of infliximab, and healing was observed at 7 months (Fig.4)

**CONCLUSION:** PSPG is a rare but serious surgical complication. In atypical wound healing, PSPG should be considered, and a multidisciplinary approach is essential for early diagnosis and treatment

**Keywords:** Breast surgery, Intravenous immunoglobulin, Infliximab, Pyoderma Gangrenosum,

**Fig.1**



*Ulcerated lesion before treatment*

**Fig.2**



*Epithelialized lesion after IVIG treatment*

**Fig.3**



*Ulcerated lesion after hyperbaric oxygen therapy*

**Fig.4**



*Epithelialized lesion after 4 doses of infliximab*

## PP-18 [Atopic Dermatitis/Eczema]

### Polymorphism of the plasminogen activator inhibitor gene in the pathogenesis of eczema

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**INTRODUCTION & OBJECTIVES:** Despite the study of the pathogenetic aspects of the disease, the problem of eczema, improving the quality of life is a problem of dermatology. **OBJECTIVE:** to study the distribution of allelic variants and the association of the 5G / 4G genotype polymorphism of the “vascular system” gene - serpin 1 (PAI-1) 675 (rs 1799768) 5G> 4G in patients with eczema.

**Material and methods of research.** 55 patients with eczema aged from 1 year to 52 years were examined. Men - 20, women - 32. The control group - 34 healthy individuals. Genotyping of the 5G / 4G polymorphism of the PAI-1 gene was carried out on a real-time PCR amplifier Rotor Gene 6000 Model 65H0-100 (Australia), using the test system of the Synthol company Cat. №-NP\_555\_100\_RG (Russia).

**RESULTS:** Studies of 5G/4G of the PAI-1 gene in patients revealed functional allelic variants of 5G in 59.1% (65/110) of cases, and in the control group - 95.6% (65/68), which was 1.6 times higher than the indicators of the main group ( $\chi^2=18.8$ ;  $P=0.00001$ ;  $OR=0.10$ ; 95% CI 0.03 - 0.34). The mutant allele 4G in patients was determined in 31.8% (35/110) and was 7.2 times higher than the control group - 4.4% (3/68) ( $\chi^2=14.5$ ;  $P=0.00001$ ;  $OR=10.11$ ; 95% CI 2.9 - 34.42). The frequency of distribution of functional genotypes 5G/5G in the main group of patients with eczema was 61.8% (34/55), in the control group of healthy individuals - 91.2% (31/34) ( $\chi^2=11.4$ ;  $P=0.003$ ;  $OR=0.16$ ; 95% CI 0.04 - 0.58). The heterozygous variant of the 5G/4G genotypes of the PAI-1 gene in the main group was 12.7% (7/55), in the control group of healthy individuals - 8.8% (3/34), respectively ( $\chi^2=11.42$ ;  $P=0.003$ ;  $OR=1.51$ ; 95% CI 0.36 - 6.27). Whereas the mutant homozygous genotype 4G/4G of the PAI-1 gene in the main group was determined in 25.5% (14/55), and in the control group of healthy



individuals was not determined ( $\chi^2 = 11.42$ ;  $P = 0.003$ ;  $OR = 24.1$ ; 95% CI 1.39-418.9).

The analysis of the results indicates that the homozygous 4G / 4G mutant genotype variant prevailed in patients with eczema. The data of our study showed the association of the unfavorable variant allele “4G” of the rs 1799768 polymorphism of the PAI-1 gene with the mechanism of eczema development. The obtained result indicates that the homozygous mutant variant of the 4G / 4G genotypes of the rs 1799768 polymorphism of the PAI-1 gene is a genetic determinant that determines the formation of eczematous lesions of ulcerative skin lesions, and the carriage of the 4G / 4G genotype is a predisposition factor to the development of this pathology, increasing its risk by 24.1 times ( $OR=24.1$ ).

**CONCLUSIONS:** the 4G allele and the homozygous 4G/4G genotype of the 5G/4G polymorphism of the PAI1 gene are significant markers of an increased risk of developing eczematous skin lesions in patients of the Uzbek population. The 5G allele and the functionally favorable 5G/5G genotype are reliable protective markers in relation to the development of pathology.

**Keywords:** eczema, clinic, clinic, serpin 1 gene (PAI-1) 675(rs 1799768) 5G>4G

## PP-19 [Topical Therapy]

### The use of PRP and silicon-containing drugs in the treatment of ulcerative skin lesions

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**INTRODUCTION:** Ulcerative skin lesions (USL) are a tissue defect with a low tendency to heal.

**OBJECTIVES:** Development of the treatment of ulcerative skin lesions with the use of PRP and silicon-containing external products.

**MATERIALS-METHODS:** 40 patients with USL aged 18 to 70 years were examined.

**RESULTS:** To study the effectiveness of therapy, patients were divided into 2 equal groups and a factorial study design was carried out for all: group I (control) – patients who received traditional therapy. Group II (main) - patients who received complex therapy, RRP therapy using activated silicon solutions, by applying a sterile gauze pad followed by the application of silicon cream around the lesion. Morphometric parameters of trophic ulcers in group II, the number of macrophages in the ulcer fibers increased. These changes affected by sharp decrease in metaplastically altered macrophages on each large scale, an increase in fibroblasts in their place indicates an increased synthesis of fibrous structures and restoration of skin fibrous structures. Macroscopic demarcation in this area is characterized by the fact that in the area of healthy tissue and healing wounds, the appearance of a flat pink surface continues. An increase in the relative normative values of T-lymphocytes located at the border of the spiny layer of the skin indicates that Scin-Assoelated Lymphoid Tissue structures repeatedly progress in damaged areas.

**CONCLUSIONS:** The method of treatment contributed to a decrease in the degree of colonization of pathogenic microflora and a decrease in lymphocytic infiltration, leads to an increased anti-inflammatory effect with skin regeneration. This phenomenon can be explained by the “growth factors” contained in the PRP procedure, which provoke intensive restoration of the affected area, as well as by the constituent components in activated siliceous and 5% siliceous cream of medicinal





minerals, which helps to increase cell regeneration.

**Keywords:** Ulcerative skin lesions, PRP, silicon-containing drugs

## PP-20 [Urticaria, Angioedema]

**To study the sensitization spectrum of urticaria patients to pollen, household, and fungal allergens**

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Results of studies of allergenic factors in the development of urticaria

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Urticaria is an allergic disease characterized by the appearance of a rash on the skin, sometimes on the mucous membranes, and severe itching.

Therefore, urticaria is a multifactorial disease, in the pathogenesis of which immune and environmental factors are involved. Damage to the epidermal barrier of the urticaria can contribute to the penetration of aeroallergens through the skin and the sensitization of patients.

At the same time, in our conditions, there is very little data on the spectrum of urticaria sensitivity to various groups of allergens, which determines the relevance of the study.

Purpose of the research. To study the sensitization spectrum of stomatitis patients to pollen, household, and fungal allergens.

Materials and methods. The peculiarities of the sensitization spectrum of stomatitis patients (n = 55, age 12-60 years) to pollen, fungal, and household allergens were studied based on objective examination data and specific allergological examination results, including testing. The study of the sensitization spectrum to pollen, household, and fungal allergens was carried out using the ELISA method of the Allergological Panel for Respiratory Allergies (POLYCHECK).

Results and discussion. Analysis of the test results revealed the presence of hypersensitivity to allergens in 95% (n=52) of patients, with sensitization being sharply positive in 45% of cases and positive in 40% of cases.





When studying the allergen sensitivity spectrum in patients with urticaria, it was found that the most significant allergens were wool, dog epithelium - 27.2%, *Aspergillus fumigatus* - 10.9%, plantain pollen - 10.9%, wool, cat epithelium - 9%, hedgehog pollen - 9%, *Candida albicans* - 9%, herbaceous cladosporium - 7.2%, birch pollen - 5.4% and house dust mite - 5.4%.

Among allergens, the highest frequency of sensitization occurrence was determined for wool, dog epithelium and *Aspergillus fumigatus*, plantain pollen, cat epithelium wool, among fungal allergens - *Candida albicans*. Thus, the conducted study showed a high level of allergen sensitivity in patients with urticaria.

**CONCLUSION:** It has been established that patients with *Escherichia* are often sensitive to household, pollen, and fungal allergens, and therefore, allergies can be considered a risk factor for the development of the pathology.

**Keywords:** Urticaria, the sensitization spectrum of stomatitis patients to pollen, household, and fungal allergens.

## PP-21 [Atopic Dermatitis/Eczema]

### Finding of *Candida spp.* isolates from patients with atopic dermatitis in Uzbekistan

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**ACTUALITY:** *Candida spp.* are common commensals of the human body and have a high allergenic potential. The metabolic products of these microorganisms exacerbate the course of atopic dermatitis (AD), contributing to sensitization to their antigens. Prolonged presence of *Candida spp.* in biological substrates may worsen the underlying disease and shorten remission periods.

**METHODS:** A total of 137 AD patients aged 10 to 67 years (mean age  $24.15 \pm 3.73$  years) and 33 healthy controls were included in our study after obtaining informed consent. Among the patients, 79 (56.2%) were women and 58 (43.8%) - men. All patients exhibited active AD skin symptoms. Microscopy of skin squamulae and swab samples were collected from lesional and non-lesional skin of AD patients and healthy individuals. Sabouraud medium was used for culture. The inoculation of biomaterials from feces was carried out on Sabouraud medium and incubated at 37 °C for 72 hours. The isolated culture of the *Candida spp.* was identified by morphological features for the estimation of the CFU count. The severity of AD in all patients was assessed using the POEM index.

**RESULTS:** according to clinical severity, mild AD was recorded in 24 patients assessed by POEM index <7, moderate AD – 68 patients (POEM index 8-16), severe AD – 45 patients, POEM index >17. There was no *Candida spp.* on the skin of healthy control group. Microscopy revealed that 2 patients had yeast infection from lesional skin, while there was no any fungal contamination from non-lesional skin. Swab samples of 137 AD patients did not have growth of *Candida* or *Malassezia* infection in Sabouraud medium.

Among 137 AD patients, *Candida spp.* were detected in the intestines of 95 (69.3%) patients (at a concentration of more than 1000 CFU/mL), whereas in the control



group, it was found in only 10 (30.3%) out of 33 individuals.

**DISCUSSION:** In our study, we did not detect *Candida spp.* on Sabouraud medium from skin scales of AD patients. We believe, this is due to the hot and dry climate in Uzbekistan region, which does not provide favorable conditions for *Candida spp.* development on the skin, due to a lack of sufficient mycelium for germination. Additionally, the skin of AD patients is heavily colonized by *Staphylococcus spp.*, which have a detrimental effect on yeast.

In a subsequent study, we identified *Candida spp.* contamination in the intestines of AD patients, which may be associated with the excessive consumption of highly fragmented food due to the specifics of the national cuisine.

**Keywords:** atopic dermatitis, *Candida spp.*, POEM, skin squamae, intestine isolates, Sabouraud medium

## PP-22 [Wounds, Chronic Wounds, Wound Healing, Ulcer]

### Keloid Formation Following Herpes Zoster: A Case Report On Wolf's Isotopic Phenomenon

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**INTRODUCTION & OBJECTIVES:** Wolf's isotopic response (WIR) refers to the development of a new skin disorder at the exact site of a previously resolved dermatological condition. Herpes zoster is the most commonly associated primary disease. Although several theories have been proposed to explain the underlying mechanisms- including viral persistence, vascular alterations, immune system modulation, and neurological changes- the precise pathophysiology of WIR following herpes zoster remains unclear. Keloid response is a rare manifestation of WIR. In a 2023 review, Wang et al. identified and reported eight cases of keloid development following herpes zoster. In this case report, we present a 59-year-old female patient with a keloid that originated 7 years ago after herpes zoster infection and gradually increased in size over time. This report aims to contribute to the understanding of the rare phenomenon of Wolf's isotopic keloid response.

**MATERIALS & METHODS:** A 59-year-old female patient presented with a lesion that started seven years earlier following a herpes zoster infection and progressively increased in size. Dermatological examination revealed a 7x3 cm, irregularly circumscribed, pink, indurated hypertrophic tumoral lesion with pain and stinging sensation in the left truncal region, corresponding to T4-T5 dermatoma (Figure 1). The patient reported that after the herpes zoster lesion crusted over, a small rash developed, which gradually expanded beyond the original herpes zoster side. A 4 mm punch biopsy was performed with the differential diagnoses of Wolf's isotopic keloid response, sarcoidosis and dermatofibrosarcoma protuberans. Histopathological examination of punch biopsy revealed orthokeratosis on the surface, acanthosis in

the epidermis, and mild inflammation in the dermis, findings consistent with a scar/keloid (Figure 2). Based on these findings, a diagnosis of Wolf's isotopic keloid response was established. The patient underwent treatment with intralesional triamcinolone acetonide injections once a month for three months. Following these treatments, the lesion showed regression. **CONCLUSIONS:** Herpes zoster is a common infectious disease, and the risk of Wolf's isotopic response may be underestimated. Further research is required to elucidate the pathogenesis and epidemiology of this response. In this case, the tissue injury and inflammatory reaction triggered by the herpes zoster infection, likely contributed to keloid formation. Although trauma is the common cause of keloid development, it is important to consider conditions inducing immunologic changes, such as herpes zoster, may also lead to keloid formation.

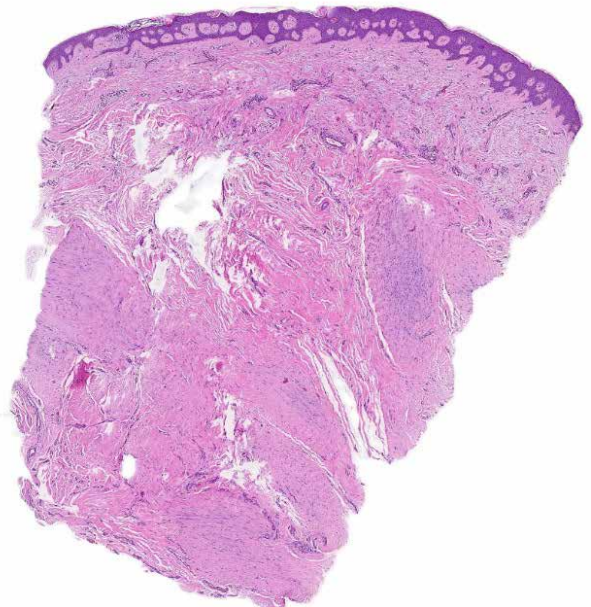
**Keywords:** Wolf's isotopic response, herpes zoster, keloid

**Figure 1**



*7x3 cm, irregularly circumscribed, skin color pink, indurated hypertrophic tumoral lesion in the left truncal region*

**Figure 2**



*Orthokeratosis on the surface, acanthosis in the epidermis, mild inflammation in the dermis consistent with scar/keloid. (Hematoxylin and Eosin x400)*



## PP-23 [Inherited Skin Diseases]

### A Case Report of Pseudoxanthoma Elasticum (PXE) with Cutaneous and Ocular Involvement

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**INTRODUCTION AND AIM:** Pseudoxanthoma elasticum (PXE) is a rare autosomal recessive elastic connective tissue disorder characterized by progressive calcification and fragmentation of elastic fibers, predominantly affecting the skin, eyes, and vasculature. It results from inactivating mutations in the ABCC6 gene. The condition particularly involves the reticular dermis of the skin in flexural areas, the tunica media and intima of arteries, and Bruch's membrane of the choroid in the eye, leading to the characteristic clinical features. We present a case of PXE diagnosed based on characteristic skin lesions and ocular findings, aiming to highlight the diagnostic importance of a multidisciplinary approach.

**CASE:** A 40-year-old male patient presented with a seven-year history of progressive, asymptomatic papular skin lesions on the neck and antecubital regions. The patient reported a gradual increase in the lesions over the past seven years. No mucosal involvement was observed, and no additional findings were noted on dermatological examination.

**MATERIALS-METHODS:** Upon reviewing the patient's medical history, it was learned that he had been under follow-up at an external ophthalmology clinic for the past four years due to decreased visual acuity and bilateral vision loss, attributed to chorioretinal and peripheral retinal atrophy. Dermatological examination was performed and a detailed medical and family history was obtained. A 4 mm punch biopsy was taken from the nape for histopathological evaluation. Tissue sections were stained with hematoxylin and eosin. The patient was also referred for an ophthalmological assessment, including fundoscopy, to evaluate ocular

involvement associated with PXE.

**RESULTS:** Physical examination revealed yellowish, linearly distributed papules in flexural areas, particularly on the nape and bilateral antecubital fossae. Histopathology demonstrated mild acanthosis and prominent coiled and fragmented elastic fibers in the reticular dermis, consistent with PXE. Ophthalmological findings included bilateral angioid streaks and choroidal neovascularization, further supporting the diagnosis. There was no family history of similar symptoms. Based on clinical, histopathological, and ophthalmological findings, a diagnosis of PXE was established.

**CONCLUSION:** Although skin findings in PXE are often asymptomatic and subtle, they may be the earliest clue to a multisystem disorder with potential ocular and cardiovascular complications. This case underscores the necessity of considering PXE in patients with persistent flexural papules and highlights the importance of early multidisciplinary evaluation to ensure timely diagnosis and management.

