INDERCOS

Mersin Dermatology and Cosmetology Association
MDCA
2014

7th INDERCOS

International Dermatology and Cosmetology Congress

11-13 March 2022
Wyndham Grand Levent - İstanbul

Drugs in Dermatology

FULL TEXT BOOK

Scientific Program
Lecture Summaries
Oral Presentations
Poster Presentations

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INVITATION

Dear Colleagues,

It is our pleasure and privilege to invite you to the 7th INDERCOS Congress, which will be held between the 11th – 13rd of March 2022 in Wyndham Levent Istanbul Hotel.

Prominent national, and international speakers will participate in panel discussions and breakout sessions on their areas of expertise and updates in clinical, surgical, and aesthetic dermatology.

A special focus will be given to drug development and modern therapies in dermatology, their clinical applications, and research perspectives.

We hope to establish an outstanding interaction between the faculty and attendees in an unforgettable atmosphere of friendship and scientific cooperation.

We are looking forward to welcoming you to the 7th INDERCOS!

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Özge Aşkın
Özgür Gündüz
Özlem Kaplan
Özlem Su Küçük
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Sadiye Kuş
Seçil Vural
Selami Aykut Temiz
Selda Pelin Kartal
Semahat Alp Erdal
Serap Öztürkcan
Seray Külcü Çakmak
Sezgi Sarıkaya Solak
Sıla Sayar
Sibel Doğan
Snejia Vassileva
Sule Ketenci Ertaş
Sümeyre Seda Ertekin
Şirin Yaşar
Şule Güngör
Şükran Sarıgül Güdük
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Ufuk Kavuzlu
Uwe Wollina
Ümit Türsen
Vildan Manav
Yasemin Oram
Zafer Türkoğlu
Zahide Eriş
Zehra Aşiran Serdar
Zekai Kutlubay
Zennure Takcı
Zeynep Topkarcı
Zuhal Metin

*Listed alphabetically

SCIENTIFIC PROGRAM

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11 MARCH 2022, Friday — Hall-1

08:30-09:30 ORAL PRESENTATION - 1
Chairs: Deniz Demirseren, Habib Aktaş

OP-01	A Rare Case of Reactive Angioendotheliomatosis	*Içim Kömürcügil*
OP-02	Characteristics of hospitalized dermatomyositis 13 patients: retrospective study	*Dua Cebeci*
OP-03	Immunohistochemical Evaluation of TNF-α, IL-1, IL-12, IL-17, and IL-23 Expression in Patients with Discoid Lupus Erythematosus	*Selami Aykut Temiz*
OP-04	Serum zinc-alfa-2 glycoprotein (ZAG) and insulin levels in rosacea patients and correlation with metabolic syndrome	*Rana Başara Şahin*
OP-05	Lips smile between HA filler injection and LippLase	*Mohammed Abdul Qader Almalmi*
OP-06	Cutaneous complications associate with different aesthetic medicine procedures in patients attendees	*Mohammed Abdul Qader Almalmi*
OP-07	Lieshmania cutis diffusa pseudolepromatous leprosa case report	*Mohammed Abdul Qader Almalmi*
OP-08	Accropustulosis in Yemeni infants and childrens	*Mohammed Abdul Qader Almalmi*
OP-09	Emotion regulation difficulties and executive functions in adolescents with Skin Picking Disorder	*Işıl Kamberoğlu Turan*
OP-10	A case of cutaneous leishmaniasis and the role of CD1a staining	*Ayşe Türkmen*

09:30-10:30 OPENING SPEECH & LECTURE

Patient-centered dermatological care and treatments: Delivering care and improving outcomes	*Katlein Franca*

10:30-10:45 COFFEE BREAK

10:45-12:00 INVESTIGATIVE DERMATOLOGY *(In Memory of Prof Cem Mat)*
Chairs: Server Serdaroğlu, Kemal Özyurt

Genetics in epidermolizis bullosa	*Burhan Balta*
Medical Bioinformatics in skin cancers	*Sümeyre Seda Ertekin*
Clinical applications of antimicrobial peptides: Where do we stand now?	*Arzu Kılıç*
Biology and biomarkers for wound healing	*Mahmut Can Koska*
Low grade Inflammation in Dermatology	*Birgül Özkesici Kurt*
Skinomics, transcriptional profiling in Dermatology; Omics in psoriasis and skin cancers	*Esra Ağaoğlu*
İnflammasomes and inflammopathy in dermatology	*Müge Göre Karaali*
Generation Z, Technology addiction and dermatology	*Elif Cömert*

12:00-12:45 SATELLITE SYMPOSIUM-1

HAIR TREATMENTS AND ANTIAGING TREATMENTS WITH NEW GENERATION MICROGRAFT AND FAT SUSPENSION TECHNOLOGY
Moderators: *Zekai Kutlubay, Filiz Topaloğlu Demir*
Speaker: *Ulaş Güvenç*

GLOBAL BİYOMEDİKAL

12:45-13:30 LUNCH

13:30-14:30 DERMATOSCOPY - 1
Chairs: Mustafa Turhan Şahin, Ömer Faruk Elmas

Nevi vs Melanoma	*Mustafa Turhan Şahin*
Facial pigmented lesions: Differential diagnosis and challenges	*Abdullah Demirbaş*
Pigmented and non-pigmented nail lesions	*Mahmut Cüneyt Soyal*
Non melanoma skin cancers	*Tuğba Kevser Uzunçakmak*
Non scarring alopecia	*Haitham Donia*
Scarring Alopecia	*Haitham Donia*

11 MARCH 2022, Friday — Hall-1

14:30-15:30	**COSMETICS-1** ***Chairs: Deniz Demirseren, Aslı Tatlıparmak***	
	Electrical muscle stimulation for skincare	*Ufuk Kavuzlu*
	Mitocondria boosters for skin health	*Seçil Vural*
	Yoghurt/Keffir/Sesame/Coconut/Olive oil/Soy oil and skin health	*Habib Aktaş*
	Magnesium for skin: Update	*Deniz Demirseren*
	Nokor needle and other needles for dermatology?	*Aslı Tatlıparmak*
15:30-15:45	**COFFEE BREAK**	
15:45-16:45	**SESSION: ALLERGY AND PRURITUS-1** ***Chairs: Mustafa Tunca, Necmettin Akdeniz***	
	Epinephrine uses and autoinjectors: Dermatology aspect	*Mustafa Tunca*
	Effects of Daily food processing on allergenicity: What is new?	*Amr Abdelhamed*
	Glove and dental materials allergy: What is new?	*Emin Özlü*
	IgE levels and association with various parameters in dermato-allergy	*Maryam Khoshkhui*
	IL-4 targeting treatments in dermatology	*Mahmut Sami Metin*
	Hand sanitizers and hand washing: Science and rationale	*Ömer Kutlu*
16:45-17:00	**BREAK**	
17:00-18:00	**COSMETICS-2** ***Chairs: Ahu Birol, Berna Aksoy***	
	Glucose and fructose-induced skin aging	*Pertevniyal Bodamyalı*
	Body image in aesthetic dermatology	*Özge Aşkın*
	Body piercing and tattoo: Complications	*Ahu Birol*
	Adipose-derived mesenchymal stem cells in aesthetic dermatology	*Şükran Sarıgül Güdük*
	Minoxidil and Procapil and it uses in aesthetic dermatology	*Pınar İnandıoğlu Kurtuluş*
	Safety of cosmetic procedures during pregnancy	*Berna Aksoy*
	Anesthesia in aesthetic dermatology: Tips and tricks	*Hasan Mete Aksoy*
18:00-19:15	**QUICK UPDATE FOR TREATMENT** ***Chairs: Burhan Engin, Ayşe Serap Karadağ***	
	Psoriasis	*Uwe Wollina*
	Acne scar treatment	*Andreas D. Katsambas*
	Laser treatments of rosacea	*Michael H Gold*
	Mycosis fungoides	*Burhan Engin*
	Pediatric dermatology	*Zeynep Topkarcı*
	Vitiligo	*Zuhal Metin*
	TEN	*Gonca Saraç*

12 MARCH 2022, Saturday — Hall-1

08:30-09:30	**DIET AND VITAMINS IN DERMATOLOGY** ***Chairs: Işıl İnanır, Şule Güngör***	
	The types of diets: Nordic diet, Mediterranean diet, Ketogenic diet, Vegetarian diet	*Gülşen Tükenmez Demirci*
	Use of oral vitamins in skin disease	*Işıl İnanır*
	Use of topical vitamins in skin diseases	*Hilal Kaya Erdoğan*
	Antioxidants in anti-aging cosmetics	*Jelena Stojkovic-Filipovic*
	Could the food we eat be medicine in dermatology?	*Şule Güngör*
	Supplements for nail and hair diseases	*Işıl Bulur*
09:30-10:30	**GENERAL DERMATOLOGY SESSIONS** **MISCALLENOUS -1** ***Chairs: Deniz Yücelten, İlkin Zindancı***	
	Pediatric drug monitorization in dermatology	*Deniz Yücelten*
	Current treatment approach for resistant HPV cases	*Mihael Skerlev*
	Current approach for retinoids in the treatment of cutaneous lymphoma	*İlkin Zindancı*
	Dietary supplements in dermatology beyond hair and nail diseases	*Asude Kara Polat*
	Mercury/Lead/Arsenic/gold/silver and other heavy metals toxicities in dermatology	*Burcu Beksaç*
	Acupuncture and functional medicine for skin disease: Is there an evidence?	*Semahat Alp Erdal*
10:30-10:45	**COFFEE BREAK**	
10:45-11:45	**DERMOSURGERY** ***Chairs: Necmettin Akdeniz, Gonca Elçin***	
	Tricks in excisional biopsy	*Necmettin Akdeniz*
	Tips in nail surgery	*Eckart Haneke*
	Tips for Mohs micrographic surgery	*Gonca Elçin*
	Tips for scar prevention and revision	*Amor Khachemoune*
	When can lasers be used instead of surgery	*Atif Hussain Kazmi*
11:45-12:30	**LUNCH - SATELLITE SYMPOSIUM-2**	
	SUSTAINABLE RELIEF FOR PSORIASIS PATIENTS WITH TREMFYA ***Moderators:*** *Serhat İnalöz, Sibel Doğan, Didem Didar Balcı* ***Speakers:*** *Sinan Doğan, Güldehan Atış, Fatma Pelin Özgen*	

12 MARCH 2022, Saturday — Hall-1

12:30-13:30	**GENERAL DERMATOLOGY SESSIONS** **WHAT IS NEW?** ***Chairs: Seray Külcü Çakmak, Sezgi Sarıkaya Solak***	
	BTK inhibitors for blistering diseases	*Dedee Murrell*
	Diagnostic techniques	*Sezgi Sarıkaya Solak*
	Autoantibodies in skin disease	*Aslı Bilgiç*
	New uses of old drugs in skin disease	*Seray Külcü Çakmak*
	Aromatherapy and dermatology	*Emine Ünal*
	Skin care products	*Neslihan Fişek İzci*
13:30-14:30	**BIOLOGICS IN DERMATOLOGY SESSION** ***Chairs: Serap Öztürkcan, Didem Didar Balcı***	
	The history of monoclobal antibodies: Magic bullets	*Lawrence C. Parish*
	Paradoxical cutaneous side-effects of biologics	*Filiz Topaloğlu Demir*
	Efficacy of biologic agents according to HLA type	*Mehmet Uçar*
	Monitorisation of biologics in dermatology	*Serap Öztürkcan*
	Anti-drug antibodies in dermatology	*Didem Didar Balcı*
	Are biologics really safety? Quick update with new studies	*Şule Ketenci Ertaş*
14:30-15:50	**COSMETICS-3** ***Chairs: Zekai Kutlubay, Belma Türsen***	
	Botulinum toxins for inflammatory skin disease	*Filiz Canpolat*
	Botulinum toxins for hyperhidrosis	*Filiz Kuşak*
	Botulinum toxins for anti-aging	*Pelin Üstüner*
	Ocular (ptosis etc.) and asymmetry side-effects of botulinum toxin injections	*Zekai Kutlubay*
	Device-based treatment for vaginal wellness	*Hüray Hügül*
	Aesthetic dermatology: What's new? What's true?	*Sadiye Kuş*
	Postlaser erythema: How can we treat and prevent	*Begüm Ünlü*
	Topical treatment strategies to manipulate human skin pigmentation	*Vildan Manav*
15:50-16:50	**DRUG ERUPTIONS** ***Chairs: Tamer İrfan Kaya, Zafer Türkoğlu***	
	Algorithmic approach to drug eruptions	*Rafet Koca*
	Vasculitis and urticarial	*Zafer Türkoğlu*
	Eczematous, acneiform, pigmented	*Özlem Kaplan*
	Granulomatous and lymphomatoid	*Gökşen Ertuğrul*
	Psoriatic and lichenoid	*Ahsen Eslem Kılıç*
16:50-17:00	**COFFEE BREAK**	

12 MARCH 2022, Saturday		Hall-1
17:00-18:00	**HOT TOPICS FOR PANDEMIC** ***Chairs: Emel Çalıkoğlu, Kamer Gündüz***	
	How effective can teledermatology be?	*Emel Çalıkoğlu*
	How much has the pandemic affected dermatology?	*Özlem Su Küçük*
	COVID-19 vaccine-induced skin diseases	*Mohamad Goldust*
	Vaccination and drug use	*Kamer Gündüz*
	Maskne and mask-rosacea	*Duygu Erdil*
	Dermatology education in the pandemic: How effective has it been?	*Aslı Kaptanoğlu*
18:00-19:00	**MISCALLENOUS-2** ***Chairs:Kenan Aydoğan, Yasemin Oram***	
	Artificial intelligance in dermatology: Where we now?	*Ozan Erdem*
	Comorbidities in inflammatory and autoimmune skin diseases	*Eylem Arıkan*
	Microbiome killers and savers for skin health, Biome depletion theory hygiene hypothesis	*Sibel Doğan*
	Surgical Scar Prophylaxis-What is new? (Mitomycin C, fibrostat, tranilast etc.)	*Yasemin Oram*
	Treatment updates for sexual transmitted skin diseases	*Kenan Aydoğan*
	Spontaneous regressing skin tumors and inflammatory diseases in dermatology	*Sıla Sayar*
19:00-19:15	**BREAK**	
19:15-20:15	**SESSION: ALLERGY AND PRURITUS: 2. UCARE - ACARE** ***Chairs: Marcus Maurer, Emek Kocatürk, Ragıp Ertaş***	
	Chronic Urticaria: Where we are in solving the disease?	*Marcus Maurer*
	Symptomatc dermographism: What is new?	*Melba Munoz*
	Chronic Urticaria & Skin tests: When? Which? Whom?	*Andaç Salman*
	Social and Psychological Impacts of Chronic Urticaria & Angioedema	*Ragıp Ertaş*

13 MARCH 2022, Sunday — Hall-1

08:30-09:30	**ANTIBIOTICS IN DERMATOLOGY & RATIONAL DRUGS** ***Chairs: Işıl İnanır, Algün Polat Ekinci***	
	Antibiotic resistance in dermatology	*Melek Aslan Kayıran*
	Antibiotic therapy in acne	*Göknur Kalkan*
	Old and still using antibiotics in dermatology	*Algün Polat Ekinci*
	New developing antibiotics in dermatology	*Bengü Gerçeker Türk*
	Rational uses of medicine session: How can we prevent antibiotic overuses?	*Esra Pancar Yüksel*
	Probiotic supplements during antibiotic treatment in dermatology	*Zennure Takcı*
09:30-10:30	**SESSION: HAIR AND NAIL** ***Chair: Selda Pelin Kartal, Ayşe Akman Karakaş***	
	Algorithmic approach for cicatricial alopecia	*Mehmet Melikoğlu*
	Treatment of severe forms of alopecia areata in children and adolescents	*Miloš M. Nikolić*
	New treatments for cicatricial alopecia	*Ayşe Akman Karakaş*
	New treatments for non-cicatricial alopecia	*Selda Pelin Kartal*
	Algorithmic approach for nail diseases	*Arzu Karataş*
	What nail problems can/cannot be cured?	*Bengü Çevirgen Cemil*
10:30-10:45	**COFFEE BREAK**	
10:45-12:00	**DERMATOSCOPY-2** ***Chair: Şirin Yaşar, Aylin Türel Ermertcan***	
	Dermatoscopic diagnosis and management of spitzoid lesions	*Pawel Pietkiewicz*
	Dermatoscopic diagnosis and management of Clark's nevi	*Şirin Yaşar*
	Dermatoscopic diagnosis and management of Acral lesions	*Ercan Arca*
	Digital dermatoscopic monitoring of melanocytic lesions: tips and tricks	*Gamze Erfan*
	Dermatoscopy of mucosal surfaces	*Aylin Türel Ermertcan*
	Dermatoscopic and pathological correlation in melanocytic neoplasm	*Ömer Faruk Elmas*
	Inflammatory and infectious dermatoses	*Ersoy Acer*
12:00-12:30	**LUNCH**	

13 MARCH 2022, Sunday — Hall-1

12:30-13:30	**COSMETICS-4** ***Chairs: Ayşin Köktürk, Pelin Koçyiğit***	
	Treatment of double chin	*Medhat Abdelmalek*
	Cosmeceutical Peptides in dermatology	*Zahide Eriş*
	Tele-aesthetics and AI in aesthetic dermatology: What is new?	*Emel Bülbül Başkan*
	Employing an aesthetician in a dermatology practice: facts and controversies	*Selami Aykut Temiz*
	Sleep lines treatments in aesthetic dermatology	*Pelin Eşme*
	Botulinum toxin procedures for lower face	*Pelin Koçyiğit*
	PRF in aesthetic dermatology	*Ayşin Köktürk*
	Tranexamic acid in dermatology	*Recep Dursun*
13:30-14:30	**PSYCHODERMATOLOGY: AN OVERVIEW AND UPDATE** ***Chairs: İlknur Altunay, Ayşe Serap Karadağ***	
	Stigmatizing in skin disease	*Christina Schut*
	Psychological side effects for isotretinoin	*Ezgi Erdal Özkur*
	Skin care addiction	*Lucia Thomas Aragones*
	Adverse childhood experiences in dermatology	*Efruz Pirdoğan*
	Body dysmorphic diseases in cosmetical procedures	*İlknur Altunay*
	Pharmacotherapy in psychogenic pruritus	*Mohammad Jafferany*
14:30-15:40	**COSMETICS-5** ***Chairs: Meltem Önder, Zehra Aşiran Serdar***	
	Hair dyes, sunscreens, and carcinogenesis	*Özgür Gündüz*
	Histone modifiers for skin aging	*Fatma Pelin Özgen*
	Oxitocin/serotonin/dopamine for skin aging	*Nazan Emiroğlu*
	Carbon footprint in aesthetic dermatology and dermatology	*Banu Ertekin Taşkın*
	Tretinoin, lactic acid and salicylic acid peelings	*Zehra Aşiran Serdar*
	TCA, glycolic and croton peelings in dermatology	*Ayşenur Botsalı*
	Kligman, Jessner and the other important formulation in dermatology	*Ahmet Metin*
	Dermatologic care of the transgender patient	*Meltem Önder*
15:40-15:45	**COFFEE BREAK**	