**Keywords:** yellow, papules, genetic disorder, angioid streaks

1



*Asymptomatic, yellowish, coalescing papules aligned in a linear pattern on the nape (marked by red arrows).*

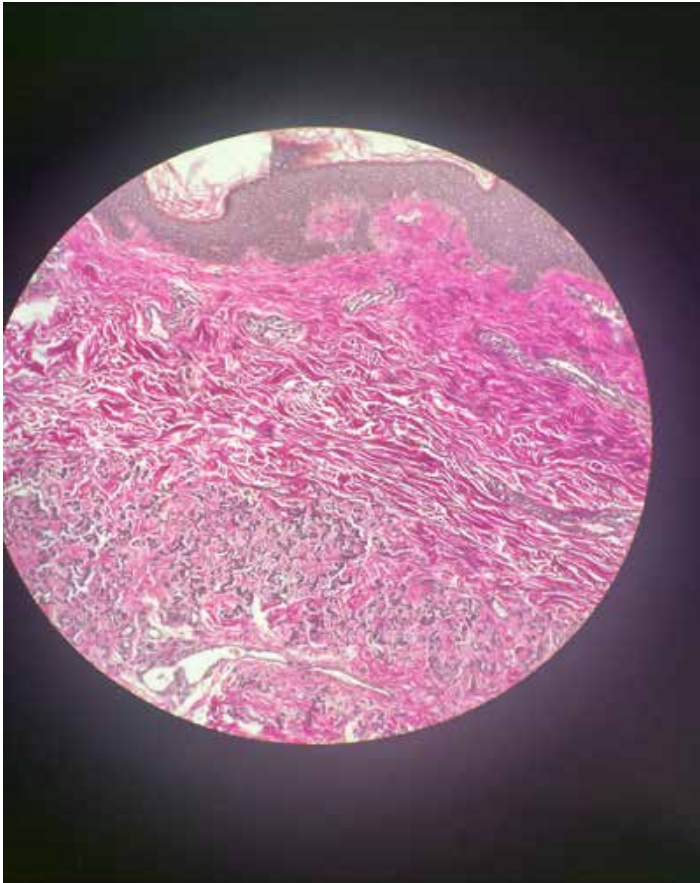


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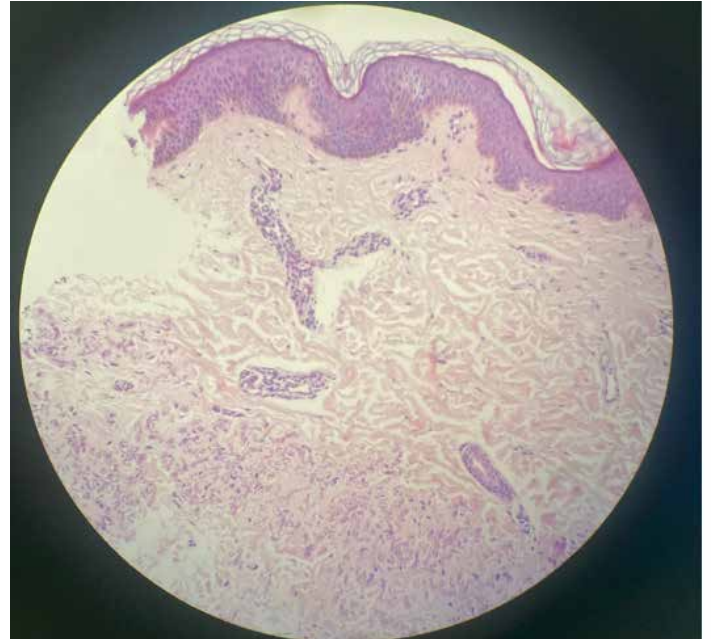
*Millimetric, yellow papules in the bilateral antecubital regions (marked by black arrows).*

3



*Histopathological Image 1: Elastic fiber staining (Elastic van Gieson) showing altered elastic tissue in a 4 mm punch biopsy*

4



*Histopathological Image 2: Characteristic fragmented and spiraled elastic fibers throughout the reticular dermis (Hematoxylin & Eosin staining)*



## PP-24 [Autoimmune Connective Tissue Disorders]

**According to the latest literature data and our own research, some sexually transmitted infections play a major role in the development of erosive-ulcerative and background diseases of the genitals, in particular, human papillomavirus (HPV),**

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“Microbiocenosis Disturbance in Behcet’s Disease”

M.A. MIRSAIDOVA, KH.KH. FAYZIEVA

State Institution “Republican Specialized Scientific and Practical Medical Center for Dermatovenereology and Cosmetology” of the Ministry of Health of the Republic of Uzbekistan

According to the latest literature data and our own research, some sexually transmitted infections play a major role in the development of erosive-ulcerative and background diseases of the genitals, in particular, human papillomavirus (HPV), herpes simplex virus (HSV), cytomegalovirus, some chlamydial and mycoplasma infections.

Risk factors for the development of erosive-ulcerative and dysplastic diseases of the genitals include: postmenopausal age; chronic inflammatory processes of the internal genital organs; the presence of cervical intraepithelial neoplasia (CIN); shortened reproductive period (late menarche, early menopause), hypoestrogenism, diabetes, obesity, poor personal hygiene.

Objective of the study: the objective of the study was to study the etiologic factors that provoke the development of erosive and ulcerative diseases of the genitals. The Femoflor-16 test systems (DNA-Technology, Russia) were used. This kit includes a set of reagents for 12 tests, including positive and negative controls. 25 indicators are detected: 23 groups of microorganisms, control of material collection and total bacterial mass, an internal control sample is added to one of the tubes with the amplification mixture, designed to assess the effectiveness of PCR. Scrapings of the epithelium of the posterior pubic fornix of the vagina and the cervical canal were used as material for the study.

Results of the study: According to the PCR diagnostics of opportunistic microflora (OPM) “Femoflor”, out of 55 examined women, normocenosis was detected in 11 women (20%). At the same time, OPM was completely in low titers in 6 (54.5%). In 6 patients (54.5%), Ureaplasma (urealiticum+parvum) was determined in borderline titers, fungi of the genus Candida spp. were determined in 6 (54.5%) also in borderline titers. Anaerobic microorganisms in borderline titers were isolated in 3 patients (27.3%). The content of lactobacilli in the examined women was reduced. Mycoplasma was detected in 3 (54.5%) of patients. Pathogenic microorganism Mycoplasma genitalium was detected in 2 patients (51.4%).

**CONCLUSIONS:** With the observed increased incidence of both gardnerella and ureaplasma infections, they can acquire pathogenic properties in the presence of favorable conditions (UPM), which can play an important role in immunological changes in such patients. In addition, the aggressive impact on the epithelium of the above pathogens does not exclude their role in the genesis, progression and relapse of erosive and ulcerative processes.

**Keywords:** human papillomavirus (HPV), herpes simplex virus (HSV), Risk factors for the development of erosive-ulcerative and dysplastic diseases



## PP-25 [Dermatology and Internal Medicine, including Skin Manifestations of Systemic Diseases]

### Pyoderma Gangrenosum Associated with Vedolizumab: A Rare Case Report

Doğukan Bulğurcu<sup>1</sup>, Ümit Türsen<sup>2</sup>, Aysin Köktürk<sup>3</sup>

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<sup>2</sup>Ümit Türsen

<sup>3</sup>Aysin Köktürk

**INTRODUCTION:** Pyoderma gangrenosum (PG) is a rare, inflammatory, and necrotizing dermatosis associated with inflammatory bowel diseases (IBD). Although its exact etiopathogenesis remains unclear, it is thought to involve autoinflammatory mechanisms and neutrophil-mediated dysregulation. PG is commonly linked to IBDs such as ulcerative colitis and Crohn's disease; however, its occurrence during treatment is rare. Vedolizumab, an  $\alpha 4\beta 7$  integrin inhibitor, is a gut-selective immunomodulatory agent used in the management of IBD. Dermatological adverse effects of vedolizumab are rare, and its association with PG has been reported in only a few cases. Here, we present a case of PG developing after the second dose of vedolizumab.

**CASE PRESENTATION:** A 27-year-old male patient had been diagnosed with Crohn's disease for approximately four years. Due to persistent symptoms, vedolizumab therapy was initiated. While no adverse effects were observed after the first dose, the patient developed widespread, painful, pustular, and ulcerative lesions across his body following the second dose. Clinical examination and dermatological evaluation suggested a diagnosis of pyoderma gangrenosum. Histopathological analysis revealed findings consistent with neutrophilic inflammation. The patient was started on systemic corticosteroid (prednisolone) therapy, leading to a rapid and significant improvement in lesions. Given the clinical course and response to treatment, PG was considered to be associated with vedolizumab therapy.

**CONCLUSION:** This case highlights pyoderma gangrenosum as a rare adverse effect of vedolizumab therapy. Physicians should be aware of this potential complication and carefully evaluate new-onset skin lesions in patients receiving vedolizumab. Early

recognition and appropriate management of PG are crucial for preventing complications.

**Keywords:** pyoderma gangrenosum, vedolizumab, integrin inhibitors, neutrophilic dermatosis

#### male patient



#### male patient



#### male patient





## PP-26 [Infectious Diseases, Parasitic Diseases, Infestations]

### two feet-one hand syndrome

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**INTRODUCTION:** Tinea pedis is most common dermatophyte infection of the feet and, due to its recurrent and contagious nature, is a significant public health concern.(1) Feet serve as a reservoir for dermatophyte infections, spreading through autoinoculation and leading to tinea manuum.(4,5) A study on tinea manuum cases found that the most common variation is two feet-one hand syndrome. (10) Tinea infections are sometimes misdiagnosed.

**CASE PRESENTATION:** A 44-year-old male industrial worker presented with complaints of dryness and itching in both hands for 15 years. He had previously consulted multiple dermatology clinics and used topical corticosteroids and moisturizers containing urea and vaseline. Upon detailed medical history, he reported foot itching, which he had considered “normal,” and these areas had not been examined. Patient had never used antifungal treatment and had no comorbidities. On physical examination, dry, hyperkeratotic scaling with mild erythema was observed on the palmar side of right hand, while the dorsal side and left hand were unaffected.( Figures 1-2) Bilateral onychomycosis was noted on both great toenails, with hyperkeratosis consistent with moccasin-type tinea pedis. (Figures 3-4) Blood test results were normal. Patient refused KOH examination and culture analysis. Treatment included systemic itraconazole 100 mg, sertaconazole 2% cream, topical keratolytic and ciclopirox olamine nail solution applied daily.

**DISCUSSION:** Tinea pedis affects 10% of the general population, being more common in men. It is primarily caused by *Trichophyton rubrum*, with risk factors warm, humid environments, prolonged water exposure, tight shoes, sweating and immunosuppression. (6) Our patient exhibited some of these predisposing factors. Diagnosing and treating tinea pedis is crucial, as it can mimic keratoderma, psoriasis, contact dermatitis, Kaposi sarcoma and bacterial intertrigo.(2,3) Our patient had been misdiagnosed and treated for hand

xerosis and dermatitis for years without improvement. Hyperkeratotic tinea pedis presents with plantar erythema to diffuse hyperkeratosis. (7) Our patient's findings aligned with this condition. Unilateral palmar involvement with tinea pedis is termed two feet-one hand syndrome or Celalettin Muhtar Disease. It typically affects the dominant hand unilaterally but can involve both hands. Clinical features and causative agents resemble moccasin-type tinea pedis.(4,7,8,11) Tinea pedis usually develops before hand involvement, as seen in our patient. Systemic antifungal therapy is the recommended treatment. (12) **CONCLUSION:** Unilateral, dry, hyperkeratotic palm lesions suggest tinea manuum, often associated with tinea pedis. This case highlights the importance of considering tinea infections in patients with chronic hand dryness. KOH examination or fungal culture should be performed when necessary. This case serves as a reminder of a historically significant dermatological condition that should not be overlooked.

**Keywords:** Tinea manuum, tinea pedis, Celalettin Muhtar Disease





Allergy and Cosmetology in Dermatology

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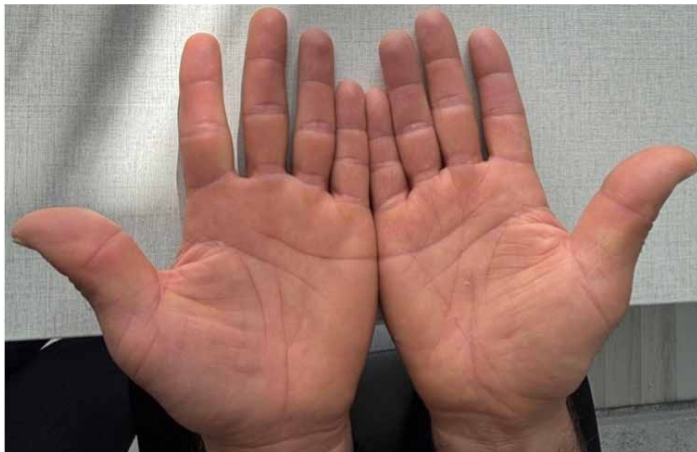
International Dermatology and Cosmetology Congress  
17 - 20 April 2025 | Radisson Blu Şişli Hotel-İstanbul, Türkiye

picture 1



hand

picture 2



hand

picture 3



*Bilateral onychomycosis*

picture 4





## PP-27 [Dermatology and Internal Medicine, including Skin Manifestations of Systemic Diseases]

### “Use of Intravenous Immunoglobulin and Rituximab in the Management of Severe Pemphigus Vulgaris: A Case Report”

Beyza Tok<sup>1</sup>, Mehmet Kaplan<sup>2</sup>, Ümit Türsen<sup>3</sup>

<sup>1</sup>Dr. Beyza TOK

<sup>2</sup>Dr. Mehmet KAPLAN

<sup>3</sup>Dr. Ümit TÜRSEN

**INTRODUCTION AND OBJECTIVES:** Pemphigus vulgaris (PV) is an autoimmune, rare, and potentially fatal bullous disease. Autoantibodies against desmosomal proteins disrupt the connections between epithelial cells. PV presents with vesicles, bullae, and erosions in mucocutaneous tissues. Traditional treatments include corticosteroids and immunosuppressants, which may be insufficient in severe cases. Intravenous immunoglobulin (IVIg) therapy has emerged as an alternative option that promises to reduce immunosuppression and provide clinical improvement. The aim of this study is to evaluate the effectiveness of IVIg therapy in a severe case of pemphigus vulgaris and to assess the role of transitioning to rituximab (RTX) therapy in clinical management. **MATERIALS AND METHODS:** This study is a retrospective observational study conducted on a 38-year-old male patient. The patient presented with eroded areas on the body and widespread erosions in the oral mucosa. On physical examination, eroded areas covered with black crusts were observed on the body, extremities, and periorbital regions, along with large erosions in the oral mucosa and conjunctival involvement. Based on clinical findings, biopsy was performed with differential diagnoses of PV and Stevens-Johnson syndrome (SJS), and PV was confirmed. Initially, systemic corticosteroid therapy (Prednol 80 mg/day) was initiated, but an insufficient response was observed, along with high C-reactive protein (CRP) levels. Infections were treated with broad-spectrum antibiotics, and resistant pathogens (*E. coli*, *Klebsiella* spp., *Pseudomonas* spp.) were detected in wound cultures. After infections were controlled, IVIg therapy was administered in 30-gram four-day cycles, leading to significant improvement in the lesions.

**RESULTS:** IVIg therapy reduced immunosuppression and provided rapid clinical improvement. During the treatment process, improvement was observed in both mucosal and cutaneous lesions, and the correction of CRP levels created a suitable environment for transitioning to rituximab therapy. The control of infections enhanced the effectiveness of IVIg, allowing for successful progression of the treatment process.

**CONCLUSION AND DISCUSSION:** This case emphasizes the potential benefit of IVIg as an adjunctive therapy in managing treatment-resistant pemphigus vulgaris patients. IVIg played an effective role in controlling the disease, contributing to the regression of mucosal and cutaneous involvement. Furthermore, the establishment of appropriate conditions for transitioning to rituximab therapy demonstrates the successful management of the treatment process. Future prospective studies will provide a better understanding of the effectiveness and long-term outcomes of IVIg therapy.

**Keywords:** Severe Pemphigus Vulgaris, Intravenous Immunoglobulin, Rituximab,



before treatment



after treatment



## PP-28 [Biologics, Immunotherapy, Molecularly Targeted Therapy]

### Unexpected Systemic Sclerosis in an Atopic Dermatitis Patient Receiving Dupilumab: A Novel Case Report

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**INTRODUCTION:** Systemic sclerosis (SSc) is a chronic autoimmune disorder characterized by progressive fibrosis of the skin and internal organs. Growing evidence highlights the involvement of a Th2-skewed immune response, with elevated levels of interleukin (IL)-4 and IL-13 detected in both the serum and lesional tissue of patients during the inflammatory and fibrotic phases of the disease. Dupilumab, an IL-4 receptor alpha (IL-4Ra) antagonist, is being explored as a potential therapeutic option for fibrotic and sclerosing conditions driven by excessive connective tissue production via the IL-4/IL-13 pathway, such as localized scleroderma and keloids. In this report, we present a patient who paradoxically developed systemic sclerosis while using dupilumab with a diagnosis of atopic dermatitis.

**CASE:** A 37-year-old female patient, who had been receiving dupilumab therapy for atopic dermatitis, presented to our clinic at the end of her second year of treatment with complaints of Raynaud's phenomenon, exertional dyspnea, and puffy fingers. Following clinical evaluation and laboratory investigations, including serological tests, the patient was found to be positive for antinuclear antibodies (ANA) and anti-centromere antibodies. A biopsy of the fingertip pulp skin revealed histopathological findings consistent with fibrotic dermatitis. Based on these findings, the patient was diagnosed with systemic sclerosis. Dupilumab was discontinued, and treatment targeting systemic sclerosis was initiated.

**DISCUSSION:** Although three cases of morphea developing after dupilumab therapy have been reported in the literature, to our knowledge, this is the first case of systemic sclerosis associated with dupilumab use. While a clear cause-and-effect relationship remains uncertain, we hypothesize that the paradoxical reaction observed in these patients may be attributed to the



involvement of the Th1 pathway rather than the Th2 pathway during the early inflammatory phase of both localized and systemic scleroderma. Further studies are needed to better understand the complex interplay between the pathways and cytokines involved at different stages of systemic sclerosis pathogenesis, which could provide deeper insights into this rare phenomenon.

**Keywords:** dupilumab, atopic dermatitis, systemic sclerosis, paradoxical sclerosis, Th1/Th2 pathway

## PP-29 [Hair Disorders/Diseases]

### A Case Report of Woolly Hair Nevus: A Rare Entity

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**INTRODUCTION & OBJECTIVES:** Woolly hair nevus is typically a sporadic condition that becomes apparent at birth or during early childhood. It is characterized by curly hair along its long axis, which is lighter in color than the surrounding hair, and does not straighten. This condition exists in two distinct forms: generalized and localized. When generalized woolly hair is accompanied by palmoplantar keratoderma and cardiomyopathy; Naxos syndrome and Carvajal syndrome should be considered. Noonan syndrome may also present with woolly hair. Localized woolly hair nevus can be associated with epidermal nevi, as well as ophthalmologic, and dental abnormalities. Post et al. classified woolly hair nevus into three types: 1) an isolated localized woolly hair type without other cutaneous findings, 2) a type associated with verrucous epidermal nevus, and 3) a type characterized by acquired progressive kinky hair syndrome. Studies indicate that 50% of woolly hair nevus cases are associated with epidermal nevi. Genetic studies have identified mosaic HRAS mutations in patients with type 1 and type 2 woolly hair nevi. Additionally, a study investigating the coexistence of epidermal nevi and woolly hair nevi identified a heterozygous somatic BRAF mutation. In this case presentation, we aim to discuss the clinical findings of woolly hair nevus and the disorders associated with it.

**MATERIALS & METHODS:** A 26-year-old female patient with no known chronic diseases presented to our outpatient clinic, reporting localized hair growth abnormality on her scalp since childhood. On physical examination, 3x3 cm area on the vertex displayed curled hair measuring 3-4 cm in length, differing in texture from the surrounding hair (Figure 1). The patient reported that the condition had been present since the age of 2-3 years, with no subsequent hair growth in the affected area. Dermoscopic examination



showed a reduced hair shaft thickness in the affected area without erythema or scaling (Figure 2). Light microscopy of hair shaft demonstrated no structural abnormalities. Based on these clinical and microscopic findings, a diagnosis of woolly hair nevus was made. The patient was referred to ophthalmology, cardiology, dentistry, and orthopedics to evaluate potential associated conditions. No abnormalities were detected following these evaluations. The patient was informed that the condition is likely permanent.

**CONCLUSIONS:** Woolly hair nevus typically presents during the first years of life as a patch of curly, hypopigmented hair. In some cases, it may be associated with systemic abnormalities, making genetic evaluation significant. Therefore, a comprehensive examination is essential for patients presenting with woolly hair nevus to identify potential underlying conditions.

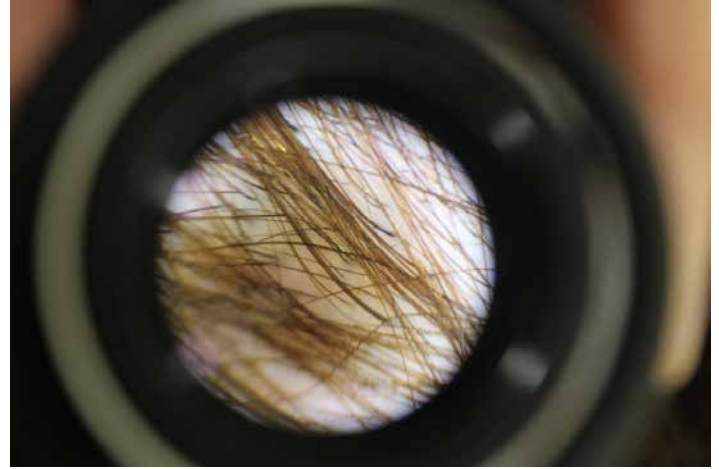
**Keywords:** Woolly hair, Naxos, Carvajal, Noonan

**Figure 1**



*3x3 cm area on the vertex displayed curled hair measuring 3-4 cm in length, differing in texture from the surrounding hair*

**Figure 2**



*Dermoscopic examination showed a reduced hair shaft thickness in the affected area without erythema or scaling*

## PP-30 [Cutaneous Oncology]

### Cutaneous Angiomyolipoma in Scalp

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**BACKGROUND:** Angiomyolipoma (AML) is a benign mesenchymal tumor characterized by a variable composition of thick-walled blood vessels, smooth muscle, and adipose tissue. Renal AML is most commonly associated with tuberous sclerosis complex (TSC). However, extrarenal manifestations of AML have been reported, including rare occurrences in the skin. Cutaneous angiomyolipoma (cAML) is an unusual entity with only a limited number of documented cases, making its clinical significance and pathogenesis an area of ongoing study. Here we report a cAML in the scalp.

**CASE:** A 38-year-old male patient presented with a 1 cm, solid, encapsulated mass located on the scalp, which was excised. Macroscopic examination revealed a yellow-white cut surface with focal hemorrhagic areas. Microscopically, the lesion was well-circumscribed and surrounded by a fibrous capsule. It consisted of mature adipose tissue interspersed with thick-walled blood vessels and smooth muscle bundles (Fig 1). No mitotic activity, atypia, or necrosis was observed. Smooth muscle and vascular structures stained positively with Trichrome and Desmin, while HMB-45 staining was negative (Fig 2). Based on the absence of HMB-45 expression and the histomorphological findings, the case was diagnosed as cutaneous angiomyolipoma.

**CONCLUSION:** cAML is extremely rare and is not included in the latest 2023 World Health Organization (WHO) classification of skin tumors. Only 18 cases have been reported in the English literature. cAML typically presents as a well-circumscribed, non-ulcerated nodule within the dermis or subcutaneous tissue. Histopathologically, it is composed of varying proportions of thick-walled blood vessels, smooth muscle cells, and mature adipocytes. Unlike renal AML, which often has a well-established link to TSC, cAML appears to occur sporadically in most

cases. Additionally, cAML does not demonstrate immunohistochemical staining for melanocytic markers (HMB-45, Melan-A) and shows no significant risk of aggressive behavior or malignant transformation. It is suggested in the literature that, despite sharing similar histopathological features, renal AML and cutaneous AML should be considered separate entities due to their distinct demographic, clinical, immunohistochemical profiles, and associations with TSC. Immunostaining for melanocytic markers, particularly monoclonal antibody HMB-45, plays a crucial role in distinguishing these two forms, as it is positive in renal AML but absent in cutaneous AML. These distinctions support the concept of separate histogeneses and may prompt the classification of cutaneous AML as an independent entity within the spectrum of skin soft tissue tumors, separate from the PEComa group. While its clinical course is benign, accurate diagnosis is crucial to avoid unnecessary interventions and to differentiate it from malignant mimics such as sarcomas or other PEComas.

**Keywords:** Scalp, Cutaneous angiomyolipoma, AML

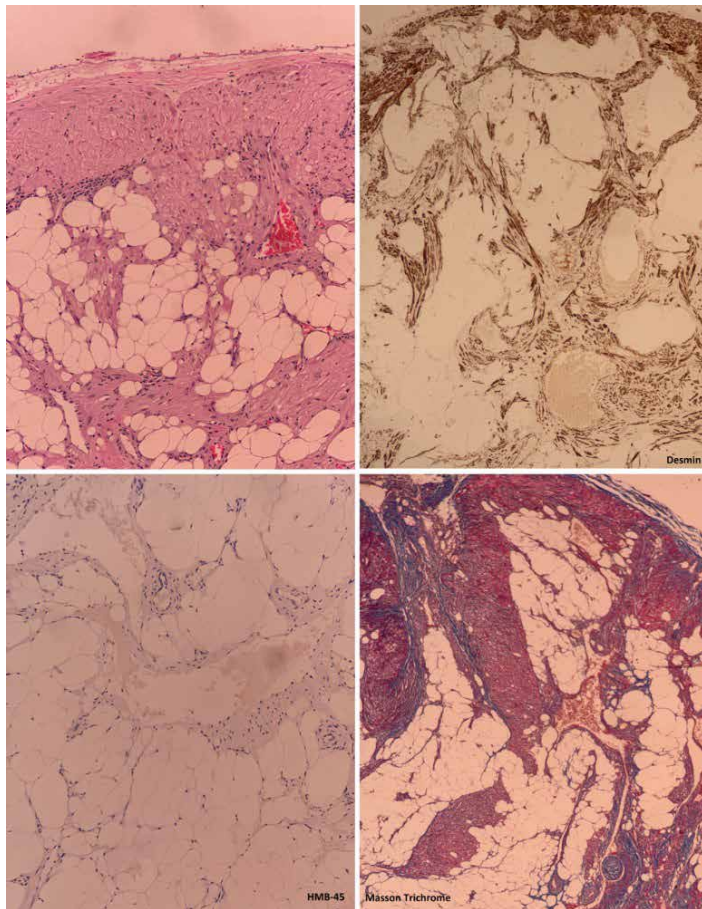
**Fig 1**



*Mature adipose tissue interspersed with thick-walled blood vessels and smooth muscle bundles (H&E, x40)*



**Fig 2**



*Smooth muscle and vascular structures stained positively with Trichrome and Desmin, while HMB-45 staining was negative.*

## PP-31 [Cutaneous Oncology]

### Unclassifiable Primary Cutaneous B-Cell Lymphoma with Diffuse Involvement

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**INTRODUCTION:** Primary cutaneous B-cell lymphoma (PCBCL) is a monoclonal proliferation of B lymphocytes confined to the skin and represents about 25% of cutaneous lymphomas. According to the 2022 World Health Organisation (WHO) classification, PCBCL is divided into five subtypes. However, rare variants that don't fit the current classification may also occur, presenting diagnostic challenges. We report a 68-year-old male with diffuse pruritic red papulonodular eruption diagnosed with cutaneous mature B-cell lymphoma, unclassifiable by WHO guidelines.

**CASE:** A 68-year-old man presented with hard, pruritic nodules that began 3 years ago and spread over the past 6 months to his back, trunk, and arms. (Figure 1,2) Initially thought to be keloids, the lesions partially regressed with intralesional corticosteroids, but new lesions continued to emerge. Systemic examination and routine laboratory tests were unremarkable. Histopathological and immunohistochemical examination of a 4.0 mm punch biopsy revealed dermal B-cell infiltration with CD20, Bcl-2, and focal CD23 positivity; CD5 and CD30 were negative, and the Ki-67 index was 30%. A second biopsy confirmed CD19, CD43, CD45, CD79a positivity and a similar Ki-67 index. PET-CT showed no systemic involvement, aside from mild FDG uptake in the skin lesions. Based on clinical and pathological findings, the patient was diagnosed with PCBCL, although not classifiable into any specific subgroup. Treatment with methotrexate (15 mg/week) was initiated, and the patient showed clinical improvement. Follow-up is ongoing.

**DISCUSSION AND CONCLUSION:** Primary cutaneous B-cell lymphomas are lymphomas limited to the skin without systemic involvement at diagnosis. WHO 2022 classification divides them into subtypes: primary cutaneous marginal zone lymphoproliferative

disorder, primary cutaneous follicle center lymphoma, EBV-positive mucocutaneous ulcer, and more aggressive forms such as primary cutaneous diffuse large B-cell lymphoma, leg type (PC-DLBCL-LT), and intravascular B-cell lymphoma. Diagnosis requires clinical correlation and detailed immunophenotyping, including exclusion of systemic disease.

Our patient's immunohistochemical features (CD20+, BCL2+, CD5-, CD30-, Ki-67 30%) partially overlap with both PC-DLBCL-LT and primary cutaneous marginal zone lymphoma (PC-MZL), but lack of leg localization, EBER negativity, and some histological features argue against definitive classification. BCL2 positivity excludes follicle center lymphoma. Due to unclassifiable features, the case was followed closely. Management options vary based on subtype and extent, from topical therapies and local radiation for limited disease to systemic chemotherapy for aggressive cases. Methotrexate is commonly used in dermatology and showed a good response in this patient. This case highlights an unclassifiable B-cell lymphoma with diffuse cutaneous involvement and underscores the importance of recognizing atypical presentations and considering methotrexate in treatment.

**Keywords:** B-cell lymphoma, nodule, unclassified

**Figure 1**



**Figure 2**







## PP-32 [Lasers]

### Successful CO<sub>2</sub> Laser Treatment of Facial Angiofibromas in a Male Patient with Tuberous Sclerosis: Case Report

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Department of Pamukkale University, Denizli, Turkey

Tuberous sclerosis is a rare, multisystemic, autosomal dominant disease associated with a mutation in either of the two genes, TSC1 and TSC2, which are responsible for the synthesis of the proteins hamartin and tuberlin.

It is characterized by a highly variable phenotype and the development of multiple hamartomas distributed throughout the body, particularly in the brain, skin, retina, kidneys, heart, and lungs. The prevalence is not well defined, with reported incidence ranging from 1:6,000 to more than 1:100,000.

Facial angiofibromas are the most common cutaneous manifestation of tuberous sclerosis complex (TSC), affecting up to 90% of patients. These lesions pose a significant social burden, further worsening patients' already impaired social life, interpersonal interactions, and daily activities.

Various treatment methods have been attempted for facial angiofibromas, often with limited success. However, CO<sub>2</sub> laser ablation has shown promising results in their removal.

Here, we present the case of a 15-year-old male patient diagnosed with tuberous sclerosis who had multiple facial angiofibromas and underwent CO<sub>2</sub> laser ablation

**Keywords:** facial angiofibromas, tuberous sclerosis, CO<sub>2</sub> laser treatment

## PP-33 [Autoimmune Connective Tissue Disorders]

### A Case of Linear Morphea

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**INTRODUCTION & OBJECTIVES:** Morphea is an autoimmune disorder characterized by sclerosis and inflammation of the skin and soft tissues, with an incidence ranging from 0.4 to 2.7 per 100,000 individuals. The subtypes of morphea include linear, generalized, plaque and mixed forms with the linear subtype being the most common presentation in children. Patients with linear morphea typically present with erythema, skin induration and band-like cutaneous sclerosis, often accompanied by joint contractures and muscle weakness. In this presentation, we report a case of linear morphea and aim to discuss its clinical features, differential diagnosis, and available treatment options.

**Materials & METHODS:** A 17-year-old female with no known medical history presented with a two-year history of linear, mildly erythematous-violaceous plaques extending from the anterior aspect of the left tibia to the posterior thigh (Figure 1). The lesions were indurated on palpation. There was no history of trauma, systemic symptoms, or family history of autoimmune disease.

Histopathological examination of the skin punch biopsy specimen revealed orthokeratosis on the surface, mild acanthosis in the epidermis, thickening of collagen fibers in the dermis and perivascular and periadnexal interstitial lymphocytic infiltration, leading to a definitive diagnosis of linear morphea.

Laboratory investigations, including complete blood count, liver and renal function tests, were within normal limits. Antinuclear antibody (ANA) was positive with a fine granular pattern, whereas rheumatoid factor (RF) and anti-Scl-70 antibody were negative. Joint range of motion was preserved, and no contractures were observed during physical examination.

The patient was initially treated with high-potency

topical corticosteroids and calcipotriol. Due to inadequate therapeutic response, methotrexate was introduced at a weekly dose of 10 mg.

**CONCLUSIONS:** Characteristics of linear morphea are linear streaks and induration that can involve the dermis, subcutaneous tissue, muscle and underlying bone. This type of morphea often occurs on the extremities and face or scalp of children and adolescents. Linear morphea should be considered in the differential diagnosis of unilateral erythematous-violaceous plaques following Blaschko's lines on the extremities. When clinically indicated, a biopsy should be performed to establish the diagnosis through histopathological evaluation.

Linearmorphea is often associated with musculoskeletal, cosmetic, and neurological complications. Additionally, it may coexist with autoimmune disorders such as vitiligo, hypothyroidism, hyperthyroidism and rheumatoid arthritis. Timely diagnosis and appropriate therapeutic intervention play a critical role in preventing disease-related complications. When indicated, additional imaging modalities such as radiography and MRI may be utilized and patients should be managed through a multidisciplinary approach to ensure comprehensive follow-up.

**Keywords:** linear morphea, autoimmune, Blaschko lines

**Figure 1**



## PP-34 [Psoriasis]

### How much do psoriasis patients know about their comorbidities?

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**INTRODUCTION & OBJECTIVES:** Psoriasis is a chronic inflammatory disease and is observed in approximately 3% of the population. Because inflammation of the skin triggers systemic inflammatory pathways, the disease is accompanied by comorbidities such as diabetes, hypertension, dyslipidemia, atherosclerosis, arthritis, inflammatory bowel disease, non-alcoholic hepatosteatosis, and metabolic syndrome. Accordingly, it is considered a systemic disease. The fact that patients have sufficient information about their diseases has a positive impact on the management of disease, increases the adherence to treatment, and ensures that patients stay away from the factors that induce the disease. This study aimed to examine the level of knowledge of psoriasis patients about their potential comorbidities, the knowledge sources, and the correlation between their level of knowledge and their treatment.

**Materials & Methods** The study included patients aged  $\geq 18$  years who were followed-up due to psoriasis in a dermatology outpatient clinic. Patients' height was calculated in centimeters, body weight in kilograms, and body mass index (BMI) in kg/cm<sup>2</sup>. The patients were asked 10 questions on whether they had knowledge about the possible comorbidities accompanied by psoriasis. The participants who responded "I know" were asked about their knowledge acquisition sources.

**RESULTS:** The study included 269 psoriasis patients (female, 136 [50.6%] and male, 133 [49.4%]). The mean age of patients was  $43.9 \pm 13.9$  (min-max: 20-77) years, and the mean diagnosis time was  $12.7 \pm 9.4$  (min-max: 1-42) years. The evaluation of the level of knowledge revealed that 31 (11.5%) patients knew that obesity has a negative impact on psoriasis, 23 (8.6%) knew that psoriasis is more common in



obese patients, 15 (5.6%) knew that increased waist-to-hip ratio has a negative impact on the prognosis of psoriasis. Moreover, 27 (10%), 18 (6.7%), 21 (7.8%), 215 (79.9%), and 17 (6.3%) patients knew that psoriasis may be accompanied by dyslipidemia, diabetes, hypertension, hepatosteatos, and inflammatory bowel diseases, respectively. Further, 22 (8.2%) patients had the knowledge of atherosclerosis-associated diseases and 106 (39.4%) had the knowledge of psoriatic arthritis. Patients often obtained the related information from their doctors and then from the media.

**CONCLUSIONS:** In our study, it was noteworthy that psoriasis patients do not have sufficient information about the comorbidities of the disease. The most common information known by the patients was that psoriasis is accompanied by arthritis, whereas the least common information was that increased waist-to-hip ratio has a negative impact on psoriasis.

**Keywords:** Awareness, Comorbidity, Psoriasis

## PP-35 [Systemic Treatment]

### The effect of systemic isotretinoin treatment on thyroid function tests in acne vulgaris

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**Introduction & OBJECTIVES:** Acne vulgaris is a chronic, inflammatory disease of the pilosebaceous follicles caused by increased follicular hyperkeratinization, seborrhea associated with sebaceous hyperplasia, Propionibacterium acnes colonization and the presence of inflammation. Isotretinoin, a synthetic vitamin A derivative, is used in the treatment of acne by acting on four major pathways involved in the pathogenesis of the disease. Isotretinoin treatment may cause many side effects including xerosis, dry eye, dyslipidemia, elevated liver transaminases and benign intracranial hypertension. In addition to these side effects, there are data in the literature that it may cause thyroid dysfunction and it has been reported that it may cause hypothyroidism or hyperthyroidism.

**MATERIAL-METHOD:** Patients who received systemic isotretinoin for acne vulgaris in the dermatology and venereology clinic were included in the study. The study was planned retrospectively and file data were analyzed. Age, gender, information, pre-treatment and post-treatment TSH, sT4, sT3 data were recorded from the patients' files.

**RESULTS:** A total of 151 patients (131 females and 20 males) were included in the study. The mean age of the patients was 23.32±4.631 (min:18, max:43). A significant decrease in TSH, sT3 and sT4 values was observed with treatment (respectively p:0.025, p:0.001, <0.001).

**CONCLUSION:** Our study showed that isotretinoin decreased serum TSH, fT3 and fT4 levels in patients with acne vulgaris. It is recommended to question clinical symptoms of possible hypothyroidism during systemic isotretinoin treatment and to follow up with thyroid function tests.

**Keywords:** Acne, isotretinoin, thyroid





## PP-36 [Dermatological Practice Management]

### Intralesional Vitamin C Injection: A New Approach for Treating Skin Ulcers

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Mersin University Medical Faculty Hospital

#### Intralesional Vitamin C Injection: A New Approach for Treating Skin Ulcers

**INTRODUCTION-OBJECTIVES:** Ulcers are characterized by the segmental or complete loss of the epidermis, including the basal membrane, and exposure of the underlying dermis. Chronic skin ulcers can result from various causes, such as venous stasis, arterial insufficiency, diabetes, inflammation, cancer, and pressure sores. The aim of treatment is to eliminate the etiological factors and promote healing through proper wound care. Vitamin C plays a crucial role in collagen formation and possesses antioxidant properties, making it essential for tissue regeneration. Literature indicates that systemic vitamin C supplementation accelerates tissue regeneration in skin ulcers. Intralesional vitamin C has been successfully used in the treatment of exogenous ochronosis and melasma. Based on these studies, it was hypothesized that intralesional vitamin C injections to ulcerated areas would benefit patients with skin ulcers.

**MATERIALS-METHODS:** A retrospective chart review was conducted for two patients with skin ulcers who received intralesional vitamin C injections between November 2024 and February 2025. One patient was a 56-year-old female with an ulcer on the left breast, and the other was a 45-year-old male with an ulcer on the distal left lower extremity. Both patients had chronic ulcers that did not improve significantly with long-term use of topical epithelializing agents. Data were collected regarding the patients' initial physical examination findings, previous and current treatments, details of the vitamin C injections, and both objective and subjective responses to treatment.