13 MARCH 2022, Sunday — Hall-1

15:45-17:25	**TREATMENT UPDATE** ***Chairs:Nida Kaçar, Ivana Binic***	
	New developing biologics in psoriasis	*Nida Kaçar*
	Treatment approach to pediatric psoriasis	*Asja Prohic*
	Autoimmune blistering diseases: An update	*Snejina Vassileva*
	Are biologic agents' studies promising in HS?	*Meltem Türkmen*
	New developing biologics in atopic dermatitis	*Bilal Doğan*
	Biologic dressings, 3-D printing in dermatology	*Cahit Yavuz*
	Computational drug development in dermatology	*Naiem Tony Issa*
	Rosacea treatment: What is new?	*Ivana Binic*
	Acne and isotretinoin	*Zoran Nedic*
	Dexpanthenol, centella asiatica, arnica montana, allantoin for skin and hair health	*Büşra Altun Deniz*
17:25-17:40	**CLOSING SPEECH & LECTURE**	
	Present and Future of Dermatology and Applied Cosmetology	*Torello Lotti*
	Alopecia: What is new?	*Roxanna Sadoughifar*

13 MARCH 2022, Sunday — Hall-2

08:30-09:30 ORAL PRESENTATION - 2
Chairs: Erdinç Terzi, Gökşen Ertuğrul

OP-11	Urticaria vasculitis case report	*Heba Atta Allah Hussein*
OP-12	Risk Factors of Adult Female Acne: A Prospective, Cross Sectional, Case Controlled Study	*Defne Özkoca*
OP-13	Carcinoma en Cuirasse: A Rare Manifestation of Breast Cancer	*Içim Kömürcügil*
OP-14	The relation of cosmetic product usage, facial hair removal habits, and oral contraceptive usage to acne formation among female medical students	*Cemile Tugba Altunel*
OP-15	Quality of life in acne vulgaris patients who are treated with systemic isotretinoin	*Cahit Yavuz*
OP-16	Omalizumab therapy in patients with bullous pemphigoid: A retrospective study of 13 patients	*Zuleyha Ozgen*
OP-17	Evaluation of the change in the interest in nose filling in Turkey in the last ten years according to the years, via google trends	*Nebahat Demet Akpolat*
OP-18	Acne Vulgaris Patients' Use of Skin Care Products and Their Impact on Disease Severity	*Fatmanur Hacınecipoğlu*
OP-19	Certolizumab-Induced Purpura Annularis Telangiectodes of Majocchi: A case report	*Özge Sevil Karstarli Bakay*
OP-20	A Comperative Evaluation of "Light-pull" Tests, Automated Digital Phototrichograms,and Hb, Ferritin, Zinc Serum Levels in "Telogen Effluvium" Patients	*Özgür Gündüz*

09:30-10:30 ORAL PRESENTATION - 3
Chairs: Erdinç Terzi, Gökşen Ertuğrul

OP-21	Variable Clinical and Trichoscopic Features of Temporal Triangular Alopecia	*Simge Süel Eroğlu*
OP-22	Trichoscopic and Clinical Features of Traction Alopecia: Preliminary Results of 9 Patients	*Simge Süel Eroğlu*
OP-23	A case of micromelanoma: Possible association with hormonal therapy	*Ece Gokyayla*
OP-24	A rare case of granulomatous rosacea: from dermoscopic clues to succesful treatment	*Ece Gokyayla*
OP-25	Primary Immunodeficiency Disease Caused By Mutation in CARMIL2 in Patient With Disseminated and Persistent Warts	*Rabia Oztas Kara*
OP-26	Gender related differences in Chronic Spontaneous Urticaria; analysis of 624 patients	*Pelin Kuteyla Can*
OP-27	Capillary leak syndrome induced by acitretin: A case series	*Zeynep Diri Er*
OP-28	Ichthyosiform Mycosis Fungoides: Rarely Reported Form of Mycosis Fungoides	*Fadime Eda Gökalp Satıcı*
OP-29	as the cause of granuloma faciale; hydroxyurea	*Nur Gizem Aykıroğlu*
OP-30	Skin Side Effects of Systemic Chemotheraputics	*Sena Inal Aptoula*

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10:30-11:30 ORAL PRESENTATION - 4
Chairs: Erdinç Terzi, Gökşen Ertuğrul

OP-31	Treatment of focal epithelial hyperplasia with topical imiquimod: report of five cases	*Esra Soylu*
OP-32	The Factors Affecting Quality of Life in Men and Women Diagnosed with Genital Warts	*Yesim Akpinar Kara*
OP-33	Non-ablative skin revitalization of facial skin in vegan and omnivore patients	*Demet Akpolat*
OP-34	Dermatomyositis Presenting Only With Isolated Bilateral Eyelid Involvement	*Hülya Cenk*
OP-35	effects of guselkumab treatment in psoriasis patients	*Kübra Aydoğan*
OP-36	experience of risankizumab treatment in dermatology department of mersin university	*Abdullah Fatih Acik*
OP-37	Scalp Micropigmentation: An Innovative Solution For Hairloss	*Aditya Shahaji Favade*
OP-38	Infections associated with eczema	*Ketevan Kate Khishtovani*
OP-39	COVID-19 vaccine and subacute cutaneous lupus association	*Ece Gokyayla*
OP-40	Evaluating reading time in patch testing: a retrospective, cross-sectional study from turkey covering an 8-year period	*Tugba Ozkok Akbulut*

11:30-12:06 ORAL PRESENTATION - 5
Chairs: Erdinç Terzi, Gökşen Ertuğrul

OP-41	Paediatric lichen sclerosus et atrophicus: Clinic and demographic characteristics of 69 paediatric patients	*Afra Cesur*
OP-42	Factors Affecting the Compliance of Dermatology Patients to Phototherapy	*Özge Sevil Karstarli Bakay*
OP-43	Evaluation of the Alexithymia, Depression and Anxiety Status in Acne Vulgaris Patients	*Ömer Kutlu*
OP-44	The Use of Combined Fractional Carbon Dioxide Laser and Fractional Microneedle Radiofrequency in the Treatment of Facial Skin Aging	*Gökçe Işıl Kurmuş*
OP-45	Famililal Chilblain Lupus Spreading To Two Countrıes, Affecting Three Generations With Variable Phenotypic Expressivity	*Zeynep Altan Ferhatoğlu*
OP-46	Clinicoepidemiologic profile of Discoid Lupus Erythematosus and Its Relationship with Systemic Diseases	*Hülya Cenk*

LECTURE SUMMARIES

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PATIENT-CENTERED DERMATOLOGICAL CARE AND TREATMENTS: DELIVERING CARE AND IMPROVING OUTCOMES

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Institute for Bioethics & Health Policy- Faculty

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The concept of "patient-centered care" has been more and more present in the medical literature in the past decade, with exciting new studies and publications in Dermatology. This lecture will review some of these studies so we can consider the "patient-centered" approach when delivering care.

Beginning with the Hippocratic tradition and lasting for the next 2,400 years, the physician-patient relationship remained relatively unchanged under the beneficence model, a paternalistic framework characterized by the authoritative physician being afforded maximum discretion by the trusting, obedient patient. (1)

Furthermore, this was reflected in the first two Fundamental Principles of Ethics that still guide our medical practice: beneficence (do good) and non-maleficence (do not harm). Only in the 1800s the idea of considering the patient's opinion and perspective start to be discussed. And over time, two new principles, autonomy and justice joined beneficence and non-maleficence and were finally accepted as essential principles of ethics. Autonomy is the principle that states that one should be educated and make decisions regarding what happens to them without being influenced. Moreover, the principle of autonomy guides the "patient-centered" concept. (2)

So there was a paradigm shift, and we moved into a much more enlightened era of care, and many physicians seek to involve patients, help them understand treatment options, and work collaboratively to achieve wellness goals.

In patient-centered care, an individual's specific health needs and desired health outcomes are the driving force behind all health care decisions and quality measurements.

Patients are partners with their health care providers, and providers treat patients not only from a clinical perspective but also from an emotional, mental, spiritual, social, and financial perspective. (3)

Dermatologists have two important roles: medicoscientific and medicosocial. The medico-scientific role of dermatologists is to have an in-depth knowledge of physiology and the skin's pathology and apply this knowledge to the care of patients, including, where necessary, cosmetic advice and psychological support. At the same time, the medico-social role consists in helping health insurance providers to define skin diseases, their somatic and psychological consequences, their impact on quality of life, and the type of care needed to treat them. Both roles are essential for "patient-centered" care. (4)

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GENETICS OF EPIDERMOLYSIS BULLOSA

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Epidermolysis bullosa(EB) is a group of rare and inherited disorders characterized by skin fragility, with formation of blisters, erosions, wound of skin and mucous membranes depending on mechanical trauma. EB include a broad spectrum of phenotypes, from severe cutaneous and extra-cutaneous involvement due to deficiency of essential adhesion proteins, to mild cutaneous fragility. More than 30 subtypes are recognized and grouped into 4 main categories, which are predominantly based on the cleavage plane of the skin and reflecting molecular defect; EB simplex, Junctional EB, Dystrophic EB and Kindler EB. To date, pathogenic mutations in 20 different genes that affect cellular integrity and adhesion have been associated with EB (Has et al. 2019).

Epidermolysis bullosa simplex is characterized by fragility of the skin that results in non-scarring blisters and erosions caused by minor mechanical trauma. The diagnosis of epidermolysis bullosa simplex is determined in a proband by the identification of biallelic pathogenic variants in EXPH5 or TGM5 or heterozygous pathogenic variants in KRT5 or KRT14 by sanger or next generation sequencing (Bardhan et al. 2020)

Junctional EB is result from mutations in genes encoding structural proteins involved in anchoring basal keratinocytes to basement membrane like type XVII collagen(*COL17A1*),laminin 332(*LAMA3*, *LAMB3* and *LAMC2*), integrin α6β4(*ITGA6* and *ITGB4*) and integrin α3 subunit(IGTA3).

Dystrophic EB is characterized by cleavage in the upper dermis due to COL7A1 mutations that cause mutant type VII collagen and impaired anchor fibrils in all cases. The disease may be inherited in an autosomal recessive or autosomal dominant manner or may occur de novo. Generally, the dominant dystrophic EB has a milder phenotype than the recessive form.

Kindler syndrome (KS), a rare subtype of hereditary epidermolysis bullosa, presents with birth-onset skin fragility and acral bulla formation, diffuse cutaneous atrophy, photosensitivity, poikiloderma, diffuse palmoplantar hyperkeratosis, and pseudosyndactyly. Mucosal manifestations are also common and include hemorrhagic mucositis and gingivitis, periodontal disease, early tooth loss, and labial leukokeratosis. Kindler EB can be complicated epithelial cancer such as SCC at acral or mucosal sites. The diagnosis of KS is established in a proband with suggestive clinical findings and biallelic pathogenic variants in FERMT1 gene.

Targeted next generation sequencing panels or whole exome sequencing can be used for molecular diagnosis of EB. Currently, there is no curative treatment in EB. The main treatment strategy is to improve symptoms and prevent complications (Fine et al. 2009).

Gene therapy is an important and promising area in the treatment of EB. Gene-corrected autologous keratinocyte grafts transformed using the retroviral vector have been used in recessive dystrophic EB. Improved wound healing with associated reduction in pain and itching in the treated areas were observed. On the other hand, type VII collagen levels were not measured and fixative fibril formation was not consistently detected (Eichstadt et al. 2019). CRISPR-Cas9 technology also revealed some promising results in EB.

Genetic counseling is very important in explaining the disease and the risk of recurrence to the family. Therefore, EB patients and their families should be referred to a medical geneticist to explain the possibilities of molecular diagnosis, genetic counseling, prenatal diagnosis and preimplantation genetic diagnosis.

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MEDICAL BIOINFORMATICS IN SKIN CANCER

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Bioinformatics is a rapidly developing interdisciplinary scientific branch that integrates medicine, biology, biochemistry, mathematics, statistics, and computer science. It uses informatics and computer-aided methods to obtain, store, analyze and manage the biological data, most often DNA, RNA and protein sequences to help biologic events to be explained at a molecular level.[1]

As the completion of the Human Genomic Project being an acceleration point, the volume of biological data collected during the course of biomedical research has exploded in the past decades. The voluminous mass of obtained data has created a need for bioinformatics science to be able to analyze and organize properly the biological information with the help of computer sciences and artificial intelligence tools.

The application areas for bioinformatics have extended widely in the past decade; with cancer research being one of most popular and important areas of interest of bioinformatics.[2] With the help of bioinformatics tools, scientists are able to properly analyze the big data sets of genomic, transcriptomic and proteomic information to increase our understanding of the molecular basis of cancer progress which eventually has revolutionized cancer research. Provided data contributes to the new inhibitory drug discoveries which target specific molecular pathways and to new potential biomarkers to predict the prognosis, and effectively monitor the disease progression.[3] All these discoveries finally have opened the door to the pursued dream of personalized medicine.

Bioinformatics and machine learning analyses are growing rapidly in the field of skin cancer, especially melanoma.[4,5] It is a highly heterogeneous disease with the highest known mutational load among all human cancers. The introduction of next-generation sequencing has revealed distinct underlying genetic drivers for different clinical subtypes of melanoma and has redefined the molecular classification of the tumor.[6] Acral and mucosal subtypes of melanomas present a different genetic landscape compared with cutaneous melanoma, and they are characterized by a lower mutation burden and high structural variants.

Whole-exome sequencing (WES) studies have identified mutations in several distinct genes in different signaling pathways that play a role in melanoma carcinogenesis and that are related to different clinical outcomes. Recently a gene expression profile (31-GEP) test has been developed to provide a binary classification of “low risk” or “high risk” of metastasis for the early-stage primary melanomas by evaluating the expression status of 31 gene targets in the primary tumor.[7] Furthermore, there are a growing number of machine learning studies that aim to create nomograms to risk stratify and predict prognosis in melanoma by using molecular, clinical and histopathological variables of the tumor.[4]

The concept of individualized vaccines to enhance immunity against a spectrum of cancer mutations was recently introduced and the first-in-human application was realized on patients with melanoma.[8] Those vaccines are produced uniquely for each patient, and they contain RNA fragments, encoding neoantigens expressed by the tumor tissue. The aim of these vaccines is to increase individual T cell responses against tumor tissue. Bioinformatic analysis is essential in this personalized medicine setting, as it decreases sequencing costs and creates better algorithms to predict neoantigen bindings thus will be making it possible to many patients to receive a personalized vaccine for their tumor in the near future.

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CLINICAL APPLICATIONS OF ANTIMICROBIAL PEPTIDES: WHERE DO WE STAND NOW?

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Antimicrobial peptides (AMPs) are biological molecules that exist in nature. These are the host defense peptides and these molecules constitute an important part of the innate immune system of different organisms. These small cationic peptides are multifunctional and have direct antimicrobial activity against various bacteria, viruses, fungi, and parasites.

AMPs are classified based on their source, activity, structural characteristics and amino acid-rich species. According to their source, they can be derived from mammalians, amphibians, microorgansims, and insects. The AMPsmay also be found in oceans.

Mammalian AMPs are found in human, sheep, cattle, and other vertebrates. Human host defense peptides account for a large proportion. They can be identified in many parts of the body such as skin, eyes, ears, mouth, respiratory tract, lung, intestine, and urethra. They are found within granules of neutrophils and in epithelial cells covering skin and mucosal surfaces. Cathelicidins and defensins are the main families of AMPs. AMPs in human breast milk also play an important role, because it can decrease the morbidity and mortality of breast-feeding infants.

As it is mentioned previously; AMPs primarily have antimicrobial effect. AMPs are being tried to be used in infections since they have broad antimicrobial spectrum, rapid action, anti-biofilm properties and lower risk of resistance. They are also highly selective, and low toxic.

Besides antimicrobial properties, they also have anti-tumor activities. They have also recently captured attention as innovative drug candidates for therapeutic indications other than antimicrobials and antifungals. Several AMPs are currently under clinical development for therapeutic indications other than antimicrobials agents.

Below, the indications of AMPs are being listed:

1. Anti- infective agents: The broad-spectrum, concomittant antiinflammatory activity and rapid bactericidal action of AMPs, combined with a postulated low risk for resistance development, makes AMPs promising candidates for antimicrobial drugs.
2. Anticancer agents: Some AMPs specifically target tumor or cancer cells. They selectively recognize cancer cells via electrostatic interactions. Factors that contribute to elevated negative charge on cancer cells include phosphatidylserine, heparin sulfates and O-glycosylated mucins on the surface of tumor cells.
3. Anti- biofilm agents: Many bacterial species form biofilms to become significantly more resistant to conventional antibiotics. Recently, biofilm inhibitory property of AMPs has been reported.
4. Wound car/wound healing: Especially in wounds, AMPs not only prevent pathogen proliferation and biofilm development in lesional skin but also promote wound healing through modulating the cell migration, chemotaxis, cytokine release and angiogenesis
5. New cosmetics ingredients: Some beneficial features of AMPs for cosmetic application include (i) clearance of skin pathogens which is important for many skin problems, for examples, acne management due to inhibition of *Propionibacterium acnes* and inflammation control; (ii) wound healing.
6. Medical devices such as contact lens, catheter, nanotubes, titanium surface: The medical devices are becoming a hall-mark in modern health care systems. Applications of antimicrobial peptides on medical devices development inhibits pathogens and distrupt biofilm formation.
7. Food preservatives: Bacterocins such as nisin, polylysine, Pedocine have a good inhibitory effect on common bacteria and fungi in food. Moreover, active packaging by adding AMPs has a great potential in the food industry.
8. Agriculture: The plant pathogenic infection of bacteria and fungi cause great harm to the growth of agricultural products.