**RESULTS:** The female patient received intralesional vitamin C injections weekly for four months, and the male patient for three months. The injections were administered starting from the periphery of the ulcerated lesion, with 0.1 ml/cm<sup>2</sup> of vitamin C injected using an insulin syringe. Topical epithelializing and emollient agents were also applied throughout the

treatment period. Significant healing of the lesions was observed in both patients. The most common side effect noted was pain.

**CONCLUSION:** Our study demonstrates that intralesional vitamin C injections are a safe and effective treatment for skin ulcers. Given the role of vitamin C in tissue regeneration and its established efficacy in other dermatological conditions, intralesional vitamin C application appears to be a promising approach for enhancing wound healing in chronic skin ulcers. The findings of this study support the safety and efficacy of intralesional vitamin C as a treatment modality for dermatological diseases.

**Keywords:** Intralesional Vitamin C Injection, Skin Ulcers, vitamin C, tissue regeneration

#### male patient



*before treatment*





Allergy and Cosmetology in Dermatology

# 10<sup>TH</sup> INDERCOS

International Dermatology and Cosmetology Congress  
17 - 20 April 2025 | Radisson Blu Şişli Hotel-İstanbul, Türkiye

**male patient**



*after treatment*

**woman patient**



*after treatment*

**woman patient**



*before treatment*



## PP-37 [Psoriasis]

### The results of the comorbid state in patients with psoriasis

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Mirsaidova U.A., Ismogilov A.I. Republican Specialized Scientific and Practical Medical Center of Dermatovenereology and Cosmetology of the Ministry of Health of the Republic of Uzbekistan

The study of metabolic syndrome in the dermatological discipline is a priority in terms of developing pathogenetic treatment methods for chronic skin diseases. The aim of the study was to study the comorbid state in patients with psoriasis, taking into account the age and gender of the patients.

**Research METHODS:** We examined 210 patients with psoriasis aged 2.5 to 67 years. All patients underwent clinical, laboratory – general clinical, biochemical, functional (ultrasound) and statistical studies and consultations with related specialists.

The results of the study: Assessment of the severity according to the PASI index revealed mild severity in 76 (36.2%), moderate severity in 102 (48.6%) and severe severity in 32 (15.2%) patients. The results of clinical and laboratory studies in patients with psoriasis revealed metabolic syndrome with endocrinological disorders in 81 (38.6%). Taking into account the clinical course in the group of patients with mild PASI, the standard values of body mass index (BMI) were recorded in 59.2% of men and 74.7% of women. In the moderate course of psoriasis, there was a decrease in the proportion of patients with standard BMI values - 39.3% in men and 28.2% in women. This indicates an increasing change towards overweight or obesity as the severity of the psoriatic process increases. In the group of patients with severe psoriasis, the standard BMI was found in only 10.3% of men.

**CONCLUSION:** Thus, the results of the study provide for the need for an integrated approach to social responsibility and lifestyle correction and metabolic abnormalities in patients with psoriasis, especially in moderate to severe cases of the disease.

**Keywords:** psoriasis, clinic, PASI, metabolic syndrome, obesity, body mass index

## PP-38 [Dermatology and Internal Medicine, including Skin Manifestations of Systemic Diseases]

### Microbiological research methods - cultural studies. Molecular-genetic - examination of staphylococcal genotypes.

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The importance of conducting microbiological studies and genotyping in patients with peripholliculitis of the scalp.

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Peripholliculitis of the scalp, abscessing and swollen, also known as dissecting scalp cellulitis (DCS) or Hoffman's disease, is a chronic inflammatory condition of the scalp characterised by abscesses, fluctuating, interconnected nodules, nodules, fistulas, and scarring alopecia. On the basis of literature review, the article describes rare dermatosis — abscessed disruptive folliculitis, Hoffman's perifolliculitis and follicular occlusion syndrome.

**Materials and methods.** Microbiological research methods - cultural studies. Molecular-genetic - examination of staphylococcal genotypes.

**Results and discussion.** In our studies, the results of microbiological studies of the surface of the inflamed skin in 20 patients with this disease showed that *St. aureus* - 65% (13), *St. Epidermidis* - 15.0% (3), *St. Haemolyticus* - 15.0% (2) and *St. Saprophyticus* was also detected in 2.0% (1).

Along with this, during PCR genotyping of isolated pathogenic microorganisms, *Staphylococcus* spp. MRSA (13.3%), MSSA in 2 patients, and MRCoNS (2.2%) in 1 patient were identified. **CONCLUSION:** The clinical course of Goffman's folliculitis in patients with identified *staphylococcus aureus* genotypes was characterized by persistence, chronization, resistance to the antibacterial and anti-



inflammatory therapy. All patients had frequent relapses of 4-5 times a year, which contributed to a decrease in the quality of life.

**Keywords:** peripholliculitis, Hoffman's disease, Molecular-genetic - examination of staphylococcal genotypes.

## PP-39 [Dermatological Practice Management]

### A case of livedoid vasculopathy associated with protein S deficiency demonstrating dramatic response to rivaroxaban treatment

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**Introduction & OBJECTIVES:** Livedoid vasculopathy (LV) is a rare form of vasculopathy that typically presents with bilateral painful ulcerations and atrophic scars on the lower limbs. It is considered to result primarily from thrombotic activity, reduced fibrinolysis, and endothelial damage, distinguishing it from inflammatory vasculitides. LV follows a chronic, relapsing-remitting course, often resistant to standard treatments. This case report highlights a 37-year-old male patient with LV associated with protein S deficiency and his clinical response to rivaroxaban therapy. The aim is to discuss the underlying mechanisms, diagnostic process, and response to treatment.

**Materials & METHODS:** A 37-year-old male patient applied to our hospital with the complaint of wounds on his ankles 9 years ago. Dermatological examination revealed multiple painful ulcers of various sizes on both ankles, characterized by erythematous structures with purple borders and central fibrin coating (Figure-1). A punch biopsy was performed and blood was taken from the patient with the preliminary diagnoses of liveoid vasculopathy, pyoderma gangrenosum, polyarteritis nodosa and granulomatous vasculitis. Protein S level was found to be low and histopathology showed orthokeratosis and acanthosis in the epidermis, edema in the superficial dermis, erythrocyte extravasation and dilated thick-walled vessels with swollen endothelium. Edema and lymphoplasmacytic histiocytic infiltration were observed in the perivascular stroma (Figure-2). According to the biopsy result, a diagnosis of liveoid vasculopathy was made and various treatments were tried. (colchicine, dapsone, steroid, IVIG, trental, corasprin) However, short-term improvements were achieved and the patient's complaints recurred. Our patient was started on 2\*30 sessions of hyperbaric oxygen and 20 mg 1\*1 rivaroxaban for 60 days 2 years ago. The improvement seen was more effective than the



treatments the patient had received before and resulted in complete healing of the ulcers on his leg (Figure-3).

**RESULTS:** The diagnosis of LV associated with protein S deficiency was confirmed. Rivaroxaban therapy was well tolerated and led to significant clinical improvement. No new ulcerations occurred during the 6-month follow-up.

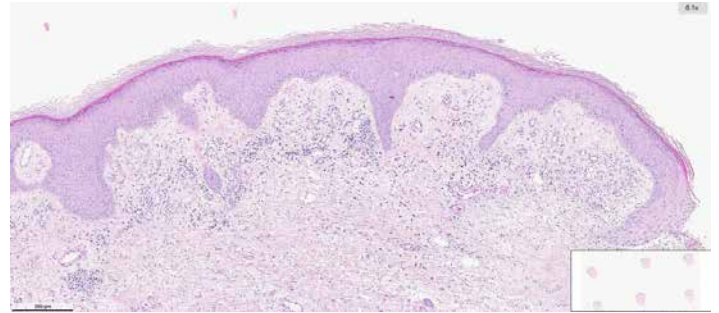
**CONCLUSION:** Livedoid vasculopathy is a disorder that can lead to painful ulcers and atrophic scars on the lower limbs. The LV has been associated with various conditions, including protein S deficiency, protein C deficiency, Factor V Leiden mutation, hyperhomocysteinemia, prothrombin gene mutation and activated protein C resistance. Treatment options include anticoagulants, systemic steroids, and immunosuppressive drugs. Further investigations should be conducted to evaluate collagen diseases and coagulation disturbances in these patients. Rivaroxaban, an antagonist Factor X a, may be considered to as a potential treatment option.

**Keywords:** livedoid vasculopathy, protein S, rivaroxaban

**figure-1**



**figure-2**



**figure-3**







## PP-40 [Adverse Drug Reactions, TEN]

### Stevens-Johnson syndrome in a pemphigus patient

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**INTRODUCTION:** Stevens-Johnson syndrome (SJS) is a rare and fatal mucocutaneous disease with systemic symptoms that almost always occurs after exposure to certain medications. Women are frequently more affected than men and also there are certain risk factors such as immunosuppression, receiving anticonvulsants while under radiotherapy and having a slow acetylating genotype that increases susceptibility to the disease. It is noted in the literature rituximab, although rarely, can be responsible for Stevens-Johnson syndrome.

**CASE PRESENTATION:** A 65-year-old male patient with a 9-year history of pemphigus vulgaris, presented to our clinic with primarily oral mucosal lesions and with a Pemphigus Disease Area Index (PDAI) total activity score of 37. At the time of presentation, he had been on systemic corticosteroids for 1.5 years and azathioprine for 2 years. He also had a history of receiving four rituximab infusions in 2016 and 2018. The patient was admitted to our clinic for an additional rituximab infusion. During pre-treatment evaluations, his tuberculosis screening revealed a positive Interferon Gamma Release Assay (IGRA). Following consultation with the pulmonary medicine department, isoniazid therapy was initiated. Additionally, due to negative hepatitis B serology, the hepatitis B vaccine was administered. One month after starting isoniazid, the patient received a 1-gram rituximab infusion and was discharged the following day. Five days after the rituximab infusion, he returned to the clinic with symptoms of eye redness, pain, and worsening oral mucosal lesions. Ophthalmology initially diagnosed the eye symptoms as conjunctivitis. The patient was readmitted and within two days of hospitalization, coalescing maculopapular lesions developed on the trunk and palmoplantar regions. A punch biopsy was obtained from the back for histopathological and immunofluorescence examination, with preliminary diagnoses of Stevens-Johnson syndrome (SJS) and

pemphigus. Histopathological findings included complete epidermal necrosis, subepidermal cleavage in the dermis, and perivascular mononuclear inflammatory infiltrates in the papillary dermis. The patient was diagnosed with SJS, and intravenous immunoglobulin (IVIG) therapy at 2 g/kg and intravenous corticosteroid treatment were initiated. Upon completion of IVIG therapy, improvement was noted in the patient's oral and cutaneous lesions.

**Discussion and CONCLUSION:** Stevens-Johnson syndrome (SJS) is a life-threatening condition that can cause mucocutaneous involvement. In this case report, SJS developed in a patient with pre-existing oral mucosal lesions following the use of low-risk medications such as rituximab. In this case we aim to emphasize that in patients with mucosal lesions due to pemphigus vulgaris, distinguishing the mucosal and cutaneous findings of SJS from pemphigus lesions can be challenging and very crucial.

**Keywords:** stevens-johnson syndrome, drug reaction, pemphigus vulgaris

### Cutaneous lesions



*maculopapular lesions developed on the trunk and palmoplantar regions*

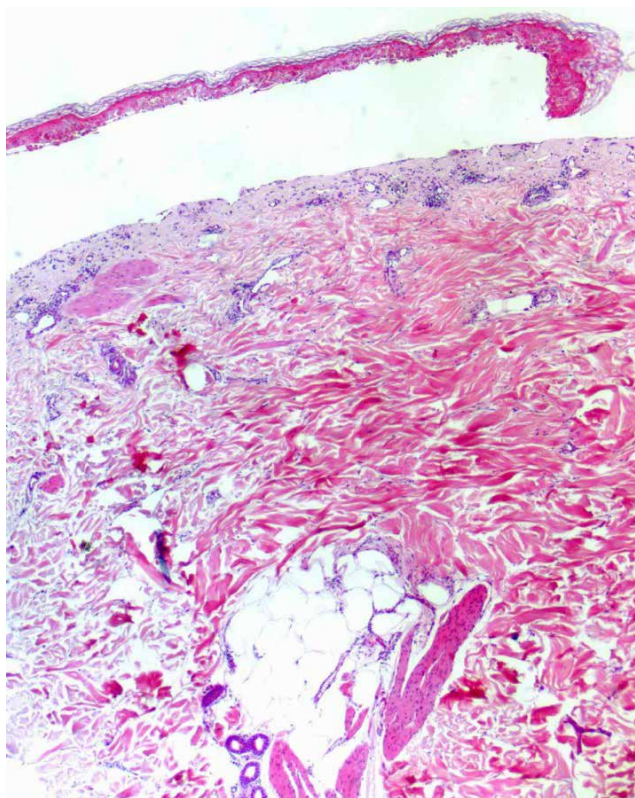


## Cutaneous lesions



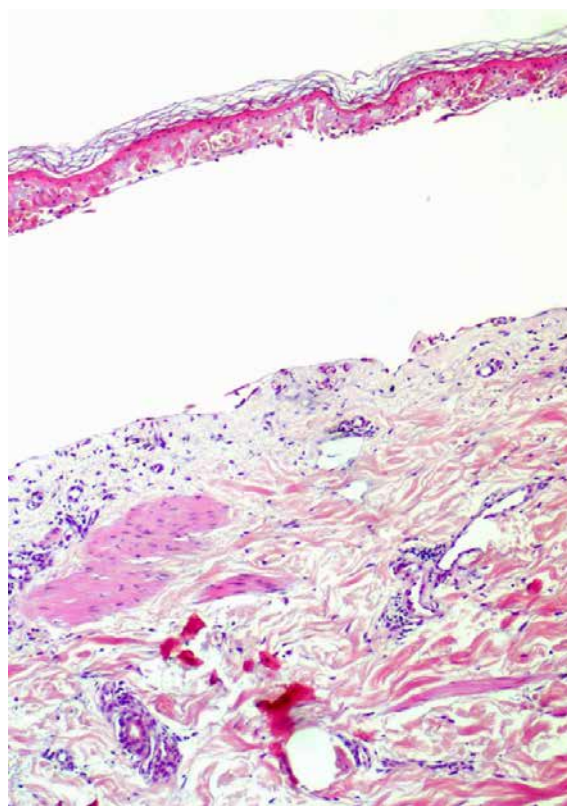
*maculopapular lesions developed on the trunk and palmoplantar regions*

## Histopathological evaluation



*Figure 2: There is a cell-poor subepidermal blister and epidermal necrosis (H&Ex40)*

## Histopathological evaluation



*Figure 1: Full-thickness epidermal necrosis and a subepidermal blister. Dermal inflammatory is sparse. (H&Ex100)*

## Mucosal lesions





## PP-41 [Pharmacology and Skin-related Toxicology, Phlebology]

### FOLFIRINOX induced hyperpigmentation in a patient with pancreatic cancer

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**INTRODUCTION & OBJECTIVES:** Cancer is a complex disease characterized by uncontrolled cell division, influenced by both genetic and environmental factors. Chemotherapy is primary treatment modality aimed at eliminating cancer cells. While conventional chemotherapy targets rapidly dividing cells, it is often associated with systemic side effects, including dermatological complications. The FOLFIRINOX regimen- comprising folinic acid, fluorouracil, irinotecan, and oxaliplatin- is linked to a range of adverse effects, including cholinergic syndrome, allergic reactions and various dermatologic complications. However, cutaneous hyperpigmentation is a rare side effect of this regimen. This case report describes a patient with pancreatic cancer who developed significant cutaneous hyperpigmentation following FOLFIRINOX treatment.

**MATERIALS & METHODS:** A 61-year-old male presented with tongue and nail discoloration. He was initially evaluated for yellowish skin discoloration, and subsequently diagnosed with pancreatic cancer, for which he underwent a Whipple procedure, followed by FOLFIRINOX chemotherapy. During the third chemotherapy cycle, he noticed hyperpigmented lesions on his tongue, which later extended to his nails, nasal alae, palmar surfaces, and palate. Oral mucosa examination revealed multiple brown pigmented macules on the hard palate and tongue, along with a geographic tongue (Figure 1). Similar hyperpigmented macules were observed on the nasal alae, palmar surfaces, and the glans penis (Figure 2-3). Additionally, dark streaks were present on the fingernails of both hands. Based on the patient's clinical findings, chemotherapy-induced hyperpigmentation was diagnosed, and dermatological follow-up was recommended.

**RESULTS:** Cutaneous hyperpigmentation refers to

dark discoloration of the skin resulting from melanin accumulation. Certain medications, including irinotecan and hydroxyurea, have been implicated in its development. Irinotecan-induced hyperpigmentation typically affects the hands, feet, face, and mucosal areas, likely due to the drug's cytotoxic effects. Although oxaliplatin is not known to cause additional skin changes when combined with 5-FU, animal studies suggest that irinotecan increases the expression of tyrosinase, CREB, and MITF, while 5-FU promotes melanin accumulation, contributing to localized pigmentation. Given the documented cases of tongue and palmoplantar hyperpigmentation associated with irinotecan-containing chemotherapy regimens and supporting animal model evidence, we attribute the cutaneous hyperpigmentation observed in this patient to irinotecan.

**CONCLUSIONS:** Localized drug-related hyperpigmentation is a rare adverse effect in patients receiving irinotecan. Due to the rarity of irinotecan-associated hyperpigmentation, further research and additional case reports are required to increase awareness and guide dermatological monitoring.

**Keywords:** topoisomerase-1 inhibitor, hyperpigmentation, pancreatic cancer

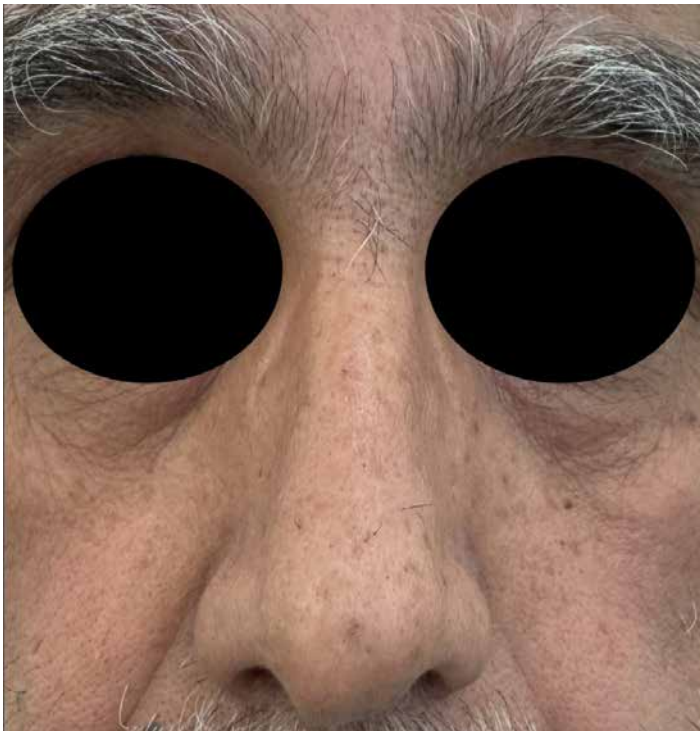


**Figure-1**



*Hyperpigmented macules on tounge*

**Figure-2**



*Hyperpigmented macules on nasal alae*

**Figure-3**



*Brown macules on palmar surfaces*





## PP-42 [Acne and Related Disorders, Hidradenitis Suppurativa]

### Selection of acne treatment tactics using sebumetry

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**INTRODUCTION:** Acne is one of the most common skin diseases, associated with sebaceous gland hypersecretion, follicular hyperkeratinization, *Propionibacterium acnes* proliferation, and an inflammatory response. The assessment of sebum production is an important diagnostic and prognostic criterion in acne treatment. In this context, sebumetry—an instrumental method for measuring sebum levels—becomes a significant tool in dermatological practice.

**Objective.** To evaluate the effectiveness of using sebumetry for assessing acne therapy.

**Materials and METHODS:** The study included 40 patients with various forms of acne (18 men and 22 women). Sebumetry was performed on all patients using the Multi Skin Test Center MC1000 on the forehead, nose, and cheeks at the beginning of the study and then every four weeks for three months.

Treatment was assigned based on sebumetry **RESULTS:**

- High sebum secretion → Systemic retinoids (*isotretinoin*) in an individually tailored dosage.
- Moderate sebum secretion → Systemic antibiotics (*doxycycline*) + topical therapy (retinoids, benzoyl peroxide, azelaic acid).
- Slightly increased sebum secretion → Only topical therapy (retinoids, benzoyl peroxide, azelaic acid).

**Treatment RESULTS:** A comparative analysis of treatment dynamics showed:

- High sebum secretion group (*isotretinoin*): Significant improvement was observed as early as week 4, with clinical improvement in 85% of patients by week 12.
- Moderate sebum secretion group (antibiotics + topical therapy): Improvement was noted by week 6, with 80% of patients showing clinical improvement by week 12.

- Slightly increased/normal sebum secretion group (topical therapy only): Improvement was less pronounced, with a significant reduction in inflammatory lesions by week 8 and 70% of patients showing improvement by week 12.

**CONCLUSION:** The use of sebumetry for selecting acne therapy allowed for personalized treatment, accelerated clinical improvement, and increased treatment effectiveness.

**Keywords:** Acne, sebumetry, isotretinoin, antibiotics, topical therapy, dermatology



## PP-43 [Cutaneous Oncology]

### Late-onset cutaneous involvement in a patient diagnosed with chronic lymphocytic leukemia

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**INTRODUCTION& OBJECTIVES:** Chronic lymphocytic leukemia (CLL) is a malignant lymphoproliferative disease characterized by the excessive accumulation of monoclonal mature B lymphocytes in the peripheral blood, bone marrow, lymph nodes and the spleen.

Skin involvement in CLL patients is rare. Reported cutaneous manifestations include nodules, papules, plaques, ulcerations and exfoliative erythroderma, often can mimic other dermatological conditions. Here, we present a case highlighting that cutaneous infiltration, though uncommon, can occur 13 years after the initial CLL diagnosis in a patient under long-term follow-up.

**MATERIALS& METHODS:** A 72-year-old Turkish male patient with a known diagnosis of chronic lymphocytic leukemia (CLL) presented to our clinic with red-purple lesions on his left thigh, persisting for approximately eight months. The patient was diagnosed with CLL in 2012 and has been under follow-up by the hematology department. He previously received venetoclax but is currently being monitored without active treatment.

Dermatological examination revealed multiple painless, non-pruritic, livid-colored, indurated papules, nodules, and plaques scattered across various areas. These lesions were located on the inner surfaces of both arms, in the both antecubital regions, on the posterior aspect of both thighs, and extended from the anterior thighs to below the knees, being more prominent on the left. (Fig 1.)

Histopathological examination of the left thigh biopsy showed orthokeratosis on the surface, acanthosis in the

epidermis and an infiltration of small to medium-sized lymphocytic cells extending into the subcutaneous fat tissue in the dermis. (Fig 2.) Immunohistochemical studies revealed CD20(+), CD5(+), CD23(+), and BCL1(-). These findings were consistent with CLL skin infiltration.

**RESULTS:** Complete blood count revealed a WBC count of 40,000/uL, a lymphocyte percentage of 92%, Hb:11g/L, and Plt:118,000/uL. Venetoclax was reinitiated by the hematology department.

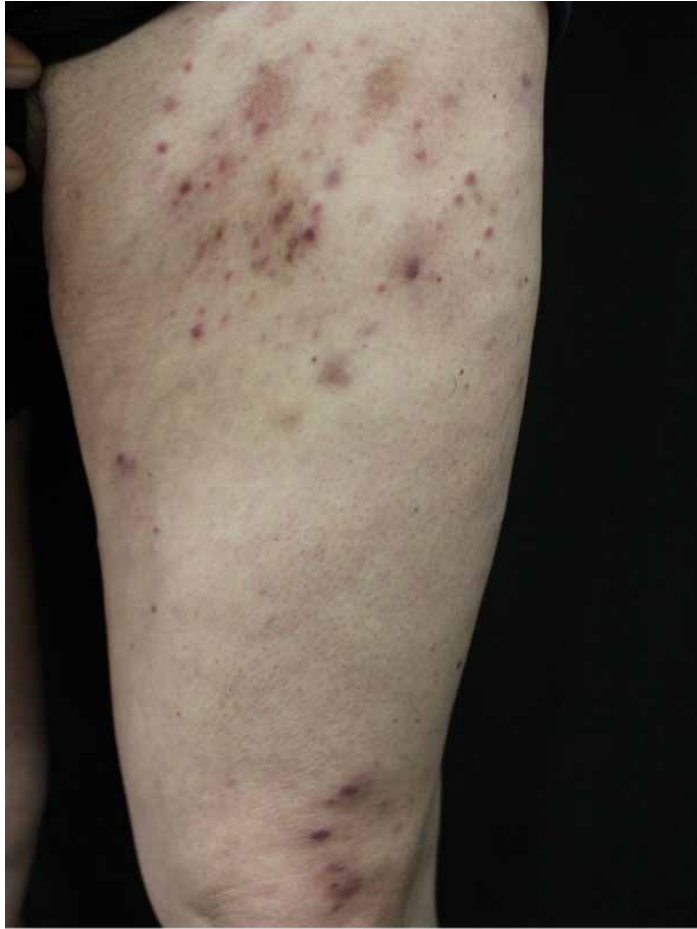
At the follow-up visit two months later, the patient's complete blood count showed a WBC count of 4,500/uL, a lymphocyte percentage of 27%, Hb:11g/L, and Plt:131,000/uL. A significant regression of the lesions was observed.

**CONCLUSIONS:** CLL is a malignant hematologic disease characterized by the widespread involvement of CD5-positive B lymphocytes in peripheral blood, bone marrow, lymph nodes, and the spleen. Its incidence is gradually increasing. Cutaneous involvement in CLL is classified into specific and non-specific lesions, with specific skin lesions being rare, occurring in 4–20% of cases.

Although skin involvement in CLL patients is rare, clinicians should remain vigilant for new skin lesions, even in patients in remission, and consider the possibility of CLL cutaneous infiltration.

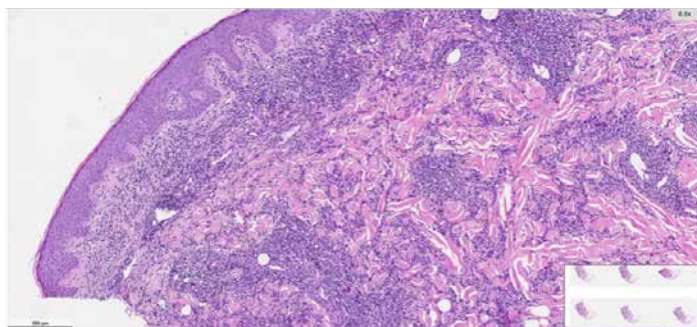
**Keywords:** Chronic Lymphocytic Leukemia, lymphocytes, skin infiltration

**Figure-1**



*Figure-1: Multiple painless, non-pruritic, livid-colored, indurated papules, nodules, and plaques extended from the anterior thighs to below the knees.*

**Figure-2**



*Orthokeratosis on the surface, acanthosis in the epidermis and an infiltration of small to medium-sized lymphocytic cells extending into the subcutaneous fat tissue in the dermis.*

## PP-44 [Adverse Drug Reactions, TEN]

### A Rare Clinical Variant Associated With Imatinib: Lichen Planus Pemphigoides

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**INTRODUCTION:** Lichen planus pemphigoides (LPP) is a rare acquired autoimmune subepidermal bullous disorder associated with lichenoid skin changes. LPP is usually idiopathic but drug-related cases have been reported. To illustrate the different clinical presentations of LPP, a 64-year-old woman with chronic myeloid leukaemia (CML) who had been taking imatinib mesylate for approximately three months presented with sudden onset of blisters and blister debris, particularly on the trunk and extremities, reminiscent of toxic epidermal necrolysis (TEN).

**CASE:** The patient, who had been diagnosed with CML three months previously and had been taking imatinib mesylate 400 mg/day since the time of diagnosis, presented with diffuse erythematous plaques on the bilateral upper and lower extremities and trunk for about a month, and eroded areas and blisters on the gluteal region and posterior lower extremities for the past week (Figure 1,2). The oral and genital mucosa were normal, although there was crusting on the lips. A punch biopsy and direct immunofluorescent (DIF) material were obtained, including the intact blister and intact tissue. Histopathology included hyperkeratosis, parakeratosis and subepidermal cleavage in the epidermis, vascular proliferation, perivascular lymphohistiocytic inflammation, melanophages and few eosinophils in the dermis. DIF examination was suboptimal due to technical failure and granular IgA and IgM were detected in colloid bodies. The patient was diagnosed with LPP based on clinical and histopathological findings and started on intravenous methylprednisolone 40 mg/day. Imatinib treatment was planned to be interrupted for a short period and continued at a lower dose. Imatinib mesylate was



interrupted for five days but restarted due to progressive leukocytosis. She remains on imatinib mesylate and has been followed up.

**DISCUSSION AND CONCLUSION:** Lichen planus pemphigoides is a rare disease that has clinical and histopathological features of both LP and BP. Angiotensin-converting enzyme inhibitors and immune-checkpoint inhibitors have been implicated in the disease. However, data in the literature are limited due to the rarity of the disease. In our case, imatinib mesylate, a tyrosine kinase inhibitor, has been evaluated as the drug responsible for the disease. There is no case of LPP due to imatinib mesylate in the literature and our case is the first reported in this regard. In our case, the lesions initially presented clinically typical, then developed TEN-like blisters and erosions. Systemic and topical steroids are the first-line treatment. Hydroxychloroquine, mycophenolate mofetil, dapsone could be used after than steroids. The lesions responded well to systemic and topical steroid treatment in our case. Although imatinib was continued, the disease was controlled. We believe that our case will be a contribution to the literature as it highlights that imatinib may be one of the drugs that can cause LPP and may be seen in a TEN-like clinic.

**Keywords:** lichen planus pemphigoides, imatinib, TEN-like

**Figure 1**



**Figure 2**



## PP-45 [Cutaneous Oncology]

### A Case Report: Red nodular lesion located on the face

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**INTRODUCTION:** Cutaneous metastasis from primary solid tumors is a rare occurrence, with breast cancer being the most common primary tumor, followed by lung cancer. Other potential sources include gastrointestinal tumors, ovarian cancer, and head and neck malignancies. These metastases are typically observed in older patients and often present as nodular lesions, though they can manifest in various forms such as rashes, ulcers, or zosteriform eruptions.

**Case Presentation:** A 60-year-old male patient with a history of diabetes mellitus presented with complaints of redness, swelling, and a raised protrusion on his chin that had developed over the past month. Dermatological examination revealed diffuse erythema on the face, purplish discoloration of the eyelids, and a well-defined nodular lesion measuring 1x2 cm with surface vascularization on the chin. A punch biopsy was performed, and the differential diagnoses included anaplastic large cell lymphoma, cutaneous metastasis, cutaneous B-cell lymphoma, and Kaposi sarcoma. Rheumatological testing for dermatomyositis was also conducted due to suspicion of a heliotropic rash. Histopathological examination of the biopsy showed a poorly differentiated malignant epithelial tumor with lymphatic invasion. Immunohistochemical staining revealed positivity for PANCK, CK7, and SATB2, and negative staining for CK20, GATA3, p63, TTF-1, and CD138. Rheumatological tests were negative. A CT scan revealed suspicious lesions in the lungs, brain, liver, and pancreas, suggesting a primary lung malignancy. Chemotherapy was initiated, but the patient passed away within one month.

**Discussion and CONCLUSION:** The lung is the most common primary site of cutaneous metastasis in men, with an average survival of approximately three months. Skin lesions in lung cancer patients typically appear as painless, firm nodules, most often on the anterior chest wall, abdomen, or head and neck. In some cases, these lesions may be the first clinical sign of lung cancer. Although rare,

cutaneous metastasis should be considered in patients with rapidly developing erythematous nodules on the face, and a thorough search for the primary malignancy should be conducted promptly.

**Keywords:** nodule, face, cutaneus, metastasis

**Figure 1**



*On dermatological examination, diffuse erythema on the face, red-purplish color changes on the eyelids, and a well-defined nodular lesion measuring 1x2 cm with surface vascularization on the chin were observed.*

**Figure 2**



*On dermatological examination, diffuse erythema on the face, red-purplish color changes on the eyelids, and a well-defined nodular lesion measuring 1x2 cm with surface vascularization on the chin were observed.*





## PP-46 [Adverse Drug Reactions, TEN]

### DRESS Syndrome: A Severe Drug Reaction Successfully Treated with Plasmapheresis and Steroids

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**INTRODUCTION:** Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS) is a rare but life-threatening drug hypersensitivity reaction. It is often triggered by anticonvulsants, allopurinol and certain antibiotics. Typically occurring 2–6 weeks after drug exposure, it is characterized by fever, widespread maculopapular rash, eosinophilia, atypical lymphocytosis and systemic organ involvement. Early diagnosis and prompt treatment are crucial for prognosis. Our case presents the typical clinical features of DRESS and a successful response to plasmapheresis and pulse steroid therapy.

**CASE REPORT:** A 34-year old male patient with seronegative rheumatoid arthritis developed facial and neck swelling, widespread erythroderma with scaly plaques and severe pruritus three weeks after initiating sulfasalazine and NSAIDs. He was initially treated with methylprednisolone (60 mg/day) for a suspected drug eruption. Due to worsening symptoms, he was referred to our clinic. On admission, he had a high fever and poor general condition. Bilateral, painless inguinal lymphadenopathy (3–4 cm) was detected. Laboratory findings included CRP: 34.4 mg/L, ALT: 144 U/L, AST: 43 U/L, WBC: 43,000/mcL and eosinophilia (13%). A skin biopsy confirmed a dermal hypersensitivity reaction. During follow-up, ALT (754 U/L), AST (584 U/L), creatinine (7 mg/dL) and BUN (186 mg/dL) levels increased significantly. Ultrasound revealed multiple enlarged lymph nodes in the cervical, axillary, inguinal, and abdominal regions. Peripheral blood smear showed no lymphoid atypia. Due to rapid systemic progression, a multidisciplinary approach was adopted, and the patient underwent three consecutive sessions of plasmapheresis along with 1 g/day pulse steroid therapy. Significant improvement in ALT, AST,

BUN, creatinine, and eosinophil levels was observed from the first day of treatment. The patient continued methylprednisolone (80 mg/day) and within five days, clinical and laboratory parameters normalized. Systemic steroid therapy was gradually tapered over six weeks. He remains under follow-up with no active lesions or abnormal laboratory findings.

**DISCUSSION:** DRESS syndrome is a severe, multisystem drug reaction mediated by delayed hypersensitivity. Its variable presentation can delay diagnosis and prompt intervention is crucial, particularly in hepatic, renal and hematologic involvement. In this case, sulfasalazine was identified as the triggering agent, with progressive systemic involvement. While corticosteroids are the mainstay of treatment, extracorporeal therapies like plasmapheresis can be beneficial in severe cases. Our case highlights the importance of a multidisciplinary approach and early aggressive treatment for successful recovery.

**CONCLUSION:** DRESS syndrome is a potentially fatal drug reaction that can resolve completely with timely diagnosis and appropriate treatment. This case demonstrates the efficacy of plasmapheresis and pulse steroid therapy in severe, refractory DRESS.

**Keywords:** Drug Reaction with Eosinophilia and Systemic Symptoms, Plasmapheresis, Pulse steroid,

**Figure-1**



*Pretreatment clinical appearance*





Allergy and Cosmetology in Dermatology

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**Figure-2**



*Pretreatment clinical appearance*

**Figure-3**



*Pretreatment clinical appearance*

**Figure-4**



*Posttreatment clinical appearance*

**Figure-5**



*Posttreatment clinical appearance*



## PP-47 [Psoriasis]

### Correlation between 25(OH)D level and C-reactive protein (CRP) in patients with plaque psoriasis in Uzbekistan region

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**INTRODUCTION & OBJECTIVES:** Vitamin D plays a role in regulating keratinocyte differentiation and immune function in the skin. Its deficiency leads to enhanced keratinocyte proliferation and increased skin inflammation in patients with psoriasis. During active psoriasis, C-reactive protein (CRP) serves as a nonspecific indicator of inflammation.

**METHODS AND OBJECTIVES:** This case-control study included 128 persons (94 chronic plaque psoriasis cases and 34 age- and sex-matched control subjects), who live in Uzbekistan. Among the patients 86 were women, 42 – men aged from 18 to 72 years (median age was 42.3±5.3 years). The duration of the disease was more than 7 months. The diagnosis of psoriasis was made clinically. Serum 25(OH)D level was assessed by chemiluminescent immunoassay, C-reactive protein (CRP) – by ELISA.

**RESULTS:** The mean serum 25(OH) D levels in plaque psoriasis patients and controls were 29.1±0.7 ng/mL and 36.2±1.2 ng/mL, respectively. The average serum C-reactive protein (CRP) in plaque psoriasis patients was 12±0.3 ng/mL vs 7.8±0.9 ng/mL in robust group. Decreased serum 25(OH) D level was negatively associated with C-reactive protein (CRP) ( $r = -0.12$ ,  $P = 0.05$ ).

**CONCLUSION:** Serum 25(OH) D levels are lower in psoriatic patients than in healthy control subjects. Deficiency of serum 25(OH) D was associated with C-reactive protein (CRP) with an inverse relationship. We believe that the insignificant difference in 25(OH) D levels between patients and healthy individuals can be explained by the conditions of a hot climate, where vitamin D synthesis is most intensive.