As a conclusion, several AMPs are currently under clinical development for therapeutic indications. New advances in finding solutions that improve AMPs design as well as peptide production technologies will provide a strong impact to the medical practices.

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BIOLOGY AND BIOMARKERS FOR WOUND HEALING

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Because barrier function is one the most important duty of skin and skin integrity is essential for this purpose, living organisms must have effective wound healing ability to stay alive. Wounds can be categorized according to several ways like time of ulcer, etiology, surface and border properties. Most utilized category is according to tissue repair. Primary healing and delayed primary healing consist of fully repairing of surgical defect. If wound edges aren't approximated this would call secondary healing which is characterized by more abundant inflammation, granulation and higher wound contraction. Re-closure of wound after dehiscence is tertiary closure. Wound healing is highly dynamic process and involves many cells and molecules.[1] Traditionally it has three phases inflammation, proliferation and remodeling. Several resources pointed one additional initial phase homeostasis; others include this phase into inflammation phase. Homeostasis is important not just for ceasing bleeding and creating mechanical barrier but also, cytokine and growth factor retention, epidermal proliferation, cell migration. Regarding certain borders between these phases isn't possible and they are always associated and intertwined in individuals. Nevertheless, each phase begins and end in different days during wound healing process and they were defined for their specific features and components. If a wound cannot complete and pass these phases, it can't heal.[2, 3] Chronic wounds are usually caused by underlying chronic disorders such as diabetes mellitus (DM), chronic venous deficiency, peripheral arterial disorders. Clinical findings are variable depending on underlying disorder and complications such as deformities and limb amputations may occur. Thus, wounds should be investigated and managed appropriately. Understanding and exploring wound healing physiology is essential to manage wounds.[1, 2]

Homeostasis begins with disruption of vessels and vasoconstriction is the first event. Activation of platelet and endothelial cells is initial and important events which provide thrombosis, coagulation and clot formation. Fibronectin (FN), both soluble (sFN) and insoluble or cellular (cFN) forms, play act in this process. sFN secreted from hepatocytes to blood and cFN is secreted from many tissue resident cells and platelets and it is important substance of extracellular matrix (ECM) which may induce cell proliferation, migration and differentiation. sFN plays important role in formation of proper clot after injury by forming fibrinogen-FN complexes.[4] Subsequent coagulative cascade activation assures homeostasis and clot in concurrent with inducing anti-coagulative and fibrinolytic process. Homeostasis begins and end in hours, but their effects are very important to induce subsequent phases, cells, secretion and releasing of cytokines and growth factors. Clot is not just a plug to prevent bleeding but also, a barrier and temporary matrix for migrating cells. Platelet derived growth factor (PDGF) is secreted by platelets and one of the most important growth factors and essential inducer of proliferation phase at early stages. PDGF strongly induces proliferation and differentiation, collagen synthesis, chemokine secretion and attract monocytes and other cells.[1]

Inflammation begins in concurrent with homeostasis. Secretion of histamine, serotonin, heparin by mast cells and neuropeptides such as substance P, neuropeptide Y, calcitonin related peptide occurs from concerning cells and these substances induce vasodilatation and endothelial activation.[1, 5] These latter neurokinins are very important in wound healing which can also induce cells, promote angiogenesis, epithelization and formation of granulation tissue.[5, 6] Predominant cells are neutrophils at first day and subsequently monocytes at second day which is organized by cytokines. As process continue, by exosomes of mesenchymal stem cells and T helper 2 cytokines, macrophage type change from pro-inflammatory macrophages (M1) to anti-inflammatory macrophages (M2) occurs which aids conversion of inflammatory phase to proliferation phase and impaired in diabetic ulcers.[3, 6] These monocytes affect milieu after transforming to macrophages by secretion of proinflammatory cytokines such as interleukine-1, 6, tumor necrosis factor-a (TNF-a), interleukine-8, interleukine-12 and anti-inflammatory cytokines like interluekine-4, 10, 13. Inflammatory infiltrate provides protective tissue against infections and naturally debride previous damaged tissue. In addition, monocytes/macrophages are also important source of growth factors for example epidermal growth factor (EGF), fibroblast growth factor (FGF), bone morphogenetic protein (BMP), vascular endothelial growth factor (VEGF), transforming growth factor-alpha and beta (TGF-a, b) thus, they also promote granulation tissue formation, epithelization and angiogenesis.[1-3, 6]

Proliferation phase begins in several days after wound opening. Correct homeostasis and inflammation are mandatory for beginning and processing of this phase. Proliferation phase includes epidermal proliferation, epithelization, dermo-

epidermal junction formation, fibroblast proliferation, transformation, collagen and ECM synthesis, angiogenesis, angiogenesis, granulation tissue formation and wound contraction. Growth factors such as Keratinocyte growth factor (KGF), PDGF, EGF, FGF, BMP, TGF, VEGF. Tissue and cells around the wound are very important because they support wound healing by providing physical support, neuropeptides, maintaining tissue contraction, stem cells, remodeling. In DM, one of the most frequent reasons of chronic wounds, these cells are impaired and cannot support proliferating phase in traumatic site thus, skin integrity become broken and lead to unhealing skin ulcer.[6] Stem cells are unique and important cells for wound healing. They have capacity to transform forward cells according to their types. Epidermal stem cells are resident at basal layer, bulge area and mesenchymal niche in papilla of hair follicles. Another source of stem cells is bone marrow. Bone marrow derived mesenchymal stem cells have capacity to transform keratinocytes, fibroblasts, adipocytes and endothelial progenitor cells. Stem cells have high proliferating capacity, able to secrete growth factors and induce anti-apoptotic and anti-fibrotic mechanisms by paracrine secrotome.[6-8]

Epithelization began just after wound formation. Keratinocytes at the wound edge are induced by growth factors such as EGF, KGF, TGF-a. Keratinocytes migrate along clot and granulation tissue.[1, 2, 8] After injury adhesion molecules and cytoskeleton of keratinocytes at the wound edge alter to proliferate and migrate. Connection between keratinocytes also becomes weaker which gets stronger after completion of epithelization. Keratinocytes are also important of inducing peripheral cells through secretion of cytokines and growth factors.[1, 8]

Granulation tissue is pink colored, soft tissue consists of fibroblasts, inflammatory cells, keratinocytes, ECM (hyaluronic acid, proteoglycans, glycoproteins, collagen, elastin), endothelia and young vessels.[3] Initially dominant collagen is type 3 which is replaced type 1 subsequently.[9] cFN is important to provide integrity of granulation tissue.[4] Granulation tissue is formed by mainly secreted fibroblasts located around wound. It appears and begins to replace clot at fourth day, becomes most abundant and begins to regress at the end of first week, and fades away at the end of second week. For proper wound healing granulation tissue must form, become mature and resolve appropriately. Arrest any time of this process would lead to persistence of granulation tissue and fail of healing.[1-3] Mandatory for epithelization, connective tissue and angiogenesis, it also provides wound contraction by transformation of fibroblasts to myofibroblasts in which TGF-b1, extra domain A of FN (EDA-FN) and hyaluronic acid derived thick pericellular coat around fibroblasts play essential role.[4, 9] The latter is primarily secreted by macrophages, platelets and keratinocytes and crucial for fibroblast proliferation and transformation, collagen secretion and formation and fibrosis. Myofibroblast activation is important for fibrosis and over-activation may lead to keloids and hypertrophic scars. Myofibroblasts are characterized by producing a-smooth muscle actin and at the end of the healing process these cells should be resolved otherwise excessive fibrosis would be the result. Wound contraction is formed several days after wound formation, and it provides physical strength for healing tissues. It keeps continue during remodeling phase even after epithelization process and regression of granulation tissue.[9]

Angiogenesis is primarily stemmed from blood vessels located around wound, hematopoietic mesenchymal stem cells and maintained by endothelial cells and pericytes. Induced by VEGF, angiogenin and other growth factors, endothelia from around of ulcer proliferate, budge, invade adjacent ECM, migrate, form small vessels.[1-3] Concurrently pericytes also induce this process by secreting concerning growth factors, basal membrane, perivascular ECM and supporting mechanical strength and stability by contractile forces like smooth muscles. Pericytes are contractible cells and, they have capability to transform other cells like adipocytes thus, they are considered as pluripotent stem cells and cell reserve. In normal tissues they resident around endothelia.[3]

Remodeling phase is characterized with apoptosis and degradation of old cells and ECM which will be replaced by newly synthesized cells and ECM with several modifications such as replacement of type 3 collagen by mature type 1 collagen. New collagen reaches most abundant at the end of third week and wound contraction is important part of this phase to maintain integrity and strength. Remodeling phase may take several years and ECM is not static rather it is a self-renewing structure. In this stage ECM became not only maturated, but also vessels decrease, collagen fibers become thicker and scar tissue forms.[3]

Biomarkers of wound healing may be beneficial in assessing wound healing status, predicting outcomes, finding etiology. Most effort were given to cytokines and growth factors, but no certain biomarker could be described. These were generally proteomics and genomic studies performed with wound swabs, tissue samples and serum. Lindley et al. summarized the potentially beneficial biomarkers in their review which is shown in table 1.[10] These can be variable according to responsible disease such as diabetic ulcers. Table 2 shows biomarkers for assessing treatment outcomes in diabetic foot ulcers.[11] Matrix metalloproteinases (MMPs) and their inhibitors TIMPs have important roles in

inflammation and wound remodeling. Aberrant and prolonged activation of MMPs in tissues may lead to damage and degrade growth factors. They are secreted in activated fibroblasts and keratinocytes and increased in many chronic wounds and down-regulation of MMP-2 and pro-MMP-9 in tissues may reflect better outcomes. Ratio of MMP-9 and TIMP-1 is biomarker of treatment respond in pressure ulcers.[10, 12, 13] Plasminogen activator (uPA) and its inhibitor (PAI-1) were shown to be increased in chronic wounds and decreasing levels observed with improvement. Cellular FNs were found higher in chronic wounds but in acute wounds. On the other hand, FN receptor was expressed in acute wound but in chronic ones which suggests cFN and receptors may show disturbed healing. Nitric oxide detection in wound tissue may also reflect treatment response.[12] Wound Ph may be another biomarker for wound healing. If Ph value is above 7, wound healing impairs. Lower Ph levels were found significantly correlated with wound improvement and proliferation of cells.[14] Although appropriate reactive oxygen species are necessary for anti-microbial defense and induction of growth factor signaling and angiogenesis, aberrant activation were seen in chronic wounds and may show underlying disease activity.[12] Increasing albumin and total protein levels may be reflect healing status.[12] Increased serum levels of MMP 2, with procalcitonin, have also been found in combat wounds.[10, 13] Other serum biomarkers are C-reactive protein (CRP), decreased levels of stem cells, hypoxia induced factor, miRNA.[10, 15] miRNA levels which may also be associated with DFU forming and prognosis. Chronic wounds contain polymicrobial flora that may form biofilm upon ulcer. Polymicrobial infection may delay healing through continues induction of proinflammatory cytokines.[15] Although TNF-a has been used as biomarker for assessing healing process in diabetic foot ulcer, its activity in chronic wound doesn't change according to healing in other chronic wounds.[11, 12]

In conclusion, biology of wound healing is very complex and emerging issue. It includes many cells and substances and their complicated communication. Biomarkers for predicting wound healing, diagnosing underlying disease, monitoring treatment are being investigated. Most research focus on ECM structures, stem cells and their contents, growth factors, cytokines and MMPs are seemed to reflect wound healing process.

Table 1: Biomarkers predicting poor wound healing.

Wound fluid and tissue	
MMPs and TIMP-1	Pro-inflammation, fibroblast migration, ECM remodeling. MMPs elevated in chronic wounds (especially MMP 2, 9). MMP-9/TIMP-1 ratio is predictor in pressure ulcers.
IL-1, IL-6	Pro inflammatory cytokines. Found to be higher in non-healing wounds.
Albumin	May be helpful to assess prognosis and infection.
Total protein	May be helpful to assess prognosis and infection.
Surface Ph	Lower levels are associated with improvement. Levels above 7 means disruption of healing.
Beta-catenin/c-myc	Signal pathway of many growth factors.
Fibronectin and receptor	Cellular FN increased but receptor diminished in chronic wound.
uPA, PAI-1	Plasmin activator and its inhibitor are higher in chronic wounds and decrease along improvement.
Serum	
Procalcitonin	Levels below 220 pg/ml may be predictive for successful healing.
miRNA-200b miRNA-191	Involved in proliferation and differentiation.
CRP	Increased in patients with chronic wounds and complications. Decrease in improving ulcers. Also indicative for infections.

Table 2: Biomarkers for assessing healing status in diabetic foot ulcers.

IGF-1	Proliferation and migration.
PDGF	Proliferation and migration.
TGF-β	Fibroblast proliferation and transformation, ECM maturation, collagen production, anti-inflammation.
VEGF	Angiogenesis and epithelization.
CXCL-8	Pro-Inflammation, epithelization, angiogenesis, fibroblast movement.
IL-6	Angiogenesis, both pro and anti-inflammation, granulation.
TNF-α	Pro-inflammation, ECM production.

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LOW-GRADE INFLAMMATION IN DERMATOLOGY

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The term 'low-grade inflammation' is defined as slightly (approximately twofold to threefold) increase in the concentrations of circulating inflammatory mediators, including cytokines and acute phase proteins. It's a chronic and systemic inflammation. It has been referred to as meta-inflammation or metabolic inflammation. Several risk factors such as obesity, increasing age promote the low-grade inflammation. It has a significant impact on human health and longevity (1,2).

The links between psoriasis and systemic inflammation have been thoroughly documented by association studies. In addition, active ongoing inflammation in psoriasis has been confirmed in positron emission tomography/computed tomography imaging studies that show increased uptake of (18F)-fluorodeoxyglucose in the vasculature (3). Inflammatory cytokines involved in development of insulin resistance, such as TNF- α, IL-6 together with leptin and adiponectin, were found in psoriasis. Insulin resistance contributes to the pathogenesis of the metabolic syndrome by generating hyperglycemia and compensatory hyperinsulinemia. This favors development of obesity, hepatic steatosis, dyslipidemia, atherosclerotic disease, and, eventually, diabetes mellitus type 2 (4-6). The studies have shown that treatment with methotrexate and anti-TNF would reduce the risk of these comorbidities (7). The new insights about the low-grade systemic inflammation has been changed our therapeutic approach on psoriasis and comorbidities.

Another dermatological disease for which data on this subject is increasing is atopic dermatitis. (8,9). These emerging data also suggest that psoriasis management strategies should be adopted for the treatment of moderate-to-severe atopic dermatitis. I will summarize this topic in the light of current dermatological advances.

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SKINOMICS, TRANSCRIPTIONAL PROFILING IN DERMATOLOGY; OMICS IN PSORIASIS AND SKIN CANCERS

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Omics represents the study of the physiological functions and structures of various molecules, biological processes, or systems. The omics technology mainly includes genomics, transcriptomics, proteomics, metabolomics, lipidomics, respectively. Transcriptomics is a subject that studies the function and structure of genes and reveals the rules of transcription, regulation of transcription and the molecular mechanism of disease. The common purpose of transcriptomic studies is to compare gene expression profiles between disorders to detect differentially expressed genes (1-3).

Omics-driven biomarkers have been established at the genome, transcriptome, proteome and metabolome levels in psoriasis. The discovery of biomarkers in psoriasis starts with microarray and RNA-sequencing and potential biomarkers generally validated through enzyme-linked immunosorbent assay (ELISA), immunohistochemistry (IHC), lectin array, Western blot (WB), and quantitative reverse transcription PCR (qRT-PCR). Transcriptional studies in psoriasis and skin cancers may provide additional insights into the molecular mechanisms and signaling pathways involved in disease pathogenesis (1,3-5).

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INFLAMMASOMES AND INFLAMMOPATHY IN DERMATOLOGY

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Inflammasomes are intracellular multiprotein complexes that serve an important role in the innate immune response. They include the nucleotide-binding oligomerisation domain (NOD)-like receptor NLR) P3 inflammasome, the absent in melanoma 2 (AIM2) inflammasome, the NLRC4 inflammasome and the pyrin inflammasome. Inflammasomes detect exogen factors (e.g pathogenic microorganisms, stress factors) and endogen factors (e.g neplasia) and protect the host against these factors, perform repair processes, and activate the innate immune system. The inflammation is activated via NF-kB and NLRP3 and caspase 1 is activated, and it follows the activation of proinflammatory cytokines of IL-1b and IL-18.

Inflammasomes have an important role in the pathophysiology of many infectious and non-infectious inflammatory diseases. However, with exaggerated activaton of inflammasomes and chronic activation of inflammasomes, inflammatory diseases, autoinflammatory syndromes, autoimmune diseases and cancer formation can be triggered. Exposure to environmental stressors induces reactive oxygen radicals and lipid peroxidation and the activate inflammasomes.

In recent years, studies have focused on inflammasomes in many diseases in dermatology. Autoinflammatory diseases, Pyoderma gangrenosum and acne syndromes, neutrophilic dermatoses, Hidradenitis suppurativa, acne, rocacea, psoriasis, Behcet disease, vitiligo, lupus erythematosus, systemic sclerosis, contact dermatitis, atopic dermatitis, photoaging, skin cancers, bullous pemphigoid, wound healing, androgenetic alopecia were the diseases in dermatology associated with inflammasomes mostly.