**Keywords:** 25(OH) D, C-reactive protein, plaque psoriasis

## PP-48 [Cutaneous Oncology]

### A rare cause of cutaneous metastasis:

#### Submandibular adenoid cystic carcinoma

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**INTRODUCTION AND OBJECTIVES:** Adenoid cystic carcinoma (ACC) is a rare malignant tumor that typically arises from the salivary glands. It is characterized by slow growth, frequent perineural invasion, and a high propensity for late-onset distant metastasis. While the lungs and bones are the most common sites of spread, cutaneous metastasis is extremely rare—particularly from the submandibular gland. To date, only a few such cases have been reported in the literature. We present a rare case of cutaneous metastasis from submandibular adenoid cystic carcinoma (ACC), highlighting the importance of clinical suspicion and timely biopsy in patients with a relevant oncologic history.

**Materials and METHODS:** A 46-year-old male initially presented with a right-sided neck swelling. Fine needle aspiration biopsy (FNAB) revealed adenoid cystic carcinoma (ACC) of the right submandibular gland. He underwent complete surgical excision of the tumor, followed by adjuvant radiotherapy. Two years later, he presented with a pruritic, firm, erythematous-violaceous, non-ulcerated, lichenified cutaneous nodule with fine scaling, measuring approximately 3 cm, located over the right submandibular region, adjacent to the previous surgical site (Figure 1). The lesion was unresponsive to several topical treatments. Upon clinical evaluation, a punch biopsy was performed.

**RESULTS:** Histopathological analysis confirmed cutaneous metastasis of adenoid cystic carcinoma (ACC), showing characteristic cribriform and tubular patterns (Figure 2). Tumor cells were positive for CK7 (Figure 3) and negative for SMA, S100, p63, and p40. No perineural invasion was observed. PET/CT imaging revealed no other metastatic sites, consistent with isolated cutaneous involvement.

The patient underwent surgery and radiotherapy for the primary tumor, followed by a second excision after the diagnosis of skin metastasis. Oncologic follow-up is ongoing. **CONCLUSIONS:** Cutaneous metastasis of submandibular adenoid cystic carcinoma (ACC) is rare but clinically important. Due to its slow yet persistent progression, long-term follow-up is essential. Suspicious skin lesions may mimic benign conditions, often leading to delayed diagnosis. In patients with a history of ACC, early consideration of biopsy is crucial. A delayed diagnosis can negatively impact patient outcomes, emphasizing the importance of timely histopathological evaluation.

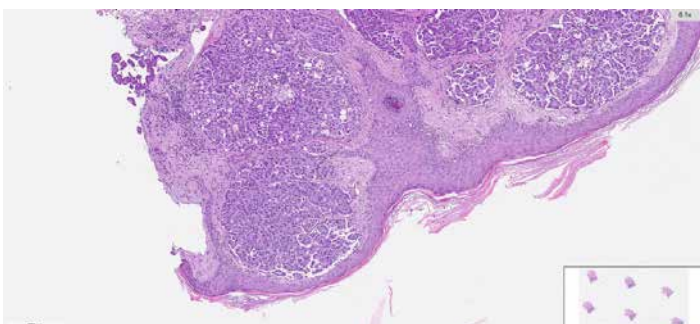
**Keywords:** Adenoid cystic carcinoma, submandibular gland, cutaneous metastasis

1



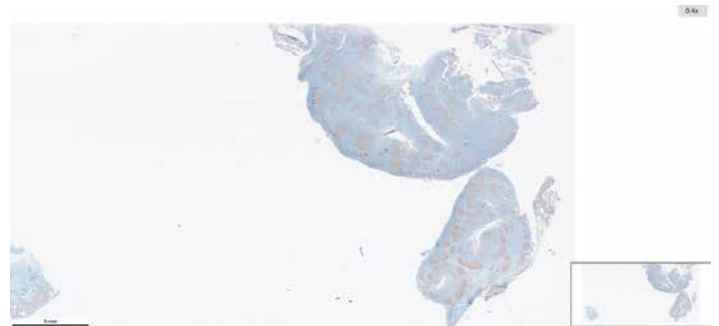
*Clinical image showing a violaceous, firm, non-ulcerated nodule with fine scaling over the submandibular surgical scar.*

2



*Dermal basaloid tumor with cribriform architecture, without epidermal or adnexal connection (H&E, x6.1).*

3



*CK7 immunostaining demonstrates diffuse cytoplasmic positivity in basaloid tumor nests (IHC, x0.4).*





## PP-49 [Inflammatory Skin Diseases]

### Is pulmonary involvement possible in pyoderma gangrenosum?

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DEPARTMENT OF DERMATOLOGY, PROF. DR. CEMİL TAŞCIOĞLU CITY HOSPITAL, HEALTH SCIENCE UNIVERSITY

**INTRODUCTION&OBJECTIVES:** Pyoderma gangrenosum (PG) is a rare neutrophilic dermatosis characterized by inflammatory and ulcerative skin lesions. It typically starts as an inflammatory papule or pustule that progresses to a painful ulcer with a violaceous undermined border and a purulent base. More than half of PG cases are associated with an underlying systemic disease. Although pulmonary involvement, is rare, it has been reported in association with PG. Radiological findings may include pulmonary nodules, pulmonary masses and cavitating lesions. Additionally, its clinical and radiological presentation may mimic chronic granulomatous polyangiitis, complicating the diagnostic process. This case report examines the potential for pulmonary involvement in PG in a 76-year-old male patient who has been followed for PG for 10 years, presented with lung lesions during a disease exacerbation.

**MATERIAL&METHODS:** A 76-year-old male patient with a known diagnosis of hypertension had been under our care for 10 years due to PG. His medical history included the use of systemic corticosteroids, infliximab, dapsone, colchicine, methotrexate, and IVIG. On dermatological examination, painful ulcers and scars were observed on the posterior surface of the left tibia, the largest measuring 6x2 cm with erythematous borders and necrotic edges (figure-1). During hospitalization, the patient developed symptoms of cough, shortness of breath, and chest pain, prompting laboratory tests and imaging studies.

**RESULTS:** Laboratory tests revealed WBC:  $13.5 \times 10^9/L$ , platelets:  $600.00 \times 10^9/L$ , with unremarkable basic metabolic panel and titers. Antinuclear antibody, c-ANCA, and p-ANCA were negative, while C3 and C4 were within normal limits. ESR: 87 mm/h, CRP: 70/L. Sputum culture and ARB staining/Quantiferon tests were negative for tuberculosis and other infections.

Chest CT revealed nodular infiltrates and cavities (figure-2). The patient was referred to the pulmonary medicine department, where pneumonia or tuberculosis was ruled out, and vascular involvement was suspected. The patient had multiple hospital admissions, with similar chest imaging findings documented in 2023. Following treatment with prednisolone, both the patient's symptoms and the chest CT lesions showed significant improved (figure-3,4).

**CONCLUSIONS:** PG is a neutrophilic disease that capable of affecting nearly any organ through neutrophilic inflammation. Although pulmonary involvement in PG is rare, it represents the most common extracutaneous manifestation of the disease. Radiological findings may include infiltrates, pulmonary nodules, cavitations, and parenchymal masses. However, the clinical and imaging can overlap with infectious processes, tuberculosis, and vasculitis, making an accurate differential diagnosis essential. Pulmonary involvement in PG should be considered in patients with compatible clinical presentations, and alternative diagnoses must be thoroughly evaluated.

**Keywords:** Pyoderma gangrenosum, pulmonary lesions, vasculitis

**Figure-1**



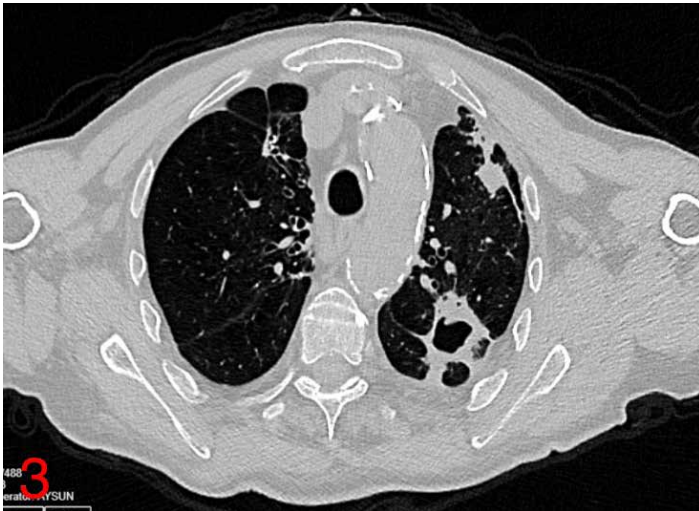
*Image-1; painful ulcers and scars on surface tibia*

**Figure-2**



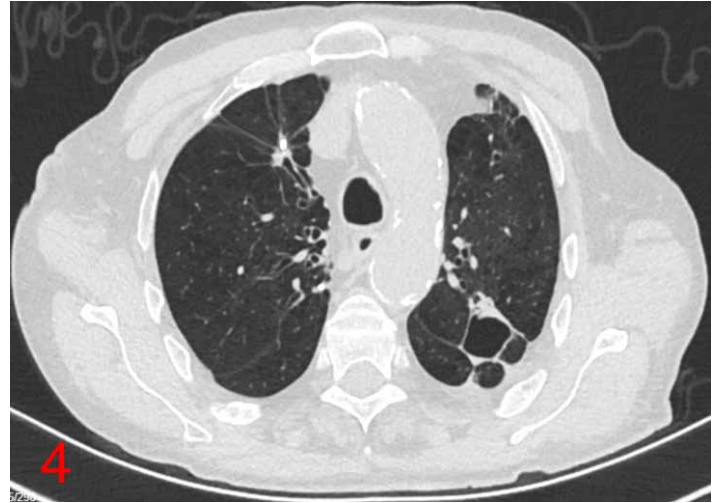
*Image-2; nodular infiltrates and thick-walled cavities (2024, September)*

**Figure-3,4**



*Image-3; nodular infiltrates and thick-walled cavities (2023, March, before prednisolone treatment) Image-4; improved pulmonary lesions after prednisolone treatment (2023, April)*

**Figure-3,4**



*Image-3; nodular infiltrates and thick-walled cavities (2023, March, before prednisolone treatment) Image-4; improved pulmonary lesions after prednisolone treatment (2023, April)*





## PP-50 [Adverse Drug Reactions, TEN]

### Capecitabine-induced Photosensitive Lichenoid Drug Reaction: A Case Report

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**INTRODUCTION & OBJECTIVES:** Capecitabine is an oral fluorouracil (5-FU) prodrug used in the treatment of various solid organ malignancies. Common adverse reactions to capecitabine have been reported as diarrhea and nausea, fatigue and hand-foot syndrome. Dermatologic reactions are common with various chemotherapy agents but have not been reported frequently with capecitabine. In this case report, we describe the clinical presentation, diagnosis and treatment of a patient who developed lichenoid drug eruption after treatment with capecitabine. Awareness of such rare cutaneous drug reactions is essential for timely diagnosis and appropriate management.

**CASE:** A 69-year-old woman presented to our clinic with itchy red spots on her face for 2 months. On dermatologic examination, approximately 15 erythematous, fine squamous papules and plaque lesions, the largest of which were 3 centimeters and the smallest of which were 2 millimeters in diameter, were seen on the forehead, eyelids, malar region and chin. Other parts of the body were not involved. In the anamnesis, it was learned that she had been operated for breast ductal cancer about 1 year ago and had been receiving capecitabine as chemotherapeutics for about 1 year. A 4 mm punch biopsy was taken from the erythematous plaque lesion on the chin with the prediagnoses of photosensitive lichenoid drug reaction, subacute cutaneous lupus erythematosus (SCLE) and erythema multiforme. Histopathology revealed parakeratosis in the epidermis, diffuse vacuolar degeneration in the basal layer, band-like lymphocytic infiltrates and dense lymphohistiocytes in the upper dermis. The patient was diagnosed as photosensitive lichenoid drug eruption with clinical and histopathologic findings. She was given topical hydrocortisone with the recommendation

to use it twice a day, sun protection and regular use of sunscreen were recommended. After one month, the erythematous papules and plaque lesions on the face healed with the treatments given. She continues to be followed up regularly.

**DISCUSSION:** 5-Fluorouracil-based prodrugs such as capecitabine are associated with various drug eruptions. Hand-Foot syndrome is the most common adverse event associated with capecitabine and occurs in 45-68% of patients. Other mucocutaneous eruptions associated with capecitabine include nail and periungual reactions, oral lichenoid stomatitis, SCLE and capecitabine-induced lichenoid drug eruption. Photosensitive lichenoid skin reaction is a rare cutaneous manifestation of capecitabine and has been reported four times in the dermatologic literature. Clinical and histopathologic findings are helpful in making the diagnosis.

**CONCLUSIONS:** Capecitabine-induced photosensitive lichenoid drug eruption is a rare but clinically important side effect that dermatologists should be aware of this rare side effect. Further studies are needed to better determine the pathophysiology of this condition and optimal treatment strategies.

**Keywords:** capecitabine, lichenoid drug eruption, photosensitivity

### Case-After



Capecitabine-induced photosensitive lichenoid drug eruption (after treatment)

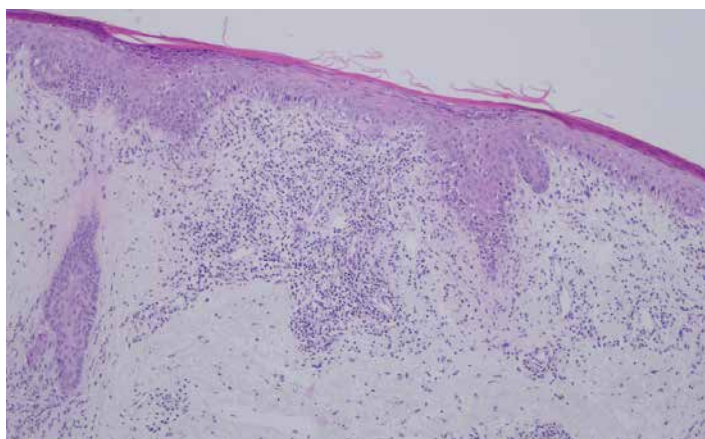


## Case-Before



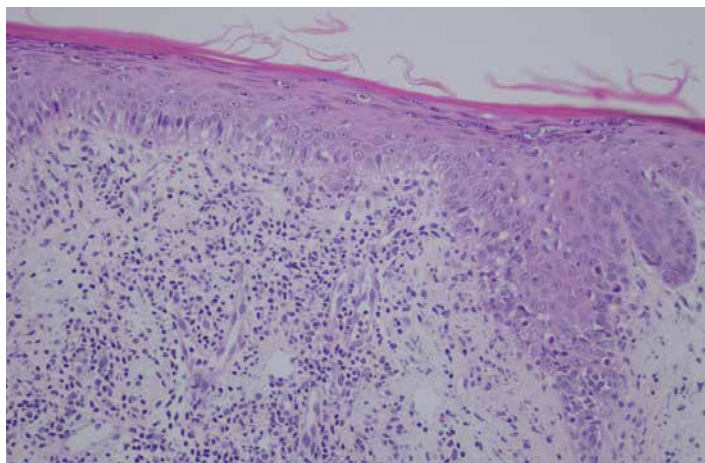
*Capecitabine-induced photosensitive lichenoid drug eruption (before treatment)*

## Case-Pathology-1



*parakeratosis in the epidermis, diffuse vacuolar degeneration in the basal layer, band-like lymphocytic infiltrates, dense lymphohistiocytes in the upper dermis*

## Case-Pathology-2



*parakeratosis in the epidermis, diffuse vacuolar degeneration in the basal layer, band-like lymphocytic infiltrates, dense lymphohistiocytes in the upper dermis*

## PP-51 [Infectious Diseases, Parasitic Diseases, Infestations]

### Is it necessary to check liver function tests during terbinafine treatment?

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**OBJECTIVE:** Onychomycosis is the most common nail disease treated commonly with oral antifungals such as terbinafine, itraconazole and fluconazole. Given concerns regarding the potential hepatotoxic effects of systemic antifungal therapy, this study aims to assess the hepatic safety profile of terbinafine in patients with onychomycosis.

**METHODS:** A retrospective cohort study was conducted at Bilkent City Hospital between October 2024 and February 2025. A total of 150 patients (aged 18–65 years) with onychomycosis, who underwent liver function tests before and after two months of terbinafine (250 mg daily) treatment were included. Patients with known renal, liver, biliary, or pancreatic diseases, abnormal baseline liver function tests, or potential drug interactions were excluded. Aspartate transaminase (AST), alanine aminotransferase (ALT), and gamma-glutamyl transferase (GGT), were analyzed. p-values < 0.05 considered as level of significance.

**RESULTS:** 52 (34.7%) of the patients were female and 98 (65.3%) were male, with a mean age of  $48.53 \pm 7.85$  years. The average age for women was  $49.38 \pm 7.73$  years and for men  $48.07 \pm 7.91$  years ( $p = 0.329$ ). The mean ALT values were  $30.74 \pm 11.94$  IU/L pre-treatment and  $32.41 \pm 12.15$  IU/L post-treatment ( $p = 0.169$ ). AST values were  $26.45 \pm 10.46$  IU/L pre-treatment and  $28.17 \pm 8.60$  IU/L post-treatment ( $p = 0.055$ ), while GGT levels were  $35.21 \pm 13.65$  IU/L pre-treatment and  $35.87 \pm 13.35$  IU/L post-treatment ( $p = 0.084$ ).

**CONCLUSION:** After two months of treatment, oral terbinafine did not cause significant alterations in laboratory values among patients with onychomycosis. In current study, in patients without coexisting renal, hepatic, or biliary diseases and without potential drug interactions, baseline liver function testing may not be considered mandatory prior to initiating terbinafine therapy.

**Keywords:** Onychomycosis, terbinafine, liver

## PP-52 [Corrective, Aesthetic and Cosmetic Dermatology]

### Combination of KTP, CO2 Laser and PRP in the Treatment of Posttraumatic Facial Hypertrophic Scars: A Case Report

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Turkey

**OBJECTIVE:** Traumatic scars may cause cosmetic and functional problems, especially in the facial region, and may negatively affect the quality of life of patients. Hypertrophic scars are common complications after trauma and optimal treatment methods are still controversial. Topical/intralesional corticosteroids, 5-fluorouracil, immunomodulatory agents, silicone gels or plaques, laser treatments, PRP and stem cell therapies can be applied in the treatment of hypertrophic scars. The use of potassium titanyl phosphate (KTP), fractional CO2 laser, Pulse Dye Laser, erbium-doped yttrium aluminium garnet (Er:YAG), neodymium doped yttrium aluminium garnet (Nd:YAG) have been reported in the literature. Since the use of combined treatments may improve the scar appearance by both reducing the vascularisation of the scar tissue and promoting tissue regeneration, we evaluated the effectiveness of combined treatments in this patient.