Autoinflammatory diseases: Unprovoked inflammation without high-titer antibodies and antigen-specific T-cell responses. Inflammasomes upregulate the signaling of various cytokines (e.g IL-1). Neutrophil mediated inflammation is the major factor in autoinflammatory syndromes. It results skin spesific symptomes (pustules, ulceration, rush) and systemic symptomes (fever and malase). Cryopyrin associated periodic syndromes (CAPS), Familial Mediterranean Fever (FMF), hyper IgD syndrome, Schnitzler syndrome, Deficiency of the IL-1 receptor antagonist (DIRA) are the major autoinflammatory diseases.

Pyoderma gangrenosum and acne syndromes: PSTPIP1 mutation induce activation of inflammasomes through, excessive pro-IL-1b production, caspase 1 mediated active IL-1b leaching. Autoinflammation is triggered by the production of IL-1b and the release of proinflammatory cytokines.

Neutrophilic dermatoses: Sweet's syndrome and pyoderma gangrenosum are the prototip of neutrophlic dermatoses. The relationship with inflammasomes is unclear. The possible effect is on IL-1b. The similarity of the cutaneous findings of autoinflammatory diseases with the skin findings of neutrophilic dermatoses, good response to Anakinra in treatment-resistant sweet syndrome, presence of pyoderma gangrenosum in PAPA syndrome, and abundant presence of inflammatory cytokines such as IL-1 in pyoderma gangrenosum support it.

Hidradenitis suppurativa: The increase in Il-1b hase been observed in lesions of hidradenitis suppurativa. Greater expression of NLRP3 and caspase 1 on the sick skin supported the hypotesis.

Acne and rosacea: NLRP3 inflammasome pathway is stimulated by C. acnes in sebaceous cells, resulting in IL-1b release. There is activation of caspase 1 and NLRP-3 in the pilosebaceous unit. Induction of the NLRP-3 inflammasome by C. acnes causes inflammation in acne and produces Il-1b. A greater expression of NLRP3 nflammasome, IL-1b and caspase 1 genes was found in patients wth rosacea.

Psoriasis: It is suggested that early psoriasis begins as an autoinflammatory disease, and IL-1b produced by neutrophils plays a central role. An increase in IL-1b is seen at a very early stage, and it is suggested that other cytokines responsible for psoriasis (TNF, IL-12, IL-23, IL-17) begin to increase after IL-1b. There is also an increase in caspase 1 and caspase 5 in psoriatic skin. Systemic inflammation and cardiometabolic comorbidity are stimulated by IL-1b production in moderate and severe psoriasis. Anti-TNF agents also reduce cardiometabolic comorbidity by reducing circulating IL-1b levels.

Behcet disease: The relatonship between the inflammasome and the disease is not clearly revealed. AIM2 inflammasome pathway and NLRP3 mutations may be associated with the disease.

Vitiligo: NLRP1 inflammasome activity was demonstrated in Langerhans cells. NLRP1 inflammasomes are thought to play a role in comorbid diseases accompanying vitiligo.

Lupus Erythematosus: NLRP1 single nucleotide polymorphism in SLE is associated with the development of nephritis, skin lesions, and arthritis. There is a relationship between the IL-1b polymorphism in childhood and adolescence-onset SLE.

Systemic sclerosis: Cutaneous and pulmonary fibrosis play a role in the development of the disease. NLRP 3 and AIM2 genes, which play a role in caspase 1 activity, increase IL-1b and IL-18 synthesis and fibrosis is stimulated.

Contact dermatitis: Allergic contact dermatitis due to nickel was shown to be associated with inflammasomes. NLRP3 in the epidermis and activation of IL-1b during contact hypersensitivity suggested this relationship.

Atopic dermatitis: In atopic dermatitis, there is a defect in the clearance of bacterial pathogens in the innate immune system. Deficiency in the inflammatory signal cascade and NLRP1, NLRP 3 and NOD1 and 2 are responsible for this defect.

Photoaging: NLRP1 is involved in UVB-induced photoaging. With UVB exposure, IL-1b and IL-18 are secreted from keratinocytes. In addition, the main inflammasome NLRP1 is induced and activated by UVB in sunburns.

Skin cancers: NLRP expression was detected in basal cell carcinoma tumor samples and it was observed that there was more IL-1b and caspase 1 activation than the healthy individuals. In addition, chronic NLRP1-dependent inflammation with UVB causes an increase in autocrine and paracrine signaling and eventually an increase in skin cancers such as squamous cell carcinoma. CARD8, IL-1b and IL-18 gene polymorphs were found in late stage melanoma cells. IL-1b secretion in melanoma may play a role in the aggressive course of melanoma.

Bullous pemphigoid: NLRP3 inflammasome components IL-1b, IL-18 and HMGB1 levels are high in BP patients. It has been shown that IL-1b is increased in erythema and urticarial plaques in early BP. It is thought that treatments targeting these molecules before the development of bullae may reduce the need for steroids.

Wound healing: There are onflicting results. NLRP3 inflammasome plays a positive role in wound healing. However, heparan sulfate reduced NLRP3 inflammation and improved wound healing in diabetic rats. Metformin increases wound healing by inhibiting NLRP3 inflammasome activation via the AMPK/mTOR pathway.

Androgenetic alopecia: Caspase 1 expression is shown to be higher in the epidermis of patients with androgenetic alopecia. In patients who response well to finasteride treatment the reducton of caspase 1 expression has been shown. Tha caspase 1 activty is assocated with anrogenetic alopecia and shows a possible interacton between the steroid hormones and the innate immunity.

There are some unanswered questions about inflammasome activation. There are still mechanisms independent of the inflammasome in pro- Inflammation. There are many types of inflammasomes, and their functions are unknown. The elucidation of these molecules may open doors for new treatment options in the future.

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GENERATION Z, TECHNOLOGY ADDICTION AND DERMATOLOGY

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Today, communication technologies such as the smart phone and the internet have started to seriously impact the daily lives of individuals. Independent of time and location, it is possible to obtain information from databases and libraries worldwide, communicate with other people, receive education through smart phones and the internet. Currently, technologies are frequently used by people to meet day to day needs. While technology makes life easier and positively contributes to social development and modernization, it also has led to the emergence of new behavioral problems, such as smart phone and internet addiction, which are characterized by excessive use to the point of preoccupation and neglect of obligations. Use of technology is essential to make the tasks of life easier; however it's abnormal, excessive, unnecessary use leads to addiction and makes life more difficult. Technology addiction is labeled, when the use is beyond the control and causing harm or impairment. Mobile phones and internet help in facilitating communication among people. Social networking through mobile phones and internet are common in today's world, young population being the most commonly affected ones. The groups under the highest risk for smart phone and internet addiction are children and young people from the new generation who have grown up with technology and are more comfortable with it.

Generation Z

Social generations are cohorts of people born in the same date range and who share similar cultural experiences. The idea of a social generation, in the sense that it is used today, gained currency in the 19th century. Each generation grew up with different economic and cultural conditions and has different styles and expectations.

The terms Generation Z and the iGeneration are used to describe individuals born roughly between 1995 and 2012. They are the first generation to have always had the internet and social networking. At the same time, Generation Z is the most diverse generation in history in terms of race, gender, and sexual orientation.

Some research has shown that the brains of Generation Z (Digital Natives) are structurally different than those of earlier generations. This has nothing to do with genetics and everything to do with how we use our brains to respond to things in our environment. The brains of Generation Zs have become wired to sophisticated, complex visual imagery. As a result, the part of the brain responsible for visual ability is far more developed, making visual forms of learning more effective. Auditory learning (lecture and discussion) is very strongly disliked by this age group. Interactive games, collaborative projects, advance organizers, challenges, and anything that they can try and see are appreciated. Generation Z has spent more time with electronics and on the internet than any previous generation. Stillman and Stillman noted that Generation Z has a strong fear of missing out. As a result, members of Generation Z have difficulty disconnecting from technology.

Dermatology and Generation Z

While the new generation is very addicted to technology especially social media, medical practise in dermatology on social media and on the internet is starting to gain importance because of the increasing young individuals who is seeking medical information from this platforms. Social media comprises a variety of online forums that allow group communication via text, audio, images, and videos. Over 3 billion people worldwide are active users of social media, with relatively higher penetration in industrialized countries and rapidly increasing use in developing countries. Social media has a wide-ranging role with many current applications in the health care sector, and general guidelines for usage among stakeholders have recently been described. With regards to dermatology, attention has been devoted to the role of social media for both practitioners and patients, as well as identifying patterns on specific platforms. A carefully curated social media account may be considered an individual's public face to the digital world. Similarly, one's skin is a major interpersonal focus in the real world. Given the rise of dermatology content on social media, it is relevant to consider how social media has been used with respect to cutaneous concerns and practices. With a high volume of patients who may be sharing their experiences on social media, dermatologists who fail to maintain an online presence are missing an opportunity to engage with their patients and potentially influence conversations about their practice. With the vast network that social media provides, the opportunity to develop new communicative pathways between physicians and

patients is tremendous.

Social media can be a way to guide new generation in awareness in dermatologic diseases and even skin cancers. But these platforms have also emerged as a means of popularizing a number of questionable practices that can produce skin harm as well. One of the reasons of this harm is trending social media phenomena, often referred to as so-called social media "challenges." The more popular among these include those centered around pencil erasers, salt and ice, spray deodorant, and fire. Each of these share features of intentional self-injury with the possibility of permanent skin changes, although generally without the intent to cause harm. For the clinician, adept recognition of the characteristic skin signs of these behaviors affords the opportunity to discuss them in the open and to educate patients and their parents about how to avoid potential for more serious harm. Additionally, increasing use of modern technology and technological devices are increasingly involved in several dermatological conditions. Both chemical and physical injuries related to the constant and repetitive use in everyday life of electronic devices may be responsible for skin disorders in adults and especially new generation.

More than 86% of people in the US use social media at least once per day with the average person spending over 5 years of their life on social media. This trend is not likely to slow down and demonstrates the need for an intersection between social media and healthcare. Skin manifestations that occur because of modern technology or social media challenges will probably increase over time with the use and pervasive popularity of electronic devices and the internet. It is important for clinicians to recognize related skin manifestations and be capable and ready to distinguish them. Although there are many risks associated with using social media and technology, the opportunity to promote public health, patient education, and professional interactions is impactful and should not be missed.

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NEVUS VERSUS MELANOMA

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INTRODUCTION

The majority of melanomas arise de novo. The risk of malignant transformation of any specific melanocytic nevus is low. Some authors, believe that melanomas frequently develop in so called "dysplastic nevi", on the other hand, some others proposed that small, superficial congenital nevi might play an important role as precursor lesions of melanomas. The classification of the type of associated nevus is difficult because of the lack of a generally accepted classification of nevi. It has also been reported that patients with a melanoma in association with a preexisting nevus are significantly younger than patients with de novo mela- nomas. Some authors try to determine the frequency of melanoma in association with a preexist- ing nevus and to characterize the clinical, histopathologic and dermatoscopic appearance of nevi that are associated with melanoma[1-6].

The results of a study support the view that most melanomas arise de novo. The proportion of nevus-associated melanomas was smaller than 10% and thus lower than in most other studies on this topic. The reason for this might be that the authors were very strict with regard to the applied histopathologic criteria to differentiate between melanocytes of a nevus and a melanoma, which resulted in a considerable proportion of cases in which they could not decide if there was an associated nevus or not[1-4].

DISCUSSION

The stepwise tumor progression consept from a common nevus over a "dysplastic nevus" to melanoma, as set forth by Clark and others, is not supported by Alendar et al's data[1]. It is found that if melanomas develop in an associated nevus, it is most often a "superficial" or a "superficial and deep" congenital nevus. A Clark nevus is less often associated with a melanoma. Alendar et al's findings do not support the concept that "melanocytic dysplasia," if it exists, has any predictive value with regard to the chance that a melanoma may arise in a specific nevus. Given the original description by Clark and coworkers, it has been proposed that the "dysplastic nevus" is a risk marker and a precursor of melanoma[9]. The subject of the "dysplastic nevus" and its role as a precursor of melanoma is difficult to comprehend because what is usually termed "dysplastic nevus" is a heterogeneous group of melanocytic prolifera- tions. According to Ackerman, "dysplastic nevi" consist of three different types of nevi: (1) Clark nevi, (2) "superficial"congenital nevi, and (3) "superficial and deep" congenital nevi. Clark nevi are clinically flat and mainly junctional, although a few nests of melanocytes may be present in the papillary dermis. Dermatoscopically they usually show a reticular pattern. "Superficial" and "superficial and deep" congenital nevi usually have a junctional part but a more prominent dermal part. While melanocytes in a "superficial" congenital nevus are confined to the papillary dermis and the upper part of the reticular dermis they extend to the deep reticular dermis in a "superficial and deep" congenital nevus. Both nevi are usually raised clinically. Dermatoscopically they may show a pattern of clods, a reticular pattern, or a combination of both[1,5-9].

If clinical and dermatoscopic images of these nevi were available in Alendar et al's series, they looked rather inconspicuous and not atypical or "dysplastic." Although their study shows that small congenital nevi are most commonly associated with melanoma, they do not think that this supports the view that they should be excised prophylactically to prevent melanoma. The risk of malignant transformation of a single nevus is so low that a general recommendation for prophylactic excision cannot be given. It is important to note, however, that Alendar used the term "congenital" in a histopathologic sense. It does not mean that those nevi are present at birth. "Superficial" and "superficial and deep" congenital nevi usually appear in childhood or adolescence but share histomorphologic features with large congenital nevi. To answer the question as to whether prophylactic excisions of small congenital nevi are worthwhile, Alendar et al would need a prospective interventional study, but the low incidence of melanoma in comparison to the high number of nevi make it highly unlikely that such a prospective interventional trial will ever be conducted[1-9].

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FACIAL PIGMENTED LESIONS: DIFFERENTIAL DIAGNOSIS AND CHALLENGES

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Dermatoscopy

Dermatoscopy improved the diagnostic accuracy of pigmented and non-pigmented skin lesions. However, dermatoscopic diagnosis of lesions located on the face may be challenging due to unique anatomical and histologic features.

Dermoscopic patterns

Facial skin has a unique histological pattern with relatively thin epidermis and a thin stratum corneum. The dermo-epidermal junction is nearly flat with the absence of rete pegs. The high density of large pilosebaceous units is also typical of facial skin. The pigment network and the facial pseudo-network have dermatoscopic-histopathologic correlates. A true pigment network is defined by continuous pigmentation along elongated rete ridges, whereas a pseudo network is defined by structureless brown pigmentation interrupted by non-pigmented follicular openings. True pigment networks in the face are uncommon due to the absence of rete pegs.

Common flat pigmented lesıons located on facial skin

- Solar lentigo
- Pigmented actinic keratosis (pAK)
- Lichen planus like keratosis (LPLK)
- Lentigo maligna/lentigo maligna melanoma

Clinical clues to the differential diagnosıs

Lentigo maligna and pigmented actinic keratosis reveal significant sex-related differences. Whereas PAK occurs at a higher frequency in men, lentigo maligna has a certain predilection for women. While PAK typically reveals a scaly and rough surface, lentigo maligna appears smooth on palpation. Accordingly, palpation of a given facial lesion represents an important part of the clinical examination.

LM is more commonly a solitary or different-looking lesion compared with SL and PAK, which typically present as multiple spots with a similar appearance. LM is more commonly a solitary or different-looking lesion compared with SL and PAK, which are typically present as multiple spots with a similar appearance. Accordingly, a solitary lesion appears to be more suggestive of lentigo maligna, whereas multiple similar lesions favor the diagnosis of SL or PAK.

Solar lentigo

Solar lentigo is a common pigmented lesion, especially in people over the age of forty years. It is associated with UV exposure and skin aging and appears as multiple light brown to dark brown spots. Dermatoscopy: faint pigmented, structureless pattern (pseudo network) with well-defined borders and brown parallel curved lines. Histology reveals elongated rete ridges with bulbous ends, as well as increased melanin deposition in keratinocytes in a linear fashion at the dermo-epidermal junction.

Pigmented Actinic Keratosis (pAK)

pAK typically arises on chronically sun-damaged skin and represents the most common lesion in the spectrum of keratinocyte skin cancer. This pigmented variant of AK mostly occurs in darker skin phototypes. The discrimination between benign pAK and Lentigo maligna (LM) may be challenging. Dermatoscopy: evident follicles, white round clods, rosettes, prominent pseudonetwork

Evident follicles : follicular openings invaded with keratine

White clods: acanthosis and hypergranulosis of infindubular epidermis

Rosettes (Four dot clods)

Rosettes refer to four bright white dots or clods arranged together as a 4-leaf clover on polarized dermoscopy. Smaller rosettes correspond to polarization of concentric horn material in adnexal openings. Larger rosettes are dermoscopic counterpart of concentric perifollicular fibrosis Rosettes can be associated with keratinizing tumors, BCC, inflammatory dermatosis and rarely melanoma

Lichen planus like keratosıs (LPLK)

LPLK is considered a regressing solar lentigo or seborrheic keratosis. The clinical presentation is usually a solitary, gray-to-brown papule or plaque. A coarse or fine, gray to blue, granular pigmentation and evidence of an underyling SL or SK. Gray to blue dots correspond to melanophages in the dermis. Fully regressed LPLK: diffuse brownish gray granules, which may coalescence to form globules, streaks, or even structures similar to rhomboid. LM may exhibit the same features as LPLK. A lesion dermatoscopically characterized by signs of evident regression should always be biopsied and sent for histopathologic examination.

Lentigo maligna/ Lentigo maligna melanoma

LM is a type of melanoma that arises on sun-damaged skin.

Lentigo maligna: melanoma insitu Lentigo maligna melanoma: invasive melanoma

Dermatoscopic features of LM and LMM differ from those of melanoma arising on the trunk or extremities; peculiar histology of facial skin. These features are either related to the follicular openings or to the interfollicular skin.

Lentigo maligna vs Solar lentigo

The presence of four criteria has a high sensitivity and specifity for the diagnosis of LM: asymmetric pigmented follicular openings, dark rhomboidal structures, slate-gray globules, and slate-gray dots. Light brown curved lines (fingerprint structures), milia, cysts, scalloped borders and sharp demarcation are significantly associated with the diagnosis of SL or SK.

Lentigo maligna vs Pigmented actinic keratosis

LM and PAK may show strikingly similar patterns on dermatoscopy. Basically any of the established criteria of lentigo maligna can also be seen in PAK. However; black blotches within the follicular opening seems quite specific to lentigo maligna while prominent follicular openings are suggestive of pAK. In doubtful cases, histopathology is required to differentiate between LM and PAK

Lentigo maligna vs Lichen planus like keratosıs

The dermatoscopic differential diagnosis between LPLK and LM can be made only if areas of the preexisting lesion are still preserved. Fully regressed LPLK shows diffuse brownish gray granules similar to those seen in lentigo maligna. A low threshold of histopathological examination is recommended for the differential diagnosis

Conclusions

Dermatoscopy may improve the diagnostic accuracy of formally trained clinicians for most nodular skin lesions occurring on the face. However, the dermatoscopic diagnosis of flat, pigmented lesions remains challenging even for the experienced clinician. It is important to maintain a low threshold of clinical suspicion to perform a biopsy for histopathologic examination For large lesions located on cosmetically sensitive areas that require a partial biopsy, dermatoscopy may be especially useful to determine the most suspicious areas to be biopsied. Biopsying areas which reveal the most suspicious features, such as annular–granular structures, asymmetric follicular openings, dots within the ostial openings, or rhomboidal structures may provide an accurate histologic diagnosis for lentigo maligna.

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PIGMENTED and NON-PIGMENTED NAIL LESIONS

Mahmut Cüneyt Soyal

Dermoscopic examination of nail unit and its components, (the proximal nail fold, lateral nail fold, hyponychium, nail plate and bed) is widely utilized for the evaluation of many nail disorders. This technique contributes toward confirmation of diagnosis and assessment of treatment response as well as prognosis. In this presentation, Dermoscopic features of various pigmented and nonpigmeted nail disorders are discussed.

NON MELANOMA SKIN CANCERS

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Nonmelanoma skin cancer (NMSC) is the most common human malignancy which is estimated to affect over 1.3 million people each year in the US.[1] The vast majority of NMSC is basal-cell carcinoma (BCC), which comprises 75% of all NMSC cases followed by squamous-cell carcinoma (SCC) that accounts for 20% of NMSC cases. Rare types of non-melanoma skin cancer can also develop. These include Merkel cell carcinoma, angiosarcoma, dermatofibroma protuberans, sebaceus carcinoma and cutaneous T-cell lymphoma.

Dermoscopy is a widely used non-invasive technique which is mainly used in diagnosing skin tumors. The value of dermoscopy of skin tumors has been extensively demonstrated with a high sensitivity of diagnostic criteria over the past few decades. The most common dermoscopic criteria associated with BCCs include the absence of a pigment network and the presence of specific features, such as arborizing vessels, large blue-gray ovoid nests, multiple blue-gray globules, leaf-like areas, spoke wheel areas, and ulceration. Vascular patterns such as short fine telangiectasias, which are defined as small vessels without branches, arborizing microvessels, and milky-pink backgrounds may be useful particularly for non-pigmented BCCs.

In SCCs, the most common dermoscopic criterias are the presence of keratin/scales, blood spots, white circles, white structureless areas, hairpin vessels, linear-irregular vessels perivascular white halos, and ulceration. Keratin and scales are homogeneous opaque yellow to brown structures, corresponding to hyperkeratosis and parakeratosis, histologically. Blood spots are the multiple red to black dots in the keratin mass, corresponding to small crusts or hemangiomas and the white circles are the bright white circles surrounding a dilated infundibulum corresponding to acanthosis and hypergranulosis of the infundibular epidermis. White structureless areas are the whitish areas covering large areas of tumors, corresponding to large targetoid hair follicles. These dermoscopic features may be a predictor of tumor differentiation. While the keratin/scales are a potent predictor of well- and moderately differentiated SCC , the presence of vessels in more than half of the tumor's surface with a diffuse distribution of vessels and bleeding significantly increased the possibility of poorly differentiated SCCs.

In this presentation all these structures will be discussed with dermoscopic features.

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ELECTRICAL MUSCLE STIMULATION FOR SKINCARE

Ufuk Kavuzlu

The skin is a sense organ that protects the body against physical and biological attacks. (1) It has important functions such as maintaining body temperature, removing secretions, perceiving stimuli. Anatomically, it consists of three layers: epidermal layer, dermal layer and subcutaneous tissue. (2) The motor unit is the final common pathway through which the electrical activation signal is transmitted from the nervous system to the muscle and then converted into contractile activity. (3) Electrical muscle stimulation is a clinically effective treatment on the skin surface. Microcurrent stimulation at a certain frequency influences the growth of capillaries. Electrical stimulation increases fibroblast growth and migration on the skin, growth factor secretion and contributes to wound healing. It is thought that electrical stimulation can make an important contribution to the treatment of various skin diseases such as pressure sores and late aging with further and extensive studies. (1,2,4) This presentation summarizes electrical muscle stimulation for skincare.

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YOGHURT, KEFFIR, SESAME, COCONUT, OLIVE OIL, SOY OIL AND SKIN HEALTH

Habib Aktaş

Yoghurt is a food produced by bacterial fermentation of milk. Fermentation of milk sugars by these bacteria produces lactic acid, which acts on milk protein to give yoghurt its texture and characteristic sour flavor.

Many studies have shown the positive effects of yoghurt consumption on human health because it supports the natural microbiota of the human body. Yoghurt intake has been reported to be beneficial in cardiovascular diseases , diabetes , cancer and chronic kidney disease. It has also been shown that yoghurt could enhance development of host immunity (1,2).

Yoghurt that containing lactobacillus bacteria has been shown to reduce SCORAD scores in atopic dermatitis patients.

Those bacteria have immunomodulatory effect in the host (3).

A special product containing yoghurt improved the moisture, brightness, and elasticity of treated skin, thereby yoghurt can be considered a good antiaging agent (4).

Yoghurt is a rich source of protein, calcium, zinc, B vitamins, and probiotics, which all have significant benefits for maintainance of health skin,hair and nails (5).

Kefir is an ancestral fermented food with probiotic characteristics similar to yoghurt. A study showed that kefir intake improved all skin outcomes in patients with atopic persons possibly regulating skin hydration via itsprobiotic-rich content (6).

Topical kefir application has been found to have antimicrobial and healing activity in experimental studies (7).

Sesame oil is an edible vegetable oil derived from sesame seeds. Sesame oil is composed of the following fatty acids: linoleic acid , oleic acid palmitic acid , stearic acid and others in small amounts (8).

Topical and systemic sesame oil have been used in the treatment of several inflammatory diseases due to its immunomodulatory and antiinflammatory actions (9,10). Several studies showed that sesame oil application improved phlebitis induced by medications (11,12).

The healing activity of sesame oil on wounds ,like many other plant oils, was detected in experimental studies (13).

Coconut oil is a mainstream edible oil that is extracted from the coconut palm.Virgin coconut oil contains higher amounts of some nutrients (e.g., vitamin E) and dietary bioactive compounds. Topical coconut oil is effective in restoring barier function in dry skin, reversing hair damage induced by ultraviolet(14).

Olive oil has many anti-inflammatory and restorative properties that may explain its effectiveness when used topically. Many skin conditions such as nipple sore, presssure ulcer,chronic ulcers, diabetic wounds, diaper dermatitis,psoriasis and atopic dermatitis were used successfully with olive oil application (15).Moreover, antimelanoma and sun protection activities of olive oil were demonstrated (16).

Soy oil is of vegetable origin and is obtained from soybeans or soy grits by extraction or pressing. Soy oil contains phenolic acids, flavonoids , isoflavonoids (quercetin, genistein, and daidzein), small proteins ,tannins, and proanthocyanidins. These molecules have been reported to have several dermatological functions such as anti-inflammatory, collagen stimulating effect, , skin lightening effect and protection against sun damage (17). It can moisturize and nourish the skin and hair against environmental and ultraviolet damage.

In conclusion, natural products such as yogurt, kefir and essential vegetable oils have been gaining popularity in the protection of skin health and the treatment of skin diseases in recent years. We need well-designed studies to demonstrate the effectiveness of these products in the future.

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MG FOR SKIN: UPDATE

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Mg (Mg) is the 2nd most abundant intracellular cation, which participates in various enzymatic reactions; there by regulating vital biological functions. Mg can regulate several cations, including sodium, potassium, and calcium; it consequently maintains physiological functions like impulse conduction, blood pressure, heart rhythm, and muscle contraction. Its deficiency is associated with various diseases, which point out to the importance of Mg as a drug. The roles of Mg such as natural calcium antagonist, glutamate NMDA receptor blocker, vasodilator, antioxidant and anti-inflammatory agent are responsible for its therapeutic benefits. Various salts of Mg are currently in clinical use, but their application is limited (1) It is important to emphasize that one should not confuse values of Mg levels measured in serum and in plasma as it leads to serious errors in the diagnosis of Mg deficiency and results in underdiagnosis of Mg deficiency(2). The top food sources to Mg intake were as follows: beans, oats, nuts, white rice, orange, French bread, cooked fish, boneless meat, whole milk, and whole wheat bread (3). When look at the Mg and skin diseases relationship; a small number of studies have investigated the serum levels of these elements in Alopesi areata (AA) and few have identified an association between low levels and AA (4). Atopic dermatitis patients are presented with declined levels of erythrocyte zinc and serum Mg levels. Mg supplements are effective by reducing inflammation, enhancing the proliferation and differentiation of epidermal cells, by enhancing skin hydration and dermal permeability . Mg with ceramides has been beneficial in treating mild to moderate atopic dermatitis . Also, Mg can be administered through the transdermal route which can bypass the gastrointestinal tract and thereby helps to correct the serum Mg level . Mg is also reported to be beneficial in psoriasis therapy. Psoriasis is immunerelated disease characterised by hyperproliferation with incomplete differentiation of keratinocytes . Mg deficiency is reported in psoriatic patients, and topical Mg therapy is one of the oldest treatment options for the disease Topically applied Mg can cross the stratum corneum barrier depending upon the time and concentration of exposure. Hair follicle also contributes a significant role in this permeation . The advantage of this delivery mechanism is the avoidance of diarrhoea, the most common problem associated with the oral use of Mg. Clinical observation revealed the beneficial effect of Mg in patients with skin allergy . Oral Mg chloride effectively treats familial benign chronic pemphigus or Hailey–Hailey disease, a rare skin disease . Besides, Mg supplementation is reported to be effective in the pseudoxanthoma elasticum, a genetic disorder affecting skin, eye and blood vessels(1)

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EFFECTS OF DAILY FOOD PROCESSING ON ALLERGENICITY: WHAT IS NEW?

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Food processing is the transformation of agricultural products into food, or of one form of food into other forms. It can kill pathogens and help extend shelf life without using chemicals or additives[1]. Methods used for food processing can be categorized into two processing types: conventional thermal methods and non-thermal novel methods[2]. Thermal food processing leads to physical and chemical changes of the food proteins which might change the immunogenicity and allergenicity of the food proteins[2]. The degree of such changes depends on factors such as processing conditions, type of food considered, allergenic content, etc [3]. One of the best-known interactions between proteins and sugars occurring during heat processing of food is the Maillard reaction (MR), also known as glycation. The MR is a non-enzymatic reaction between reducing sugars and compounds with free amino groups such as proteins and takes place during thermal processing and storage of foods[4]. The MR leads to the formation of "advanced glycation end products (AGEs)," that may be involved in the development of chronic inflammation by acting as inflammatory components and affecting the gut microbiome[2]. The contained AGEs in food are absorbed from the intestine and taken up by APC leading to activation of Th2 with increased IL-4, IL5, IL-13, and B-cell activation with IgE production which leads to mast cell degranulation and release of allergic mediators[5].

The effect of the MR on allergic diseases is complex. It may reduce, enhance, or not alter the immunogenicity and allergenicity of food proteins[4]. Recent researches try to use MR to reduce the allergenicity of some allergic food. Thermal treatment and various other processing methods based on enzymatic hydrolysis and irradiation have been found useful in reducing the allergenicity of certain egg allergens[6]. Therefore, a better understanding of the influence of MR on food allergy is needed. This might develop optimized conditions for food processing to control the rate of MR. Also, MR might be used to reduce the allergenicity of some allergic food.

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IGE LEVEL AND ASSOCIATIONS WITH VARIOUS PARAMETERS IN DERMATOALLERGY

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IgE antibodies are infamous as instigators of the immediate hypersensitivity reactions that trouble patients with allergies. Serum IgE concentrations tend to be greater in persons with allergic diseases but the degree of increase is neither consistent nor large enough to be diagnostically valuable. Many disease processes can cause alterations of serum IgE concentrations that appear to reflect the overall balance of immune regulation.

The skin is one of the largest immunologic organs and is affected by both external and internal factors, as well as innate and adaptive immune responses. Many skin disorders, such as atopic dermatitis, contact dermatitis, urticaria, angioedema, psoriasis, and autoimmune blistering disorders, are immune-mediated.

Eczema (atopic dermatitis), contact dermatitis (irritant and allergic),urticaria and angioedema

are the most common allergic skin disease. We will discuss the role of IgE in two important diseases of dermatoallergy: atopic dermatitis and chronic urticaria.

Atopic dermatitis:

One study demonstrated that in patients with severe extrinsic atopic dermatitis, the concentration of total IgE was correlated with the severity of the disease. This suggests an opportunity of employing IgE as an atopic dermatitis biomarker.

Another study showed serum levels of total IgE, correlated with the SCORAD index in pediatric patients with atopic dermatitis.

Total immunoglobulin E as an indicator of disease grade in adults with severe atopic dermatitis. Total serum IgE as a parameter to differentiate between intrinsic and extrinsic atopic dermatitis in children.

Chronic Spontaneous Urticaria (CSU)

Our current understanding of the underlying pathophysiology of CSU suggests that there are at least 2 endotypes of CSU:

In Type I autoimmune CSU (also referred to as autoallergic CSU) autoreactive IgE antibodies directed against autoantigens are thought to degranulate skin mast cells via the classical activation of the high-affinity IgE receptor FcεRIα.

In Type IIb autoimmune CSU , mast cell degranulation is caused by IgG and/or IgM autoantibodies directed against FcεRIα or FcεRIα-bound IgE.

IgE, therefore, plays a key role in the pathogenesis of CSU and is an important driver of mast cell degranulation.

Very few studies have compared CSU patients with different levels of IgE for differences in the clinical characteristics of their disease:

One reported that CSU patients with low total IgE levels are younger, 34 years old when total IgE is < 15 IU/mL, than patients with normal or higher total IgE levels, 44 and 53 years old, respectively; howeer, these differences did not reach significance.

Another reported significantly higher rates of elevated IgE levels in patients who had their CSU for more than 25 months compared with those with shorter disease duration.

In 2 studies, serum total IgE levels correlated with CSU disease severity, but not 1 study.

High total IgE levels may point to high disease activity, longer disease duration, TIaiCSU, a high chance to respond to omalizumab treatment, a quick relapse after stopping omalizumab, and a lower chance of responding to cyclosporine. Low IgE, in turn, may point to TIIbaiCSU, a reduced chance to respond to omalizumab and a better chance to benefit from cyclosporine treatment. This makes total IgE a valuable marker, and we recommend including its assessment in the routine diagnostic work up of patients with CSU.

Conclusion:

IgE can be considered as a valuable marker in atopic dermatitis and chronic urticarial but more studies needed

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IL-4 TARGETING TREATMENTS IN DERMATOLOGY

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Recent advances in our understanding of immunology and the advances in molecular biology technology techniques have brought a new type of therapeutic agent called biologics. Biologics are protein molecules produced by recombinant DNA technology, which target the specific sites in the immune-pathogenesis pathway of the diseases. The impressive potential of biologics has been demon-strated in many dermatologic diseases, and numerous biologicals are entering the field. Alongside the ap-proved indications, the off-label use of biologics in other recalcitrant skin diseases has also been increased day by day. Although there are difficulties due to the routes of drug administration and the unknown long-term safety profile, they are likely to improve patient outcomes and advance our understanding of skin disorders and become a part of our treatment plans in the future too (1).

The use of biological agents in dermatological treatments has been increasing in recent years. One of the agents that can be considered new is ***dupilumab***. Dupilumab is a human monoclonal antibody that blocks the common alpha chain of the IL-4 and IL-13 receptors. Although dupulimab was approved by the FDA for the treatment of adult atopic dermatitis in 2017 and pediatric atopic dermatitis in 2020 as a first-line treatment in moderate and severe adult atopic dermatitis, it is not yet available in Turkey (1). Dupilumab, which was shown to be effective in randomized, placebo-controlled clinical studies, remained effective for one year of continuous treatment. No systemic side effects were observed in patients receiving dupilumab, but the frequency of conjunctivitis was found to be increased. It can create a picture of infectious or undetected conjunctivitis. This picture regresses when the treatment is stopped. The frequency of injection reactions is 7% (2). The first dose in adults is 600 mg subcutaneously.Treatment is continued at a dose of 300 mg every 2 weeks. The patient can make his own injections after receiving training. If the dose is missed, the injection can be given if the interval does not exceed seven days, but if it exceeds seven days, the next injection day is waited (3). Dupilumab acts in as little as 4 weeks and provides faster symptom control compared to cyclosporine. Dupilumab can be combined with emollients and topical anti-inflammatory agents, and a synergistic effect is observed (4-5).

Potential Uses of Dupilumab for Non-Atopic Dermatitis in Dermatology:

Considering the ongoing studies and the off-label uses reported as cases or case series in the literature; Chronic pruritus, prurigo nodularis, chronic spontaneous urticaria, allergic contact dermatitis, chronic hand eczema, alopecia areata, bullous pemphigoid, age-related eczematous eruption, eosinophilic annular erythema, and papuloerythroderma of Ofuji, where many promising dermatological treatments fail or cannot be used in diseases for which standard treatments fail or fail to be used dupilumab appears to be an option (6).

Another newly developed drug approved by FDA and EMA is ***abrocitinib***. The JAK1 inhibitor abrocitinib, which reduces IL-4 and IL-13 signaling, is being investigated for the treatment of atopic dermatitis. The 200 mg dose of abrocitinib was superior to dupilumab with respect to itch response at week 2 but not with respect to most other key clinical features of the disease. In December 2021, the European Commission approved abrocitinib for the treatment of atopic dermatitis. In January 2022, the United States Food and Drug Administration (FDA) approved abrocitinib for adults with moderate-to-severe atopic dermatitis (7-8).