**CASE:** A 24-year-old female patient was admitted to our clinic on 2023 August due to post-operative scars on the forehead after a traffic accident. Dermatological examination of the patient revealed atrophic plaques and hypertrophic scar tissues with dermoscopically dense vascularisation in an area of approximately 4x8 cm in the forehead region, especially in the middle region (Figure 1). Starting in December 2023, KTP laser and PRP and fractional CO2 laser and PRP combination treatments were applied 3 times and 3 times, respectively. As a result of these sessions, vascularisation and induration were significantly reduced, and a decrease in depth and regeneration was observed in areas with atrophic plaques. (Figure 2)

**DISCUSSION and CONCLUSION:** Postoperative hypertrophic scars develop as a result of excessive collagen production and abnormal wound healing after surgical incision. These scars usually appear

within 4-8 weeks after wound closure and may regress between 6 months and 2 years. Factors such as genetic predisposition, inflammatory response, mechanical stress and surgical technique are effective in scar formation. The KTP laser targets haemoglobin by operating at a wavelength of 532 nm and provides a significant colour improvement by reducing blood flow in vascularised scar tissues. Fractional CO2 laser supports scar remodelling by stimulating collagen synthesis through epidermal ablation and dermal coagulation. In the literature, it has been reported that the application of these two laser modalities in combination provides significant improvements in scar appearance. PRP application stimulates fibroblast proliferation and angiogenesis through the growth factors it contains (PDGF, TGF- $\beta$ , VEGF) and supports the reconstruction of scar tissue by increasing collagen synthesis. The combination of KTP laser, fractional CO2 laser and PRP used in this case report, by reducing scar vascularisation, controlling inflammation and accelerating tissue regeneration, fading of scar colour, softening of the tissue and significant improvement in overall cosmetic appearance were observed.

**Keywords:** Hypertrophic scar, posttraumatic scar, KTP laser, fractional CO2 laser, PRP, combination therapy

**Figure1**



**Figure2**







## PP-53 [Dermatology and Internal Medicine, including Skin Manifestations of Systemic Diseases]

### Livedoid Vasculopathy in a Patient with Polycythemia Secondary to Congenital Cyanotic Heart Disease: A Case Report

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**BACKGROUND:** Livedoid vasculopathy (LV) is a rare condition with an unclear etiology, primarily affecting middle-aged women. The pathogenesis involves vascular endothelial damage, hypercoagulability, and fibrin thrombus formation. LV manifests with petechiae, purpura, ulcerations, and “atrophie blanche” scars, particularly in the lower extremities. This case report presents the potential role of congenital cyanotic heart diseases, such as transposition of the great arteries (TGA), and secondary polycythemia in the etiology of LV.

**CASE PRESENTATION:** A 22-year-old female patient with partially corrected TGA and secondary polycythemia presented to our clinic with red, painless rashes on her legs. Dermatological examination revealed acral cyanosis, clubbing of the fingers, and erythematous maculopapular and purpuric lesions in the bilateral lower extremities. Biopsy samples from the lesions confirmed the diagnosis of livedoid vasculopathy.

**DISCUSSION:** Cyanotic heart diseases, such as TGA, cause chronic hypoxia in peripheral tissues, leading to compensatory polycythemia. Both chronic hypoxia and polycythemia result in vascular endothelial damage and hypercoagulability, which can trigger livedoid vasculopathy in the cutaneous tissue. The relationship between cardiovascular diseases and dermatological manifestations is critical to understanding the broader effects of systemic diseases.

**CONCLUSIONS:** Untreated congenital cyanotic heart diseases may contribute to the development of dermatological diseases. In addition to classic

signs of peripheral hypoxia, such as acral cyanosis and clubbing of the fingers, it is crucial to consider rare dermatological manifestations, such as livedoid vasculopathy, in these patients. This case highlights the importance of recognizing the interaction between cardiovascular systems and cutaneous tissues. Further studies are needed to expand the understanding of this unique relationship.

**Keywords:** livedoid vasculopathy, congenital cyanotic heart disease, transposition of the great arteries, secondary polycythemia, vascular endothelial damage, dermatological manifestations





## PP-54 [Autoimmune Bullous Diseases]

### Is synthetic cannabinoid use a trigger for lichen planus pemphigoides?: A rare case report

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**INTRODUCTION:** Lichen planus pemphigoides (LPP) is a rare autoimmune bullous disease that presents as a combination of lichen planus and bullous pemphigoid. LPP is usually idiopathic but has been reported in association with drug abuse, hepatitis B and colon adenocarcinoma. Here we present a case of lichen planus pemphigoides in a patient who had been using synthetic cannabinoids for many years, who presented with diffuse lichenoid plaques all over the body and bullae, some on the lichenoid eruption and some on the intact skin, which responded to treatment in a short time.

**CASE:** A 19-year-old male patient was consulted to us from the emergency department with the complaint of itchy sores. It was learned from the patient's history that itchy blisters started to appear on his arms three months ago and then spread to the whole body and water-filled blisters started to appear on them. It was learned that the patient had been using synthetic cannabinoids for 5 years and had been hospitalized in a psychiatric ward before. However, the patient stated that he did not use antipsychotic and antidepressant drugs. Dermatologic examination revealed violet pruritic papules and plaques all over the body, eroded areas on both lichenoid plaques and intact skin and several active bullae on the distal parts of both lower extremities. Oral and genital mucosa and nails were normal. ANA panel, desmogleins and serology were negative. Histopathology of the punch biopsy taken from the lichenoid plaque on his back showed orthokeratosis in the epidermis, apoptotic keratinocytes in the basal layer, lymphocytes concentrated at the dermoepidermal junction, interphase dermatitis with melanophages. Histopathology of the active bullous lesion on the right ankle showed subepidermal separation and direct immunofluorescence showed linear deposition of IgG

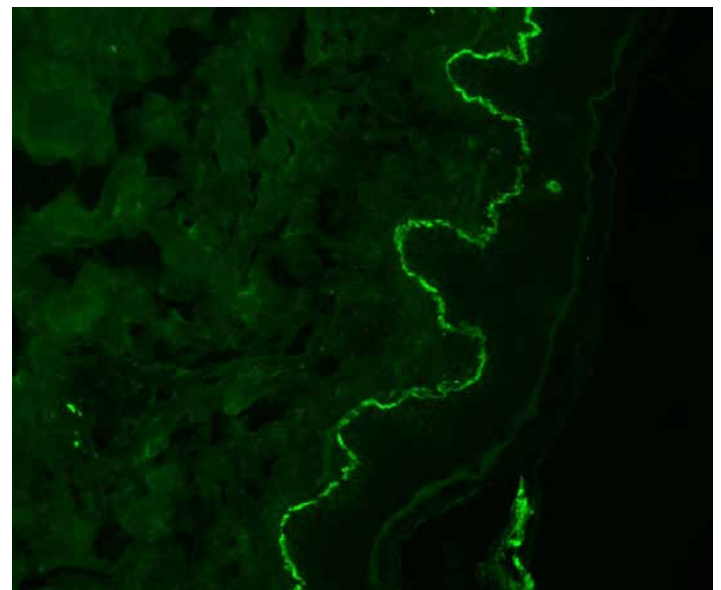
and C3 in the basement membrane. We diagnosed our patient with LPP based on her clinical presentation and histopathology. We started oral corticosteroid at 0.5mg/kg/day and topical clobetasol treatment. One month later, more than 80% of the lesions regressed leaving hyperpigmentation but new bullae were present. The patient is being followed up and treated with oral and topical corticosteroids.

**DISCUSSION:** LPP is a disease with a good prognosis, usually seen in adults, characterized by bullae on lichenoid and normal skin, especially on the extremities, which can be successfully treated with systemic corticosteroids. The important difference from bullous lichen planus is positive immunofluorescence staining.

**CONCLUSION:** LPP is a very rare autoimmune acquired subepidermal bullous dermatosis caused by the development of autoantibodies against COL17. There are more case reports in the literature. To our knowledge, this is the first report on the relationship between synthetic cannabinoid use and LPP. We think that more case reports are needed to elucidate the etiology, triggers and treatment algorithm of LPP.

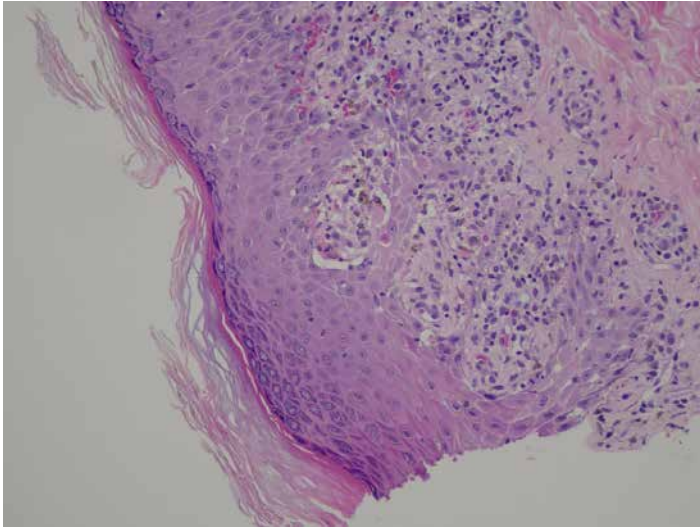
**Keywords:** Lichen planus pemphigoides, Synthetic cannabinoids, Direct immunofluorescence examination

### Direct immunofluorescence examination



*Linear deposition of IgG and C3 in the basement membrane*

## Histopathology



*Orthokeratosis in the epidermis, apoptotic keratinocytes in the basal layer, lymphocytes concentrated at the dermoepidermal junction, interphase dermatitis with melanophages*

## One month after the treatment



*More than 80% of lesions regressed leaving hyperpigmentation but new bullae are present*

## The patient before treatment



*Violet-colored itchy plaques on the anterior trunk and eroded areas on both plaques and normal skin*





## PP-55 [Infectious Diseases, Parasitic Diseases, Infestations]

### Unveiling the hidden duo: secondary syphilis and HIV co-Infection

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**INTRODUCTION & OBJECTIVE:** A 54-year-old male presented with a one-week history of erythematous, mildly scaly plaques on the arms, trunk, and scalp, alongside dermatomal papules in the right lumbar region. He had been diagnosed with herpes zoster two months prior and treated with acyclovir cream. This report highlights the diagnostic challenges in a case initially presenting with nonspecific cutaneous eruptions, ultimately diagnosed as secondary syphilis.

**METHODS:** Initial KOH examination was negative for fungal elements. A skin biopsy was performed under the differential diagnoses of pityriasis rosea, psoriasis, drug eruption, Sweet syndrome, and erythema multiforme. Histopathology revealed mild perivascular lymphoplasmacytic inflammation, and PAS staining confirmed fungal elements. Despite transient improvement with topical corticosteroids, new erythematous, scaly plaques emerged on the palms, soles, and axillae within 20 days. Topical antifungals were initiated but proved ineffective.

**RESULTS:** The patient later developed urinary hesitancy, and urological evaluation revealed ureteropelvic junction obstruction requiring stent placement. Preoperative serology was positive for HIV, TPHA, anti-HBe, and anti-HBc. Dermatological re-evaluation demonstrated widespread erythematous plaques, atrophic penile lesions, hyperkeratotic violaceous plaques, and condylomata lata. Repeat KOH testing was negative for fungal elements. A diagnosis of secondary syphilis was established, and the patient was treated with two doses of benzathine penicillin G. Antiretroviral therapy with bictegravir/emtricitabine/tenofovir was initiated for HIV. The patient disclosed a history of sexual contact with sex workers between 1994 and 1996.

**DISCUSSION:** The patient reported a 10 kg weight

loss over two months. Further workup revealed iron deficiency anemia and a positive fecal occult blood test, prompting planned endoscopic and colonoscopic evaluations. Dyspnea and nasal congestion led to thoracic imaging, which showed multiple pleural nodules, while a nasopharyngeal biopsy revealed lymphoid hyperplasia. PET-CT detected hypermetabolic activity in the nasopharynx, tonsils, adrenal gland, and multiple lymph nodes in the cervical, supraclavicular, mediastinal, and pulmonary regions, with concurrent splenomegaly.

Additionally, the patient had long-standing proximal muscle pain, previously treated with gabapentin, vitamin B12, iron, and zinc. His spouse was asymptomatic and advised to undergo screening. This case underscores the importance of a thorough clinical evaluation in patients with atypical dermatological presentations, emphasizing the need for comprehensive infectious and oncological screening in those with unexplained weight loss and multisystem involvement.

**Keywords:** Secondary syphilis, HIV coinfection, diagnostic mimicry, lymphadenopathy, multidisciplinary management

**Figure 1**



*Red-pink maculopapular patches on the back*



**Figure 2**



*Red-pink maculopapular patches on the trunk*

**Figure 3**



*Erythematous scaly patches and plaques on the palmar region*

**Figure 4**



*Atrophic scars and condyloma lata lesions in the genital area*

**Figure 5**



*Maculopapular patches on the legs*



## PP-56 [Cutaneous Oncology]

### Primary Cutaneous B-Cell Lymphoma Presenting with Atypical Cutaneous Lesions: Case Report and Diagnostic Approach

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**BACKGROUND:** Small cell B-cell non-Hodgkin lymphoma (NHL) represents a heterogeneous group of malignancies that may exhibit diverse clinical and biological characteristics (1). Cutaneous involvement in these lymphomas poses diagnostic challenges due to their resemblance to benign dermatologic conditions (2). Primary cutaneous B-cell lymphomas (PCBCLs) may mimic entities such as reactive lymphoid hyperplasia, morphea, or chronic ulcers, delaying accurate diagnosis (3).

**CASE PRESENTATION:** A 77-year-old male presented with a pruritic, indurated lesion on the right scapular region, first noticed three years earlier. Despite prior treatment with corticosteroids and antibiotics, the lesion enlarged progressively. On physical examination, a solitary erythematous, firm nodule approximately 3 cm in diameter was noted. The development of additional nodular lesions and persistent pruritus led to multiple deep skin biopsies. Differential diagnoses included panniculitis, morphea, cutaneous metastasis, and lymphoma. Histopathological evaluation revealed dermal infiltration of small- to medium-sized neoplastic lymphoid cells with perivascular collagen destruction. Immunohistochemistry showed positivity for CD20, Bcl-2, PAX-5, and CD10, and negativity for CD3, CD23, LEF-1, Cyclin-D1, and Bcl-6. The Ki-67 index was 15%, and CD21 staining did not reveal a follicular dendritic cell meshwork. Hematology consultation confirmed a diagnosis of small cell B-cell NHL with cutaneous involvement, and the patient was treated with R-CVP chemotherapy.

**DISCUSSION:** PCBCLs are rare, indolent lymphomas that can mimic inflammatory dermatoses, resulting in delayed diagnosis (1,2,4). In this case, the absence of follicular dendritic cell networks, combined with low proliferation index and B-cell marker expression, supported the diagnosis of small cell B-cell NHL. Deep biopsy and detailed immunophenotyping were essential in ruling out mimickers and confirming malignancy (4).

**CONCLUSION:** This case highlights the importance of considering PCBCLs in the differential diagnosis of persistent, treatment-resistant dermatoses. Dermatologists should maintain a high index of suspicion, especially in elderly patients with atypical presentations. Interdisciplinary collaboration and timely histopathological evaluation are key to accurate diagnosis and effective treatment (5).

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**Keywords:** Primary cutaneous B-cell lymphoma, Small cell B-cell non-Hodgkin lymphoma, Cutaneous involvement, Immunohistochemistry, dermatooncology



**Figure-1**



*Close-up of nodules in the back area*

**Figure-2**



*Multiple nodules under the right scapula region*

## PP-57 [Lasers]

### CO<sub>2</sub> laser treatment of porokeratosis mibelli: good results

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**BACKGROUND:** Porokeratosis is a rare keratinization disorder characterized by one or more macules or plaques with an atrophic center and a hyperkeratotic border, known as the “cornoid lamella.” The condition carries a risk of malignant transformation and is most commonly seen in the fifth decade of life. Several clinical variants of porokeratosis exist, including Mibelli’s porokeratosis, which is the focus of this case report.

**Case Presentation:** A 13-year-old female presented with an annular lesion on the dorsal aspect of the right index finger, measuring 4x5 cm. The lesion began as a small papule three years ago and gradually expanded. The patient had no symptoms such as itching, pain, or burning. Previous treatments, including three cycles of cryotherapy, were unsuccessful. Dermoscopy showed a white-yellow keratin edge with glomerular and punctate vessels. A biopsy confirmed the diagnosis of Mibelli’s porokeratosis. Laboratory tests revealed vitamin D deficiency and iron deficiency anemia. Initial treatment with topical calcipotriol and betamethasone was followed by 5-fluorouracil due to patient’s inability to access imiquimod. After minimal improvement, treatment was switched to cryotherapy and topical tretinoin. The patient showed no significant progress, and CO<sub>2</sub> laser treatment was initiated. After two sessions, the lesion showed regression, with the hyperkeratotic border reduced to the level of the surrounding skin.

**DISCUSSION:** This case highlights the challenges in treating porokeratosis, particularly in resistant cases. Although initial conservative treatments such as topical therapy and cryotherapy are often effective, invasive options like laser therapy may be required when other treatments fail. The successful outcome of CO<sub>2</sub> laser treatment in this patient demonstrates the efficacy of this approach for resistant cases of porokeratosis.





This report emphasizes the importance of a tailored treatment approach and careful monitoring in managing porokeratosis.

**CONCLUSION:** Porokeratosis, especially the Mibelli variant, can be difficult to treat and may require a combination of therapies, including invasive options like laser treatment. The variability in treatment response underscores the need for personalized care strategies and further exploration of novel therapeutic approaches.

**Keywords:** porokeratosis, cornoid lamella, malignancy

## PP-58 [Cutaneous Oncology]

### Dermatofibrosarcoma Protuberans with Atypical Clinical Presentation in a Young Adult: A Case Report

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#### INTRODUCTION & OBJECTIVES:

Dermatofibrosarcoma protuberans (DFSP) is a rare, locally aggressive cutaneous tumor, frequently misdiagnosed due to its nonspecific clinical appearance. Dermoscopic evaluation may aid early recognition; however, characteristic dermoscopic findings of DFSP are not well-documented. We present distinctive dermoscopic features and emphasize their diagnostic relevance with long-term clinical follow-up.

**CASE:** A 20-year-old male patient presented with an asymptomatic, slowly enlarging, pinkish nodular lesion measuring 2.5 cm in diameter on his right arm, persisting for approximately 8 years despite multiple topical treatments (Figure 1). Clinical differential diagnoses included neurofibroma, dermatofibroma, juvenile xanthogranuloma, amelanotic melanoma, Spitz nevus, Merkel cell carcinoma, and keloid. Dermoscopic examination revealed fine arborizing telangiectasias and linear vessels at the lesion's periphery over a pinkish background, accompanied by central structureless depigmented areas and shiny white streaks (Figure 2). Excisional biopsy confirmed DFSP through histopathological evaluation, demonstrating spindle-cell proliferation positive for CD34 immunostaining and focal involvement of the deep surgical margin. A subsequent wide local excision provided tumor-free margins. During a total follow-up period of 2.5 years, the patient remained recurrence-free.