Table. Therapeutic Agents Targeting IL-4 That are Marketed or Under Clinical Development for the Treatment of Atopic Dermatitis (9)

Compound	Type of Molecule	Target	Phase of Development
Pitrakinra	Inactive human recombinant protein similar to IL-4 (also a PEGylated variant of subcutaneous pitrakinra was investigated)	IL-4 alpha receptor subunit	Phase IIb in AD - unknown future development program
Dupilumab	Fully human monoclonal IgG4 antibody	IL-4 alpha receptor subunit	FDA and EMA approved
Abrocitinib	Janus kinase 1 (JAK1) inhibitor	The JAK1 inhibitor abrocitinib, which reduces IL-4 and IL-13 signaling	FDA and EMA approved
CBP 201	Monoclonal antibody	IL-4 alpha receptor subunit	Phase II
AK 120	Monoclonal antibody	IL-4 alpha receptor subunit	Phase I
Pascolizumab (SB 240683)	Humanized monoclonal IgG1 antibody	IL-4	Phase II in asthma - unknown future development program

Abbreviations: EMA, European Medicines Agency; FDA, Food and Drug Administration; IL-, interleukin

The role of IL-4 in AD is well established and multiple lines of evidence support its relevant contribution in mediating multiple clinical features, including skin inflammation and pruritus. Nevertheless, its therapeutic relevance is still debated as it is usually considered a valid target for AD in conjunction with IL-13 neutralization. Conversely to IL-13 alone that constitutes a target for various compounds currently tested in clinical trials, the selective inhibition of IL-4 is not considered an advantageous therapeutic intervention for type 2 mediated disorders. However, further investigations on developing new IL-4 targeting agents will be worthy to expand and diversify the therapeutic armamentarium in AD and other type 2 inflammation mediated itchy skin disorders (9).

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HAND SANITIZERS AND HAND WASHING: SCIENCE AND RATIONALE

Ömer Kutlu

Hand sanitizers have come to the fore a lot after the COVID-19 pandemic. This situation raised many issues such as the effectiveness, safety and side effects of hand sanitizers. In this context, the importance of the campaign (SAVE LIVES: Clean Your Hands) carried out by World Health Organization (WHO) increased awareness of the international standard for hand hygiene. In the meantime, we reported the high frequency of contact eczema during the COVID-19 pandemic. These two conditions require dermatologists to know about the effect and side effects of hand sanitizer. Hand sanitizers are classified into three main categories: i)alcohol-based ii) alcohol plus other antimicrobial agents iii) non-alcohol-based.

Alcohol based hand senitizers

Hand sanitizers have been standardized in Europa as European (EN) 1500 and in US as the American Society for Testing and Materials standards (ASTM E) the American Society for Testing and Materials standards 1174/ 2755. According to EN 1500, the mean acceptable reduction of viable bacteria with a test formulation should not be below the reference alcohol-based hand rub (isopropyl alcohol 60%). On the other hand, according to ASTM E 1174, the efficacy should be 2 log10 reductions of the indicator organism on each hand within 5 min after the first use and a 3 log10 reduction of the indicator organism on each hand within 5 min after the tenth use.

After using the standardized hand sanitizers the method of applications is also a crucial point. In this regard, dry hands make higher efficacy of alcohol-based hand sanitizer. In addition, the amount of alcohol should be over 0.5 ml (3 ml is ideal for the entire surface of the hands). The hand should be cleaned at least 20-30 s until dryness is achieved. All processes can be obtained from “How to Handrub” on the website of WHO. One of the most common side effects of alcohol-based hand sanitizers is irritant contact dermatitis since alcohol solubilizes components of intercellular lipids. Ethanol is less irritating when compared with isopropanol or n-propanol. Contact urticaria and allergic contact dermatitis are rarely seen. Certain antiseptics such as chlorhexidine digluconate, benzalkonium chloride, hydrogen peroxide can be added to the alcohol.

Non-alcohol based hand senitizers

The quaternary ammonium compounds including benzalkonium chloride or benzethonium chloride are the most common consistent of the non-alcohol based hand sanitizers. The effect of non-alcohol-based hand sanitizers on the microbial agents including Sars-Cov2 is less than alcohol-based hand sanitizers. On the other hand, when compared the alcohol-based sanitizers, they are relatively less toxic, dry later, and non-flammable.

In conclusion, using standardized hand sanitizers may reduce the incidence of infections including COVID-19. In addition, the appropriate use of hand sanitizers will lead to more germicidal effects and less side effects.

BODY PIERCING AND TATTOO: COMPLICATIONS

Ahu Birol

Complications of body piercing include **local and systemic infections, poor cosmetic result, and foreign body rejection**. Allergic contact dermatitis, keloid formation, and traumatic tearing may occur after piercing of the earlobe

Tattooing is defined as the introduction of exogenous pigments into the dermis in order to produce a permanent design. Tattoos can be decorative, medical or accidental. Tattoo rates among young adults have been increasing in recent decades.

Following acute reaction the host responses to the ink with the type of foreign material and immune status of the host, initially involves a cell mediated immune reaction, particles too large to be transported become resident in the dermis.

It should heal with no infection and local complications but unfortunately skin infections and other complications are possible; including: allergic reactions, skin infections, other skin problems, bloodborne diseases and MRI complications.

Currently adverse reactions are relatively rare and generally unpredictable. Adverse reactions predominantly include skin infections and immune mediated reactions. Skin response in a normal tattoo procedure is due to ink, trauma of hundreds of needles, the alcohol used on the skin surface, diluent used as a carrier of the ink, and the medication used after the procedure.

Complications may be mild subjectively (sun sensitivity) or objectively.

Complaints may address local problems with the tattoo or may be general.

Complaints may be acute or subacute and taper out as the tattoo heals.

Complaints may also be chronic or chronically intermittent.

The tattooed individual in general experiences acute reactions such as pain, edema, erythema, purpura, infection, pruritus, regret, wish to have the tattoo removed. Local lymph nodes of the draining area of the tattoo may be palpable during tattoo healing.

Infections: Breaking of the skin barrier can result in penetration of infectious agents including bacteria, viruses and fungi, tattooing has the potential of transmission of hepatitis B, hepatitis c and HIV infection. %1-5 of tattoo recipients develop tattoo related skin infections due to resident organisms in the skin such as impetigo, erysipelas, cellulitis, abscesses caused by staph aureus and strep pyogenes. HPV lesions, molluskum contagiosum, mycobacterial infection including tuberculosis, leprosy and atypical mycobacterias have been reported. Immuncompromised individuals are at risk of infections after tattoos.

Sensitivity to sun

Immediate IgE mediated tattoo reactions: There is only one case report of anaphylactic reaction to a tattoo in the literature. A 30 year old woman experienced hives after 12 hr later

Allergic reactions: Plaque like elevation, ulceronecrotic pattern, excessive hyperkeratotic pattern may occur especially in red, yellow and blue colored tattoos.

Non- allergic reactions: Immune reactions vary from immediate to delayed, local to systemic, may be present as multiple different morphological patterns. Reactions may be lichenoid, eczematoid, foreign body granulomatous, sarcoidal and pseudolymphomatous. Especially occurs black color tatoo, overdosed with pigment. Regulatory control over ink manufacturing is very important

Neoplasms: Tattoos placed over melanocytic nevi can make these lesions difficult to monitor for malign transformation. Both benign nevi and melanoma, keratoacanthoma, squamous cell carcinoma, basal cell carcinoma have been described arising within tattoo pigments.

Skin diseases: Patients with dermatoses prone to Koebner phenomenon are at risk .

Complications with MRI: The incidence of MRI induced reactions are low. Symptoms are pain, burning, erythema, swelling, wheal and flare reaction. The pain appears suddenly and disappears as soon as the screening terminates. The reactions may be underreported.

STOP AND THINK BEFORE YOU INK!!!

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ADIPOSE-DERIVED MESENCHYMAL STEM CELLS IN AESTHETIC DERMATOLOGY

Şükran Sarıgül Güdük

Stem cells (SCs) are characterized by the ability to self-renew and the ability to differentiate into different types of cells. They have the capacity to heal injured tissues and stimulate growth factors for tissue remodeling. SCs are divided into two categories, embryonic stem cells (ESCs) (pluripotent) and adult SCs (multipotent or unipotent). Adult SCs can be isolated from adipose tissue in addition to bone marrow, dental pulp, periodontal ligament, and umbilical cord. Most commonly, adipose derived mesenchymal stem cells (ADSCs) are preferred due to their abundance, ease of isolation, and tolerability during clinical collection. Apart from mesenchymal stem cells (MSCs), adipose tissue consists of adipocytes, fibroblasts, endothelial cells, and hematopoietic cells.

ADSCs and bone marrow-derived MSCs (BM-MSCs) have similar capacity of proliferation and differentiation. However, ADSCs have stronger immunomodulatory effects than BM-MSCs.

ADSCs secrete various growth factors as an essential function for various regenerative effects including vascular endothelial growth factor (VEGF), insulin-like growth factor (IGF), hepatocyte growth factor (HGF) and transforming growth factor-beta1 (TGF-β1). These growth factors control and manage the damaged neighboring cells.

Studies related to ADSCs yielded promising results in terms of skin rejuvenation, hair loss and scar reduction. ADSCs activate dermal fibroblast proliferation, induce antioxidant effects, and reduce matrix metalloproteinases (MMPs). However, the mechanisms that promote hair growth, scar reduction, and facial rejuvenation are not well understood, and warrant further studies.

SAFETY OF COSMETIC PROCEDURES DURING PREGNANCY

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Safety of cosmetic procedures in pregnant women has not been adequately studied. With the increasing practice of cosmetic procedures, dermatologic surgeons need knowledge regarding the safety of such procedures during pregnancy. Additionally, cosmetic procedures may be inadvertently performed during the first trimester, before the patient is aware of her pregnancy.

Cosmetic Concerns Related to Pregnancy

The physiologic changes of pregnancy such as hair changes, melasma, striae, and vascular anomalies can result in cosmetically disturbing changes. Although most of these conditions may resolve following delivery, pregnant women often complain of these skin conditions.

Hypertrichosis

During pregnancy, hormonal changes can induce hypertrichosis. Permanent hair removal by means of laser therapy or electrolysis is generally not recommended during pregnancy due to the lack of safety data and hormonal changes can continue to stimulate new hair growth. Amniotic fluid is a conductor of galvanic current so there is a theoretical concern about electrolysis. Pregnant patients are recommended to treat excess hair growth with waxing, shaving, and depilatory creams.

Melasma and Hyperpigmentation

Melasma associated with pregnancy may resolve without treatment within 1 year of delivery in most women. Hence, procedural and topical treatment of melasma is typically deferred until after delivery. Tazarotene is pregnancy category X and tretinoin and adapalene pose possible teratogenic risks. Hydroquinone also requires caution, falling in pregnancy category C.

Striae

There are no evidence-based trials for effective prevention or improvement of striae during pregnancy. After delivery, laser therapy can be used to improve the appearance of striae distensae (SD).

Spider Angiomas

An increased number of spider angiomas may be noted during pregnancy. Although various treatment modalities such as Nd:YAG laser, potassium titanyl phosphate (KTP) 532-nm laser, PDL or electrocoagulation are available, spider angiomas related to pregnancy may resolve spontaneously after delivery. It is advised to wait until after delivery to treat these lesions.

Cosmetic Procedures

Minimally invasive cosmetic procedures during pregnancy have not been extensively studied in the literature. The best evidence for and against use of cosmetic procedures come from inadvertent exposure early during pregnancy.

Chemical Peels

Salicylic Acid

Salicylic acid is pregnancy category C. This acid can have significant dermal penetration of up to 25% if large areas are treated or if applied under occlusion.There is a lack of evidence in the literature examining the safety of salicylic acid peels used during pregnancy. Oral acetylsalicylic acid (aspirin) can be used safely during pregnancy. If salicylic acid peels are performed, it is recommended that they be used in limited areas, without occlusion.

Lactic acid

Lactic acid peels induce keratolysis with negligible dermal penetration. Lactic acid 2% has been anecdotally used to treat gestational acne with no reported fetal risks.

Jessner's Solution (Resorcinol, Salicylic acid, Lactic acid)

The safety of this peel during pregnancy has not been studied. As Jessner's solution contains salicylic acid, it is recommended that this peel be used only in limited areas without occlusion.

Glycolic Acid

Clinical trials on glycolic acid peel use during pregnancy are lacking. Although there are insufficient safety data available, these peels are theoretically considered safe because of minimal dermal penetration

Trichloroacetic Acid

Topical application of trichloroacetic acid (TCA) is likely safe during pregnancy. Although few studies have investigated its cosmetic use, the safety of topical TCA in the treatment of other conditions such as genital condylomas during pregnancy has been demonstrated. When using TCA for cosmetic facial peels during pregnancy, care needed to avoid potential systemic absorption through the ocular or oral mucosa. Maternal exposure to high doses of TCA found in drinking water disinfection by-products is reported to be associated with intrauterine growth retardation.

Injectables

Neuromodulators

As the popularity of botulinum toxin injection for treatment of rhytides continues to rise, inadvertent exposure during pregnancy will occur. Current data suggest but not entirely confirm that the botulinum toxin does not attain significant systemic concentrations if correctly injected intramuscularly or intradermally. Furthermore, the size of the toxin molecule makes it unlikely to cross the placental barrier. No controlled trials have evaluated the use of neuromodulators during pregnancy, but several studies and case reports in the literature support the safety of onabotulinum toxin type A during pregnancy. There is a lack of similar reports examining the use of abobotulinum and incobotulinum toxin during pregnancy.

In two dermatology patients who inadvertently received botulinum toxin injections early during the first trimester (5-6 weeks), there were no adverse effects on mother or child. In other pregnant women, botulinum toxin was safely injected for treatment of a left convergent squint, idiopathic cervical dystonia, refractory migraine headaches and achalasia. There were no adverse effects on the mothers or fetuses. The two women reported in neurology literature who had a miscarriage after botulinum toxin administration had a history of prior spontaneous abortions and one had received a much larger dose (500 U). Cases of pregnant women contracting botulism have been reported and the children were delivered without adverse events.

Hence, use of onabotulinum toxin during pregnancy remains controversial in dermatology and neurology. Although the literature suggests the general safety of botulinum toxin A, there is still insufficient data to make concrete recommendations on whether cosmetic botulinum toxin procedures should be conducted in women who are pregnant. If patients who are pregnant are inadvertently injected with botulinum toxin during the first trimester of pregnancy, efforts should be made by the provider to alleviate patient anxiety because of the current lack of evidence on adverse outcomes on the fetus in published literature.

Fillers

There are 21 fillers that have been approved by the FDAincluding collagen, hyaluronic acid, calcium hydroxylapatite, and poly-L-lactic acid. There are no reported safety data on the use of cosmetic fillers during pregnancy. As hyaluronic acid fillers mimic the body's own hyaluronic acid, it is theoretically safe to use during pregnancy. Regardless, the consensus among hyaluronic acid manufacturers is that fillers are best avoided during pregnancy because of lack of evidence. Hyaluronic acid products mixed with lidocaine also do not pose a known risk, but the risk of lidocaine causing cardiovascular compromise if inadvertently injected directly into the circulation.

Fat Transfer

Physiologic fat redistribution during and after pregnancy can alter the woman's cosmetic appearance and satisfaction. Removal of fat, even if only to relocate it to another area, may put the fetus' nutritional requirements at risk. The additional risks of fat embolism and occlusion should also be considered carefully. Fat transfer is not recommended during pregnancy. Women should wait until their weight has stabilized after delivery before considering fat transfer.

Tumescent Liposuction

Liposuction is absolutely contraindicated during any stage of pregnancy. The cosmetic nature of liposuction does not justify the risks to the fetus, as adequate stores of fat are needed to nurture the growing demands of the fetus.

Sclerotherapy

Varicose veins that develop during pregnancy have a high probability of spontaneous improvement in the postpartum period. Therefore, it is advisable to wait 6 to 12 months after pregnancy prior to pursuing this treatment. Sclerosing solutions can cross the placenta and sclerotherapy is an absolute contraindication in the first trimester and after week 36 of a pregnancy.

Lasers and Light Therapies

Several lasers like CO2 Laser, Nd:YAG Laser, Pulsed Dye Laser have been used successfully during pregnancy for treatment of medical conditions such as genital condyloma, severe inflammatory facial acne, gingival pyogenic granuloma, fetoscopic laser photocoagulation, ureteral calculi. Laser therapy is relatively safe in patients who are pregnant when employed for the treatment of various medical conditions. However, ablative and nonablative lasers and intense pulsed light therapy are not indicated for cosmetic procedures during pregnancy due to the lack of safety data.

Conclusion

The treatment of physiologic gestational changes that may rebound during gestation and improve postpartum such as melasma, hypertrichosis, striae and spider angiomas is not recommended. Definitive recommendations on the safety of procedures such as chemical peels, injectables, fillers, and most laser therapies during pregnancy cannot be made. Use of botulinum toxin appears to be safe when performed for neurologic indications during pregnancy. However, the possibility of miscarriage after receiving botulinum toxin in women with a history of miscarriage warrants the need for caution. CO2 and Nd:YAG laser therapy is considered safe for treatment of medical conditions and has the most evidence supporting its use during pregnancy. It is best advisable to delay elective cosmetic procedures until after delivery.

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Anesthesia in Aesthetic Dermatology :Tips and tricks

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Pain during aesthetic dermatologic procedures is one of patients 'main fears .The ability to provide an almost pain-free experience is extremely important .Local anesthesia describes the reversible elimination of the sensation of pain in a well-demarcated skin ,mucous membrane or soft tissue region by topical application ,injection or infiltration with anesthetic agents that block transmission in peripheral nerves.