**CONCLUSIONS:** This report highlights characteristic dermoscopic findings in DFSP, particularly arborizing telangiectasias, linear vessels, and shiny white streaks, facilitating earlier diagnosis. Accurate dermoscopic identification combined with prompt histopathological confirmation and adequate surgical management contribute significantly to favorable long-term outcomes, as illustrated by this recurrence-free 2.5-year follow-up.

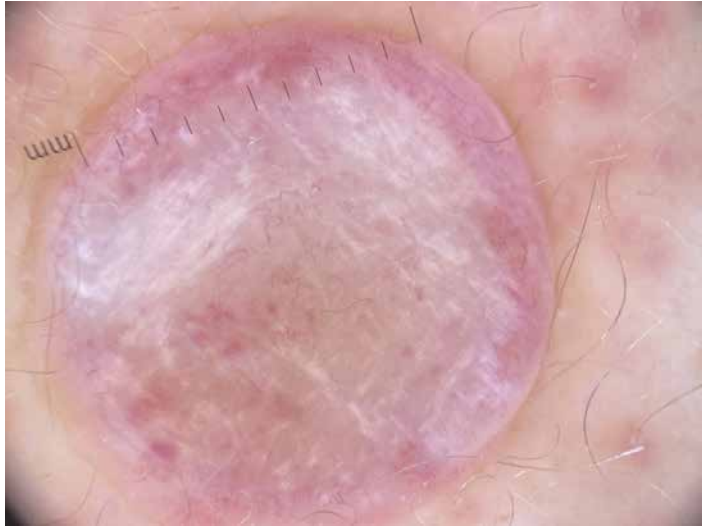
**Keywords:** Dermatofibrosarcoma protuberans, Dermoscopy, Cutaneous sarcoma, Cutaneous oncology,

**Figure 1**



*Clinical appearance of the lesion: a solitary, well-demarcated, pinkish, dome-shaped nodule measuring approximately 2.5 cm in diameter on the right arm.*

**Figure 2**



*Dermoscopic features of the lesion showing fine arborizing telangiectasias and linear vessels at the periphery on a pinkish background, accompanied centrally by structureless depigmented areas and characteristic shiny white streaks.*

## PP-59 [Autoimmune Bullous Diseases]

### Pemphigus foliaceus exacerbated by acute retroviral syndrome

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**INTRODUCTION&OBJECTIVES:** Pemphigus foliaceus is a rare autoimmune bullous disease characterized by the presence of autoantibodies targeting desmoglein-1, a crucial component of epidermal cell adhesion. In contrast to pemphigus vulgaris, which typically manifests with mucosal involvement, pemphigus foliaceus is confined to cutaneous lesions without affecting mucosal involvement.

The coexistence of pemphigus and HIV infection is rarely reported and presents significant challenges in patient management due to the immunosuppressive therapies required for pemphigus treatment.

This report aims to underscore the potential role of acute HIV infection in exacerbating pemphigus by presenting a case of a patient who experienced an flare-up of pemphigus lesions following an episode of acute retroviral syndrome, eight years after the initial diagnosis of pemphigus foliaceus.

**MATERIALS & METHODS:** A 67-year-old Turkish male patient who had been under follow- up in our clinic since 2012, presented to our outpatient clinic with a three-month history of widespread eroded lesions. A biopsy performed nine years prior confirmed the diagnosis of pemphigus foliaceus. Over the years, the patient, had received various treatments, including systemic corticosteroids, azathioprine, rituximab, dapsone, and intravenous immunoglobulin, had been in treatment-free remission for the past three years.

The patient reported flu-like symptoms, such as fatigue and joint pain, which coincided with the onset of skin lesions. Dermatological examination revealed eroded lesions predominantly on the trunk, proximal upper extremities, neck and face, with some areas exhibiting crusting. No intact bullae were observed.

Initially, the patient was evaluated as having a viral upper respiratory tract infection. However, due to a lack



of response to treatment, further investigations were conducted, revealing anti-HIV antibody positivity, which was subsequently confirmed through additional diagnostic testing.

**RESULTS:** Two months before presenting to our clinic, an HIV-PCR test was performed following the detection of anti-HIV positivity, revealing a viral load of 4600 copies/ml. The infectious diseases department subsequently initiated triple antiretroviral therapy. Upon admission to our clinic, the test results were as follows: anti-HIV (+), HIV-PCR undetectable, Dsg-1 >200, and Dsg-3 negative. Due to the presence of anti-HIV antibody positivity, immunosuppressive therapies could not be initiated, and a decision was made to administer IVIg at a dose of 2g/kg.

**CONCLUSIONS:** Pemphigus can be triggered or exacerbated by various factors, including drug use, vaccinations, infections and emotional stress. HIV infection is also among the reported triggers in the literature. The presence of HIV infection poses challenges in treatment due to concerns immunosuppression. Therefore, alternative treatment options such as dapsone or IVIg, as used in our patient, may be considered.

**Keywords:** pemphigus foliaceus, HIV, acute retroviral syndrome

## PP-60 [Pigmentary Diseases]

### Areolar hypopigmentation following imatinib therapy: A case report

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**INTRODUCTION AND OBJECTIVE:** Imatinib mesylate is a potent tyrosine kinase inhibitor used in the treatment of chronic myeloid leukemia (CML), targeting the BCR-ABL fusion protein and inhibiting both c-Kit and platelet-derived growth factor receptors. While its adverse effects span multiple organ systems side effects are also well-documented. In the skin, a wide spectrum of adverse effects has been observed, including pigmentary changes, palpebral edema, xerosis, lichenoid eruptions, neutrophilic dermatoses, and leukocytoclastic vasculitis.<sup>2</sup> Among these, skin hypopigmentation is a frequently reported adverse event, with clinical studies from Asia indicating an incidence of 33% to 85% in treated patients.<sup>3</sup> In this report, we present a case of areolar hypopigmentation following imatinib therapy, aiming to discuss the spectrum of dermatologic adverse effects associated with imatinib, current monitoring strategies, and to emphasize that hypopigmentation may rarely affect localized areas such as the areola.

**CASE PRESENTATION:** A 59-year-old female with a medical history of hypertension, diabetes mellitus, hypothyroidism, and chronic myeloid leukemia presented to our clinic with complaints of pigmentary lightening in the nipple and surrounding areolar region. The patient noted the onset of this change approximately two months after initiating oral imatinib therapy at a dose of 400 mg/day, prescribed 1.5 years ago upon diagnosis of CML. Dermatologic examination revealed bilateral areolar hypopigmentation and telangiectasia localized to the left areola (Figure 1). The patient also reported a complete absence of tanning upon sun exposure since starting imatinib therapy, even during periods without sunscreen use. Wood's lamp examination showed no accentuation in the hypopigmented areas. Examination of other cutaneous sites was unremarkable. Based on clinical findings and the temporal relationship



with imatinib initiation, the hypopigmentation was attributed to drug-induced pigmentary alteration. The patient was advised to remain under regular follow-up.

**CONCLUSION:** Numerous case reports have documented pigmentary abnormalities following imatinib therapy, most commonly presenting as hypopigmentation or depigmentation.<sup>3</sup> These changes are thought to result from a dose-dependent effect: reduced melanin content and melanogenic activity at lower doses, and melanocyte apoptosis with consequent reduction in melanocyte count at higher doses.<sup>3</sup> Though rare, hyperpigmentation associated with imatinib use has also been reported.<sup>5</sup> The manifestation of pigmentary disturbances varies across individuals, with some experiencing diffuse changes and others showing localized involvement.<sup>4,6</sup> It is hypothesized that the cellular response to imatinib may be influenced by individual c-Kit mutation profiles.<sup>4</sup> Clinicians should be aware that tyrosine kinase inhibitors can lead to pigmentary alterations, even in atypical and localized areas.

**Keywords:** areola, imatinib, pigmentation

**Figure 1**



*Hypopigmentation and telangiectasia involving the left nipple and areola*

## PP-61 [Cutaneous Oncology]

### A Case Report: Red nodular lesion located on the face

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Cutaneous metastasis from primary solid tumors is a rare occurrence, with breast cancer being the most common primary tumor, followed by lung cancer. Other potential sources include gastrointestinal tumors, ovarian cancer, and head and neck malignancies. These metastases are typically observed in older patients and often present as nodular lesions, though they can manifest in various forms such as rashes, ulcers, or zosteriform eruptions.

A 60-year-old male patient with a history of diabetes mellitus presented with complaints of redness, swelling, and a raised protrusion on his chin that had developed over the past month. Dermatological examination revealed diffuse erythema on the face, purplish discoloration of the eyelids, and a well-defined nodular lesion measuring 1x2 cm with surface vascularization on the chin. A punch biopsy was performed, and the differential diagnoses included anaplastic large cell lymphoma, cutaneous metastasis, cutaneous B-cell lymphoma, and Kaposi sarcoma. Rheumatological testing for dermatomyositis was also conducted due to suspicion of a heliotropic rash. Histopathological examination of the biopsy showed a poorly differentiated malignant epithelial tumor with lymphatic invasion. Immunohistochemical staining revealed positivity for PANCK, CK7, and SATB2, and negative staining for CK20, GATA3, p63, TTF-1, and CD138. Rheumatological tests were negative. A CT scan revealed suspicious lesions in the lungs, brain, liver, and pancreas, suggesting a primary lung malignancy. Chemotherapy was initiated, but the patient passed away within one month.

The lung is the most common primary site of cutaneous metastasis in men, with an average survival of approximately three months. Skin lesions in lung cancer patients typically appear as painless, firm nodules, most often on the anterior chest wall, abdomen, or head and neck. In some cases, these lesions may be



the first clinical sign of lung cancer. Although rare, cutaneous metastasis should be considered in patients with rapidly developing erythematous nodules on the face, and a thorough search for the primary malignancy should be conducted promptly.

**Keywords:** nodule, face, metastasis

## PP-62 [Inflammatory Skin Diseases]

### Wolf's Isotopic Response in Action: A Case of Zosteriform Lichen Planus

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**INTRODUCTION:** Lichen planus (LP) is a chronic inflammatory dermatosis that commonly affects the skin, mucosae, and nails. Zosteriform lichen planus is an uncommon variant characterized by dermatomal distribution. Wolf's isotopic response refers to the emergence of a new, unrelated skin disorder at the site of a previously healed dermatological condition, most often following herpes zoster.

**CASE PRESENTATION:** We present a 28-year-old female with a 6-month history of pruritic, violaceous papules arranged in an arcuate plaque pattern along the T9–T10 dermatomes. One year earlier, she had experienced herpes zoster affecting the same area. Histopathological examination confirmed features of lichenoid dermatitis consistent with lichen planus. The patient was treated with topical corticosteroids and calcineurin inhibitors, resulting in marked clinical improvement.

**DISCUSSION:** This case illustrates a classic example of Wolf's isotopic response, where zosteriform lichen planus developed after herpes zoster infection. While LP typically involves the extremities, truncal involvement in a dermatomal pattern following herpes zoster suggests an isotopic phenomenon. The precise pathogenesis remains unclear, though delayed-type hypersensitivity reactions triggered by residual viral antigens are considered contributory. Awareness of this response is essential for accurate diagnosis and management.

**CONCLUSION:** Zosteriform lichen planus is a rare but important clinical entity that may arise as part of Wolf's isotopic response. Recognition of this phenomenon allows for appropriate treatment and avoidance of unnecessary interventions.

**Keywords:** Zosteriform, Lichen, Isotopic, Herpesvirus, Inflammation, Autoimmunity

1



*Lichenoid eruption extending from the lateral aspect of the umbilicus toward the center; corresponding to the dermatome previously affected by herpetic infection.*

2



## Differential Diagnosis

Differential Diagnosis	
ILVEN	Present from birth, pruritic, typically affects one side of the extremities; histopathological features are distinguishing.
Lichen Striatus	More common in children, asymptomatic, unilateral linear eruption.
Linear Epidermal Nevus	Congenital, usually unilateral and linear.
Linear Lichen Planus	Follows Blaschko's lines, lacks dermatomal distribution, and no history of preceding herpes zoster.

## PP-63 [Dermatopathology]

### Pancreatic Panniculitis as a Cutaneous Marker of Acute Biliary Pancreatitis: A Case Report

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<sup>2</sup>Ümit Türsen

<sup>3</sup>Yasemin Yuyucu Karabulut

Pancreatic panniculitis is a rare inflammatory dermatosis characterized by subcutaneous fat necrosis, most commonly associated with pancreatic disorders such as acute pancreatitis and pancreatic carcinoma. It has also been linked to other pancreatic malignancies, including ductal adenocarcinoma, neuroendocrine tumors, and intraductal papillary mucinous neoplasms. Clinically, it presents as tender, erythematous to violaceous nodules on the lower and upper extremities, resulting from enzymatic fat necrosis.

We report a case of pancreatic panniculitis in a 53-year-old female with acute biliary pancreatitis. She presented with a 3–4-day history of painful nodules on both tibiae and the dorsum of the right arm. The patient had been experiencing abdominal pain and vomiting for one week. Laboratory investigations revealed markedly elevated serum amylase (4447 IU/L) and lipase (4714 IU/L) levels. Radiological evaluation supported the diagnosis of biliary pancreatitis. Skin biopsy from a nodule showed characteristic features of pancreatic panniculitis, including predominantly lobular panniculitis with extensive adipocyte necrosis. Necrotic adipocytes displayed finely granular, basophilic cytoplasmic material consistent with calcium deposition—termed “ghost adipocytes.” A dense inflammatory infiltrate rich in neutrophils was observed in the subcutaneous fat, along with millimetric foci of calcification and evidence of vasculitis. This case underscores the importance of recognizing pancreatic panniculitis as a potential early dermatologic manifestation of pancreatic disease. Dermatologists and pathologists should maintain a high index of suspicion when evaluating panniculitis with systemic symptoms, as timely diagnosis can facilitate early management of potentially life-threatening pancreatic pathology.

**Keywords:** Pancreatic Panniculitis, Lobular panniculitis, Acute Pancreatitis





## PP-64 [Cutaneous Oncology]

### Dermatofibrosarcoma Protuberance: A Case Report

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**INTRODUCTION & OBJECTIVES:** Dermatofibrosarcoma protuberans (DFSP) is a rare, slow-growing, and locally aggressive soft tissue tumor originating from the dermis, which can infiltrate deeper tissues, including subcutaneous tissue, fascia, and muscle. Despite its malignancy in terms of local invasiveness, DFSP has a low metastatic potential. Early recognition and appropriate treatment are critical to improving patient outcomes, as DFSP has a high recurrence rate after excision. Here we present a case report emphasizing the clinic, diagnosis, pathophysiology and treatment of DFSP.

**CASE:** A 23-year-old female patient was admitted to our clinic with the complaint of a painful lesion in the abdomen. On examination, a 25 millimeter(mm) times 19 mm skin-colored indurated firm nodular lesion was seen on the skin of the right lumbar region.. In the anamnesis, it was learned that the lesion was formed 1 year ago and started to grow 2 months ago. The patient reported pain but no itching. No history of trauma was described. A four mm punch biopsy was taken from the lesion described with the prediagnoses of DFSP, dermatofibroma and keloid. On biopsy, there was dermal spindle cell proliferation separated from the epidermis by a thin zone and the cells forming this proliferation were ovoid-rounded and generally monomorphic. immunohistochemistry showed CD34 diffusely positive, FXIII and CD68 focally positive, SMA, MSA, CD 117, S100, EMA, ERG, SOX10, STAT negative. Ki67 ratio came in at a rate of 8 percent. Molecular examination showed a signal pattern indicating COL1A1/PDGFB gene translocation and the patient was interpreted as DFSP. Ultrasound imaging was requested. No lymph node involvement was seen. Plastic surgery was consulted for wide excision.

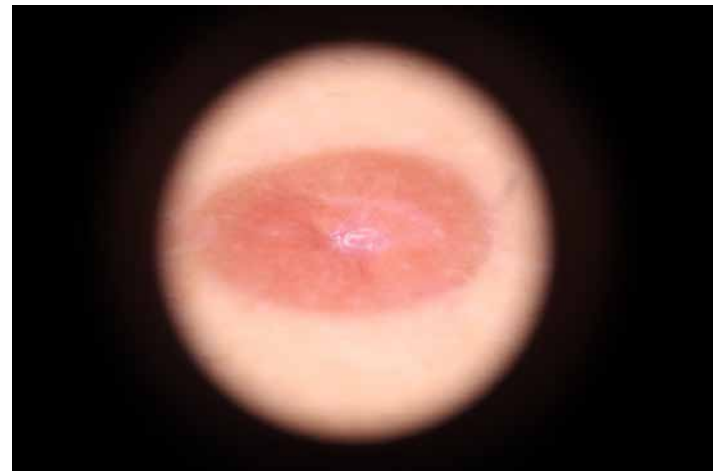
Surgical margin was clear at excision. Regular follow-up of the patient continues.

**DISCUSSION:** DFSP is rare, locally aggressive tumor that often masquerades as a benign, indolent tumor. Microscopically, it extends far beyond the assessed clinical margins, spreading in the dermis and subcutaneous tissue. DFSP has a distinctive histologic appearance but can mimic other diseases. The standard treatment is wide local resection with at least a 2-cm margin. According to the literature, the recurrence rate of DFSP following expansion to 2 cm remains high, whereas the recurrence rate was significantly reduced following expansion to >3 cm. Clinic awareness is important for diagnosis and treatment.

**CONCLUSION:** DFSP is a rare, locally aggressive soft tissue sarcoma that primarily affects young adults, with a predilection for the trunk and extremities. Although DFSP is a low-grade sarcoma with a low risk of distant metastasis, its tendency for local recurrence makes early diagnosis and aggressive treatment essential. Overall, the prognosis for DFSP is favorable when diagnosed early and treated appropriately, with a focus on achieving clear surgical margins and utilizing targeted therapies where necessary.

**Keywords:** dermatofibrosarcoma protuberance, pathology, excision

### DFSP- Dermoscopy



*Dermoscopic findings of DFSP*



Allergy and Cosmetology in Dermatology

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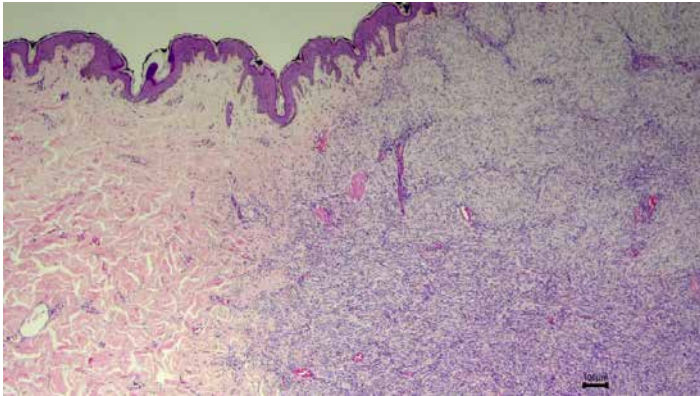
International Dermatology and Cosmetology Congress  
17 - 20 April 2025 | Radisson Blu Şişli Hotel-İstanbul, Türkiye

## DFSP-CASE



*25 mm x 19 mm nodüle right lumbar area -DFSP*

## DFSP-Pathology



*Pathologic findings of DFSP*



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