Anesthesia in aesthetic dermatology:

- Local anesthesia
  - Topical local anesthesia
  - Iontophoresis
  - Cryoanesthesia
  - Infiltration anesthesia
  - Regional anesthesia
  - Tumescent local anesthesia
- Oral sedatives
- Nitrous oxide
- Vibration anesthesia
- Verbal anesthesia

Topical anesthesia

Several techniques can improve dermal absorption of topical anesthetics .Removing the stratum corneum with preoperative procedures such as tape stripping or laser ablation ,or pre-application procedures such as degreasing with acetone 0.5 ,mm depth microneedling ,or iontophoresis enhances dermal absorption .Occlusion and heat can also facilitate anesthetic penetration into the skin.

Safe application needs prior gentle washing of the area to be treated with a mild cleanser and water to eliminate contaminants) avoid washing with benzoyl peroxide .(Occlusion with plastic wrap or massaging the cream into the skin may achieve quicker onset of action .Complete removal of residual cream before laser procedures is especially important with alcohol-containing topical anesthetics because of their incendiary / flammable potential.

Topical anesthetics can provide analgesic effects upto a depth of 5 mm .Body locations with thin or absent stratum corneum ,such as the eyelid and mucosa ,absorb anesthesia more readily than skin on the back or hands .LMX achieve the same analgesia as EMLA in a shorter period of time without requiring occlusion .Because EMLA contains sodium hydroxide ,its use must be avoided around the eyes to prevent alkaline chemical injury .Caution should be exercised when administering topical lidocaine to a nursing mother ,because the milk:plasma ratio of lidocaine is .1:4 Improper application of topical anesthetic preparations may cause serious complications ,including death .Prolonged application, use of inappropriately high concentrations ,and application to large surface areas before outpatient aesthetic procedures increase the risk of toxicity .Use on damaged or inflamed skin or on a large surface area 2,000) cm2 (may increase the risk of systemic side effects.

Topical anesthetics are used before laser-assisted hair removal ,Q-switched laser tattoo removal ,laser treatment of vascular) e.g ,.port-wine stain ,telangiectasia ,hemangi-

oma (and pigmented) e.g ,.lentigo ,cafe-´ au-lait macule (lesions ,ablative skin resurfacing procedures using carbon dioxide) CO2 (and Er:YAG lasers ,and fractional lasers .Histologic assessment of CO2 laser-treated skin demonstrated a better safety profile because EMLA's protective hydrating effect on the skin resulted in shallower CO2 laser penetration depth .Application of topical anesthetics is common before injection of dermal fillers ,it is generally not necessary for botulinum toxin injection .Pretreatment with topical anesthetics before perioral botulinum toxin injection improves patient comfort ,but before injections on the palms and soles provides marginal anesthesia because of its impaired absorption through the thick stratum corneum .Application of topical anesthetics before medium depth chemical peeling has been shown to reduce discomfort without decreasing efficacy of the peel.

Infiltration anesthesia

Local Anesthesia

The injection of local anesthetics itself ,often provoke painful sensation initially ,both from the needle insertion and fluid infiltration ,before it provides anesthesia .Controlled slow infiltration ,neutralizing) buffering (lidocaine ,1% epinephrine 1:100,000solutions with sodium bicarbonate) NaHCO3 ,(dilution of lidocaine + epinephrine with bacteriostatic0.9% sodium chloride ,and using a-30 gauge needle can be used to decrease discomfort during injection of local anesthesia. Lidocaine diluted with bacteriostatic 0.9% sodium chloride was found to be less painful than buffered lidocaine. Buffered lidocaine in a 3:1 ratio is less painful than a 9:1 ratio .Other local anesthetics such as prilocaine ,bupivacaine, or ropivacaine precipitate with NaHCO3 admixtures.

Tumescent local anesthesia

The principle of tumescent local anesthesia) TLA (is the infiltration of large volumes of diluted local anesthetic with addition of epinephrine into the subcutis of the surgical field .In order to avoid the very disagreeable burning sensation during infusion of a NaCl-based TLA solution sodium bicarbonate can be added as a buffer .Sodium bicarbonate can be waived if the NaCl solution is replaced by Ringer solution) pH 6.5 instead of.(5.0

A further modification of the TLA solution is the combination of the short-acting local anesthetics prilocaine or lidocaine with the long-acting LA ropivacaine ,the advantage of it is the postoperative analgesia that lasts on average 5 hours ,but a longer latency period before the start of the operation must be anticipated.

Safety

Due to the potential severity and refractory nature of local anesthetic systemic toxicity ,prevention is the best strategy. Most result from unintentional intravascular injection ,repeated aspiration during injection is important to minimize this .In regional and local anesthesias with large local anesthetic doses ,patient monitoring ie ;ECG monitoring ,pulse oximetry and blood pressure ,should always be performed .Attention should also be paid to the local anesthetic total dose administered .The recommendations on maximum doses of the drugs are based on patient weight .In order to adequately and rapidly control complications during the use of local anesthetics emergency equipment should be available in all operating rooms .This must regularly be checked for completeness and correct function.

Oral Sedation

The selection of an oral sedative agent is based primarily on physician familiarity with a given agent ,typically diazepam or occasionally a benzodiazepine ,mostly lorazepam is usually given preoperatively .Lorazepam is given sublingually at a dose of 1 mg ,given 1 hour before surgery ,which is repeated every 4 hours as needed ,with a maximum dose of0.05 mg/kg .A benzodiazepine aids in relaxation while maintaining consciousness.The nonbenzodiazepine sedative agent zolpidem is an acceptable alternative .Dosage depends on age ,weight ,expressed anxiety ,and previous experience with benzodiazepine medications .Flumazenil ,a benzodiazepine reversal agent ,is available.

Nitrous Oxide

Nitrous oxide) N2O (has been a widely used analgesic/anesthetic agent that is considered both safe and effective for dental and pediatric procedures .N2O shows effectiveness as an analgesic and anxiolytic with easily controllable duration of action ,rapid onset and recovery ,low side-effect profile ,and patient satisfaction and convenience .The use of N2O mixture has been shown to result in a significant reduction in pain when used for photodynamic therapy ,botulinum

toxin therapy for hyperhidrosis of both the palms and axilla ,aesthetic procedures involving various laser procedures, hair transplants and dermabrasion.

Vibration anesthesia

Vibration anesthesia has been shown to effectively and safely alleviate pain sensations) mean VAS score 5.88 vs ,3.28 .p ,(05. >by applying a handheld massage device to the injection area to distract the patient .It can be used as supplementary to topical anesthesia or preceding infiltration anesthesia .It does not work in all patients to the same degree and some patients benefit more when applied with pressure.

Verbal anesthesia

Visual and verbal contact between the patient and the dermatologist are the basis of a relaxed atmosphere during the aesthetic procedure .Pain is a psychophysiological phenomenon that involves attention ,cognitive appraisal ,and emotion. Sensory feedback ,especially visual cues ,and anxiety are two most important aspects of pain perception .Apprehension and pain contribute to one another .Adequate preoperative counseling to decrease anxiety will make patients tolerate the procedure much better than if they have lingering doubts about the purpose or goals of the planned procedure .A calm and reassuring manner from the surgeon and staff ,as well as a sense of orderliness to the process ,will help alleviate patient stress.

Painless injections can be achieved by the following **approach**:

1 .Avoid visual cues :prepare the injection and keep the syringe/needle out of the patient‘s sight.

2 .Divert attention away from painful stimuli :start a diversionary conversation and ask questions unrelated to planned procedures ,vibration anesthesia is another method.

3 .Insert the smallest needle while the patient is distracted without pre-procedure warning.

4 .Inject slowly diluted or buffered anesthetic lidocaine and minimize any cues associated with the injection.

5 .Keep the patient pre-occupied on a task or in a conversation to further dissociate the anticipation of an injection and the actual injection throughout the procedure.

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PSORIASIS – NEW DEVELOPMENTS AND OUTLOOK

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Psoriasis is one of the most common chronic inflammatory dermatoses with a negative impact on quality of life. We provide a short review on recent developments, progress, and treatment options. The patient's needs have to be considered in this context on various dimensions. This is the most important step to improve compliance.

New treatment options are discussed for mild, moderate, and severe psoriasis. Although biologicals have gained the most public interest, other options might be more appropriate considering quality of life aspects.

Last but not least, various comorbidities need attention. They may interfere with morbidity and even mortality, may reduce treatment efficacy and can be responsible for low- or non-responders.

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ACNE SCARRING

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Acne Scars reflect skin damage during the healing of active acne and they are related to the duration and the severity of acne and the delay in the treatment. Acne scars are categorized on superficial macular, deep dermal (atrophic) and hypertrophic scars.

The most crucial way to avoid scarring is to initiate the proper treatment of acne as soon as possible in order to minimize the inflammation and the subsequent scarring.

The methods to manage acne scarring are LASERS, Dermabrasion, Chemical Peeling, Skin Needling, Fillers and Subcision: However, there are no single method of complete removal of scars and often combination of methods are needed.

The details of each treatment method, the choice of a particular method or a combination of method for the different categories of acne scars will be presented.

TREATMENT OPTİONS OF MYCOSİS FUNGOİDES

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MF is the most common variant of Cutaneous T-cell lymphomas (CTCL). The incidence of MF was estimated approximately 5.6 per million people. In early stages, localized cutaneous patches and/or plaques in the early stages are observed. In compatison, tumoral lesions, erytroderma and systemic involvement (comprehensive nodal/blood involvement or visceral involvement) are seen in advanced stages.

Based on stage directed treatment, The treatment options for early-stage MF (I1-IIA) include skin directed therapies (SDTs), including topical corticosteroids (TCS), phototherapy, topical chemotherapy or retinoids, and radiotherapy. Advanced stage (IIB–IV) or refractory MF often requires systemic treatments in combination with SDT for symptomatic relief. SDTs provide symptomatic improvement in pruritus, pain or clinical appearance (1). Emollients reduce itching, scaling, and transepidermal water loss and they can be combined with other recommended topical treatments.

Highly potent topical corticosteroids are among the primary topical treatments (2). They cause a decrease in the induction of apoptosis and the production of different cytokines (3). In one largest prospective study of 79 patients with stage T1 or T2 MF, majority of the patients used class 1 TCS (very potent) mostly twice daily. Complete remission was achieved in 63% and partial remission in 31%, with a total response rate of 94% in the T1 group. The figures for the T2 patients were 25%, 57% and 82%, respectively (4).

Topical mechlorethamine (MCH, nitrogen mustard) is a chemotherapeutic alkylating agent. The efficacy of MCH is around 51–84% CR for patients with stage T1 MF and 31–62.2% for T2 MF disease A key randomized, controlled, multi-center trial with 260 patients evaluated the efficacy and safety of a novel MCH 0.02% gel compared with MCH 0.02% compounded ointment in stage IA–IIA MF. MCH 0.02% gel was non-inferior to 0.02% MCH ointment with an overall RR of 58% versus 48%, respectively. The topical MCH was effective for early stage MF. Local adverse effects are common, particularly irritant contact dermatitis in 10–40% of cases, but also allergic contact dermatitis and hyperpigmentation. The risk of developing secondary malignancies as a direct result of topical MCH has been controversial with conflicting results, and patients were often managed with other treatment modalities known to increase the risk, including phototherapy and total skin electron beam therapy. Topical MCH does not affect the mortality therefore it is considered as a safe therapy (5).

Carmustine, also known as bis-chloroethylnitrosourea (BCNU) is an alkylating chemotherapy agent that has been used in patch and early-plaque stage MF. It needs to be compounded in an aqueous or ointment formulation. The efficacy appears similar to topical MCH with CR rates of 86%, 48% and 21% in stage T1, T2 and T4, respectively, with a median time of 11.5 weeks (6). Compared with MCH, BCNU causes less hypersensitivity reactions. BCNU is systemically absorbed, causing myelosuppression in 28% of patients. Consequently, full blood count monitoring is required, and treatment is given for short periods, 2–4 weeks for widespread disease. BCNU should not be used as maintenance therapy. Bexarotene (1%) gel has been effectively used in patients who were resistant to other topical therapies The response rate was 63%, and CR rate of 21% in stage IA and IB disease. The response rate was higher (75%) for the patients who had not tried other topical therapies (67%) previously. The median duration of response was 23 months. Local irritation is a common side effect. It is approved by FDA for the stage IA and IB patients with refractory or persistent disease after other treatments (7). Topical tazarotene 0.1% is also helpful in early MF stages. In a study of 20 early-stage adult patients, tazaroten 0.1% gel was used once a day for a total of 99 index lesions for 24 weeks. At the same time, topical steroids are also allowed to use to reduce irritation. Significant reduction was observed after treatment in plaque elevation, scaling and erythema.

Topical imiquimod induces TLR7 stimulation. Imiquimod is a topical immune response modifier with antiviral and antitumoral activity. In a study of IIB MF patients with stage IA,topical imiquimod was applied three times a week. Three patients were histologically cleared. All 3 patients were treated with PUVA, systemic interferon and systemic retinoids at the same time. UVB therapy is recommended for patch or thin plaque MF and PUVA for thicker plaques. Exposure to UV is associated with a decreased risk for the development of NHL. UV-specific p53 mutations may occur

in advanced MF (role for ultraviolet B (UVB) in the pathogenesis and progression of MF) (8). Narrowband UVB (NB-UVB) is better than broadband UVB. In a review including patch and plaque stage MF patients treated with nbUVB, total remission rate is 84%. nbUVB is more effective for patch stage MF with fairer skin types (Fitzpatrick I–III). The relapse-free period was ranged from 5.9 to 14.5 months in patients without maintenance nbUVB. PUVA is effective for clearing of skin lesions, particularly in early stages. Treatment is usually applied until complete clinical clearing is achieved. The most commonly used combination is interferon-α (IFN-α) and retinoids (isotretinoin, etretinate, acitretin). Acute side effects of PUVA include nausea, pruritus, and phototoxic reactions. PUVA has been shown to be a carcinogen and treatment is dose dependently associated with the risk of squamous cell carcinoma. Radiotherapy is used for all stages of MF. Padiotherapy is especially useful for localised plaques and tumour. Radiotherapy can be performed in combination with other therapeutic modalities. Low-grade localised radiotherapy may be used successfully in stage IA–IIB MF. The dose and fractionation should be arranged according to the site, lesion type, potential acute and late complications to surrounding skin and organs. Smaller dose per fractions should ideally be given for affected large areas. Neelis *et al*. showed a high CR rate of 92% (60 out of 65 lesions) in patients with MF treated with 8 Gy in 2 fractions, while the lower dose of 4 Gy in 2 fractions only achieved a response rate of 30%. Total Skin Electron Beam Radiotherapy (TSEBT) can be used for MF patients with extensive patches and plaques. Multiple retrospective studies have demonstrated that TSEBT has one of the highest overall response rates. For advanced MF cases, it can be combined with systemic treatments (9).

Systemic Treatment Options

Interferon-alfa (IFN-α) is primarily produced by leukocytes. It works through the inhibition of IL-4 and IL-5 production by malignant T-cells and NK-cells. This augments the Th1 cell-mediated response and suppresses the Th2 cytokine production of malignant T-cells. IFN-α is one of the most widely used first-line treatment option and effective single agent therapy. Various dosages and treatment schedules have been used. Therapy should be initiated at low doses between 1 and 3 million units (MU) 3 times weekly with gradual escalation. The most important acute side effects are flu-like symptoms, hypotyroidism, anorexia and mood changes. Chronic side effects are anorexia, fatigue, depression, alopesia, cytopenia, and impaired liver function. IFN-α can be used in combination with other agents including bexarotene, ECP, PUVA and retinoids. The combination with PUVA is superior to combination with retinoids and ECP. Combination with retinoids do not appear to increase response rate (10).

Pegylated interferon-alpha (PEG-IFN-α) with the advantage of once-weekly injection, is more convenient to administer than standard INF-α and has demonstrated similar efficacy and tolerability in other malignancies. It is potentially simpler and better tolerated approach to treatment, but data is currently limited in CTCL. A small multicenter, dose-escalation study evaluated the safety, tolerability, and efficacy of subcutaneous PEG-IFN α-2a in patients with CTCL and showed clinical response (CR or PR) in 50% (n = 2), 83% (n = 5), and 66% (n = 2) for the 180-, 270-, and 360-µg PEG-IFN α-2a groups, respectively. Four patients had stable disease; none of the patients developed disease progression. Leukopenia, elevated liver enzymes, flu-like symptoms, and thrombocytopenia were the most frequently reported adverse events with an overall increase in toxicity profile within the highest dose group (360 µg/week) (11).

Bexarotene, a new retinoid X receptor (RXR)-selective retinoid.makes induction of apoptosis in CTCL cell lines. It can be combined with other therapies including PUVA, INF-α, INF-γ, and ECP. The well-known side-effects are hypertriglyceridaemia and hypothyroidism. Lipid-lowering treatment and thyroid hormone replacement should be given. Oral bexarotene can be considered as first-line treatment for patients with stage 1B and higher as a single agent or at reduced dose in combination with PUVA. The serum lipids and thyroid parameters should be carefully monitored. Combination with PUVA decreased dose requirements for bexarotene therapy.

Cutaneous infiltrates in MF/SS show variable levels of CD30 expression, with higher expression seen in cases with large cell transformation. Brentuximab_vedotin (BV) is an antibody–drug conjugate (ADC) that selectively delivers a toxic microtubule-disrupting agent into CD30-expressing cells, thereby inducing cell cycle arrest and apoptosis. A phase 2 trial in patients with refractory/advanced MF or SS showed an overall response rate of 70% with Brentixumab. Patients with less than 5% of CD30 expression within cutaneous infiltrate showed lower responses. The most common adverse effects are peripheral neuropathy, fatigue, nausea, alopecia and neutropenia (12). ALCANZA study compares brentuximab vedotin and mtx or bexarotene in previously treated CTCL patients. CD30 positivity is defined as CD30-positive malignant cells greater than 10% or samples of lymphoid infiltrate in more than 1 biopsy. Patients with MF or

primary cutaneous anaplastic large cell lymphoma generally had durable and higher clinical responses with brentuximab. Brentixumab is reliable treatment option for patients with CD30+ CTCL subtypes and can be tried in MF patients with low CD30+ levels. The majority of discontinuation is due to peripheral neuropathy. In ALCANZA study, peripheral neuropathy was seen in 67% of brentuximab vedotin-treated patients. Treatment discontinuation is in only 14% of patients. The peripheral neuropahty is generally manageable and reversible with dose adjustment (13).

Histone deacetylase (HDAC) inhibitors may restore the expression of tumor suppressor and/or cell cycle regulatory genes by increasing the acetylation of histones, leading to inhibition of cell growth and induction of apoptosis. It is approved by FDA for CTCL patients with clinical stage 1B and higher who are refractory to at least 2 systemic therapies. A phase 2 trial of 400 mg vorinostat daily showed a partial response in 22 (29.7%) of 74 patients with only 1 CR. Another phase 2 trial assessed several dosing regimens. When it was given to 33 heavily pretreated CTCL patients, vorinostat produced an overall response rate of 24.2%. Intermittent dosing was less effective than sustained dosing at 400 mg/d. The 300-mg, twice-daily regimen had higher toxicity with no additional clinical benefit over the 400-mg, once-daily regimen. Half of the patients experienced significant pruritus relief with vorinostat therapy. The most common toxicities are thrombocytopenia, anemia, dehydration, nausea/vomiting, hypotension, infection, sepsis, pulmonary embolism and deep venous thrombosis. Most of the side effects are reversible on discontinuation of the drug. Romidepsin approved by the FDA for advanced CTCL that is refractory to at least 1 systemic therapy, inhibits class 1 and 2 HDACs and is intravenously administered at a weekly dose of 14 mg/m^2 for 3 weeks, with 1 week off. Treatment is continued until intolerance or disease progression were seeen. Most common toxicities consisted of fatigue, gastrointestinal symptoms (nausea, vomiting, diarrhea, poor appetite), hematologic abnormalities, and infectious complications.

Mogamulizumab is a humanized monoclonal antibody (mAb) targeting CCR4, a chemokine receptor expressed on T-cells in approximately 40% of patients with CTCL. It is particularly effective in patients with erythroderma and peripheral blood involvement. Side effects inclede flu-like symptoms, headache, rash and infusion reactions (14).

Alemtuzumab is humanized mAb targeting CD52, expressed in high levels on malignant T-cells. It is particularly effective in patients with SS, which may reflect its effect on circulating rather than skin-resident malignant T-cells. Most common side effects are infusion-related side effects, and opportunistic infections including CMV reactivation. It gives rapid and effective symptomatic control and leukemic debulking. There is a risk of profound immunosuppression, so it is only suitable for a small number of patients.

Many chemotherapy agents have proven activity in CTCL. However, none has proven superiority. Due to the limited effect on survival and side effects, they were reserved for advanced-stage disease and for patients with failed previous treatments. Doxorubicin is an anthracycline with proven efficacy for nodal lymphomas and solid tumors. The pegylated liposomal form has reduced toxicity, possible improved efficacy, and a longer half-life. It is currently the most commonly used anthracycline for advanced-stage CTCL (15). Gemcitabine is a nucleoside analogue of deoxycytidine that inhibits DNA synthesis. Gemcitabine is one of the most effective single-agent chemotherapy agents for CTCL. Pentostatin is an inhibitor of adenosine deaminase with selective toxicity to lymphocytes. Bendamustine is an intravenous nitrogen mustard-alkylating agent approved for use in the treatment of indolent B-cell non-Hodgkin's lymphoma and chronic lymphocytic leukemia. Chlorambucil is an alkylating agent that cross links DNA during all phases of the cell cycle. It has been used in CTCL as monotherapy and in combination with glucocorticoids. Combination therapy has been reported in several older studies: Fludarabine and cyclophosphamide showed an ORR of 58% in stage IIB-III disease with a time to relapse of 10 months. Etoposide, vincristine, doxorubicin, cyclophosphamide, and prednisone in patients with stage IIB-IV disease had an ORR of 80% with a time to relapse of 8 months. Cyclophosphamide, doxorubicin, vincristine, and prednisone (CHOP) chemotherapy has been used in stage IIB disease with an ORR of 66% (16).

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VITILIGO - QUICK UPDATE FOR TREATMENT

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Vitiligo is an acquired and chronic disorder which is characterized by depigmented macules with loss of pigment in the skin.

Although there is no specific treatment for the disease, the available treatments may stop or slow down the progression of the disease and induce repigmentation. Many treatment methods have been used for years, however; there are also some new developments that will be discussed in this lecture.

Treatment modalities are chosen in the individual patient, based on: the patient's age and skin type, the extent, location, degree of disease activity, the impact of the disease on the patient's quality of life, patient preference (including cost and accessibility), response evaluation. Also an open discussion with the patient about the limitations of treatment may be helpful to create realistic expectations.

Treatment options should be preferred according to the subtypes of vitiligo. (Subtypes: Segmental, Nonsegmental (Acrofacial, Mucosal, Generalized, Universal, Mix and Rare forms)).

Segmental vitiligo: Topical corticosteroids, topical calcineurin inhibitors, or targeted phototherapy are the first-line therapy for limited segmental vitiligo. NBUVB (Narrow Band Ultraviolet B) phototherapy can be used for more extensive disease affecting multiple dermatomes.

If the disease does not respond to topical or light therapies, autologous grafting is a second-line option.

Autologous melanocyte transplantation is another option for patients with segmental vitiligo for long-term repigmentation.

Disseminated disease: For patients who have depigmentation affecting multiple anatomic sites but with overall involvement of less than 10 percent of the TBSA(Total Body Surface Area), NBUVB phototherapy is suggested as first-line therapy.

Recalcitrant disease: For recalcitrant, stable vitiligo involving less than 10 percent of the TBSA that does not respond to topical therapies, treatment options include targeted phototherapy with excimer laser, oral or topical PUVA photochemotherapy, and autologous grafting procedures

Nonsegmental stable vitiligo involving <10 percent of the body surface area

***Localized disease*:**In patients with nonsegmental stable vitiligo (no increase in size of existing lesions and absence of new lesions in the previous three to six months) Mid- to high-potency topical corticosteroids or topical calcineurin inhibitors are first-line therapies.

***Targeted phototherapy*:** If there is no response to topical corticosteroids or topical calcineurin inhibitors, targeted UVB phototherapy is a therapeutic option. Targeted phototherapy uses 308 nm monochromatic excimer lamps or lasers.

Psoralen plus ultraviolet A photochemotherapy: we use PUVA, if the disease does not respond to phototherapy with NBUVB and topical agents, and when targeted phototherapy is not available.

Transplantation procedures

Nonsegmental stable vitiligo involving 10 to 40 percent of the body surface area

Narrowband ultraviolet B phototherapy: For adults and children with nonsegmental stable vitiligo, narrowband ultraviolet B (NBUVB) phototherapy is suggested as first-line therapy. Mid-potency topical corticosteroids or topical calcineurin inhibitors can be intermittently used in combination with phototherapy.

Home phototherapy: is an option for patients unable to travel to the clinician's office for weekly treatments

Psoralen plus ultraviolet A photochemotherapy: Second-line therapy

Nonsegmental stable vitiligo involving >40 percent of the body surface area

Phototherapy: Phototherapy with NBUVB is the first-line therapy for patients with extensive nonsegmental stable vitiligo involving greater than 40 percent of the TBSA. Oral PUVA may be used as a second-line therapy for adult patients with extensive disease.

Depigmentation: For patients with extensive, recalcitrant vitiligo and that does not respond to repigmentation regimens depigmentation of residual, normally pigmented areas may be an option. Depigmentation therapy is usually initiated with monobenzone 10% cream for one month and then continued with monobenzone 20% cream.

Other depigmenting agents: -4methoxyphenol (mequinol) 20% cream and 88% phenol solution. Depigmentation can also be obtained by using a Q-switched ruby laser, alone or in combination with methoxyphenol.

Stabilization of rapidly progressive disease

Systemic glucocorticoids: low-dose oral glucocorticoids (oral prednisone, dexamethasone, triamcinolone) are suggested as first-line therapy for the stabilization. It is important to note that oral corticosteroids alone are not effective as a repigmenting therapy for progressing vitiligo.

Phototherapy

Other: Cyclosporine, methotrexate, and mycophenolate mofetil..

RESPONSE ASSESSMENT

Patients are usually re-evaluated in three to six months of starting treatment. **MAINTENANCE TREATMENT**

Some patients may require maintenance treatment. Intermittent use of topical corticosteroids or topical calcineurin inhibitors and phototherapy may be used as long-term maintenance treatments.

ADJUNCTIVE THERAPIES

Topical vitamin D analogues, oral supplementation with antioxidants and vitamins, Alpha-lipoic acid, *Ginkgo biloba*, *Polypodium leucotomos* , Microneedling.

Other immunosuppressants and biologics are Cyclophosphamide, Ciclosporin, Antitumour necrosis factor-α.

INVESTIGATIONAL THERAPIES

Afamelanotid, Prostaglandin E2, Prostaglandin F2 analogues, Janus kinase inhibitors, Topical ruxolitinib, Phenylalanine, Khellin, A mixture of sex steroids and thyroid hormones (Metharmon F tablet®), 5-fluorouracil cream.

CAMOUFLAGE

Cosmetic camouflage can be beneficial for patients with vitiligo affecting exposed areas, such as the face, neck, and hands. Camouflage may also be an option for patients with focal or segmental vitiligo who do not desire repigmentation treatment.

Dihydroxyacetone (DHA) based products are the most popular because they provide lasting color for up to several days and are not immediately rubbed off onto clothing. Tattooing or micropigmentation should be avoided because of koebnerization and dyschromia.

SURGERY

Punch grafting (tissue graft) , Epidermal blister grafting , Ultrathin epidermal sheet grafting. Cellular grafts consist of a basal cell layer autologous suspension containing melanocytes and keratinocytes. Transplants of pure cultured melanocytes.

Adverse events occur as transient or permanent hypopigmentation, hypertrophic scars on the donor site, milia formation on the recipient site, hyperpigmentation on donor site, imperfect color matching on the recipient site.

The most suitable patient group for surgery is stabilized segmental or focal vitiligo, which lasts for years, and has no history of a Koebner isomorphic response. Unfortunately no consensus exists concerning the minimum age for surgery.

Surgery does not change the overall prognosis of the disease so it should be combined with other medical and or UV-light treatment for best outcome and long-term stability.

Additionally;

- There is no consensus about treatment options (zero line) for patients with a fair complexion.

- For children, phototherapy is limited in the younger age group and surgical techniques are rarely proposed before prepubertal age.

- There is no current recommendation applicable to the case of rapidly progressive vitiligo, not stabilized by ultraviolet (UV) therapy.

- For all subtypes of disease psychological support is needed.

- Combination therapies, such as phototherapy plus topical or oral corticosteroids, calcineurin inhibitors, or, less commonly, vitamin D analogues, appear to be more effective than single therapies.

QUICK UPDATE FOR TREATMENT - TEN

Gonca Saraç

Toxic epidermal necrolysis (TEN) is a life-threatening mucocutaneous reaction mostly to drugs, characterized by extensive detachment of the epidermis. The incidence of TEN is approximately 0.4-1.3 cases per million, but although it is rare, it can cause significant morbidity and mortality. It is necessary to act quickly to determine the diagnosis and severity, and to start treatment in the appropriate healthcare setting.

The SCORTEN (Score of Toxic Epidermal Necrosis), which gives an idea about the patient's prognosis, can also help determine whether the patient should be followed in the ward or in the intensive care/burn unit. TEN may be accompanied by thermoregulatory imbalance, large amount of fluid loss and hemodynamic instability, as well as anemia, leukopenia, kidney and liver dysfunction, and sepsis. Therefore, patients with large epidermal loss (>10% body surface area) are recommended to be admitted to intensive care unit.

In patients with suspected drug-induced TEN, immediate discontinuation of any potential culprit drug may improve the prognosis. The main treatment is supportive care as in extensive burns and include wound care, fluid and electrolyte management, nutritional support, temperature management, pain control and treatment of superinfections. Daily evaluation of the detached body surface area and wound care should be performed. Infections are common in TEN patients, and sepsis is one of the main causes of death. Sterile wound care is essential. Antibiotic treatment is recommended in case of infection instead of prophylactic systemic antibiotics.

Although there are reports of the use of systemic corticosteroids, intravenous immunoglobulin (IVIG), cyclosporine, TNF-α antagonists (infliximab and etanercept), and plasmapheresis, the systemic treatment strategy is still controversial. Neither of these treatments has been adequately studied with randomized trials. There are studies suggesting the use of moderate to high-dose (1-2 mg/kg/day for three to five days) systemic steroids in the early period of the disease (in the first 24-48 hours), but it should be kept in mind that steroids increase the risk of sepsis and protein catabolism and may slow down epithelialization.

There is no proven beneficial effect of IVIG use, but there are research showing that high-dose IVIG reduces mortality. Elderly and patients with comorbidities have an increased risk of renal, hematological, and thrombotic complications of high-dose IVIG.

Increasing evidence indicates the potential therapeutic effect of cyclosporine (3-5 mg/kg/day) administered as early as possible. It has been shown to reduce mortality with few side effects, further studies are needed to validate its efficacy.

Beneficial effects of TNF-α inhibitors have also been demonstrated in a limited number of cases. TNF-a inhibitors or cyclosporine are promising for future therapeutic use. It is hoped that new therapeutic agents will emerge as the pathogenesis is revealed more broadly.

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THE TYPES OF DIETS: NORDIC DIET, MEDITERRANEAN DIET,

KETOGENIC DIET, VEGETARIAN DIET

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Diet is the sum of food consumed by a person or other organism. The word diet often implies the use of specific intake of nutrition for health or weight-management reasons. Although humans are omnivores, each culture and each person holds some food preferences or some food taboos. People's dietary choices are often affected by a variety of factors, including ethical and religious beliefs, clinical need, or a desire to control weight. We can find more than 100 types of diet developed for many purposes. I will discuss the four most common type of diets which are popular all around the World.

1-Nordic diet:

Nordic diet arose from the desire to translate the Mediterranean, Dietary Approaches to Stop Hypertension (DASH), and other health-promoting diets into a regionally tailored dietary pattern that uses traditional, local Nordic foods and would be attractive to the public, sustainable, and eco-friendly[1,2]. Overarching tenets of the New Nordic Diet are to consume more (1) calories from plant sources and fewer from animal sources, (2) foods from seas and lakes, and (3) foods from the wild countryside A generalized Nordic dietary pattern would include green leafy vegetables, other vegetables, fruits, fish and seafood, potatoes, berries, whole grains (e.g., wheat, rye, oats, barley), nuts, low-fat dairy products, rapeseed, sunflower, and/or soya oils and limited intake of fresh red meat and sugar.[3] Results from subsequent studies conducted using Nordic diet demonstrate improvements relative to the control diet in blood lipid profile,inflammation, blood pressure, and mean arterial pressure among patients with metabolic syndrome, and weight loss and blood pressure reduction in individuals with obesity.[4]

2-Mediterranean Diet

The health benefits of the Mediterranean diet were first described in 1975 by Ancel Keys, who observed a reduction in cardiovascular disease risk among populations whose nutritional model was consistent with practices of peoples from the Mediterranean Basin. Since that time, research has revealed beneficial effects of the Mediterranean diet on a number of non-communicable diseases and related health measures, including cardiovascular and cerebrovascular disease, cancer , glycemic control, and cognitive function.[5]

The Mediterranean diet is based on components of the traditional dietary patterns of Euro-Mediterranean countries and encompasses not only the types of foods consumed and their relative contributions to daily nutrient intake, but also an approach to eating that is cognizant of how foods are sourced (e.g., sustainability and eco-friendliness), cooked, and eaten, as well as lifestyle considerations such as engaging in regular physical activity, getting adequate rest, and participating in fellowship when preparing and sharing meals .[6] The primary basis of daily meals in the Mediterranean diet is cereals such as whole-grain bread, pastas, couscous, and other unrefined grains that are rich in fiber and a variety of fruits and vegetables of different colors and textures that are high in micronutrients, fiber, and phytochemicals. Dairy products, preferably low-fat yogurt, cheese, or other fermented dairy products, are recommended daily in moderation as a source of calcium, which is needed for bone and heart health. Olive oil serves as the primary source of dietary lipids and is supplemented with olives, nuts, and seeds. Water (1.5–2.0 L/day or ~8 glasses) is recommended as the main source of hydration, whereas wine and other fermented alcoholic beverages are generally permitted in moderation, to be consumed with meals. Fish, white meat, and eggs are the primary sources of protein; red meat and processed meats are consumed less frequently and in smaller portions. Legumes are also a preferred source of plant-based proteins.

3- Ketogenic diet

Ketogenic diets have started to increase in popularity as doctors and researchers investigate the potential benefits. Nutritional ketosis, the aspirational endpoint of ketogenic diets, is achieved by restricting carbohydrate intake, moderating protein consumption, and increasing the number of calories obtained from fat.[7] Theoretically, this restriction of carbohydrates causes the body to switch from glucose metabolism as a primary means of energy production. This

results in the use of ketone bodies from fat metabolism, a metabolic state where the body prefers to utilize fat as its primary fuel source. Recent studies utilizing Low-carbohydrate, High-fat (LCHF) diets, such as the ketogenic diet, show promise in helping patients lose weight, reverse the signs of metabolic syndrome, reduce, or eliminate insulin requirements for type II diabetics , reduce inflammation, improve epigenetic profiles, alter the microbiome, improve lipid profiles, supplement cancer treatments, and potentially increase longevity and brain function.[8]

4- Vegetarian diet

For several centuries, the vegetarian diet has been practiced by several ethnic or religious groups . In recent years, the vegetarian diet has been proposed as a therapeutic approach that can potentially reduce the risk of chronic non-communicable diseases, while maintaining an adequate nutritional intake. Vegetarian diets are associated with positive health outcomes on the metabolic disease cluster, including blood lipid profile and body weight, but also with a significantly reduced risk of adverse health outcomes.[9] Vegetarian dietary patterns can be quite diverse because of the variety of food choices available and the factors that motivate people to adopt such patterns. Typically, a vegetarian diet excludes the consumption of all types of meat (e.g., pork, beef, mutton, lamb, and poultry), fish, and seafood.[10] According to different dietary pattern combinations, several subgroups could be identified in the literature, notably: 1) vegan diets which include only fruits, vegetables, legumes, whole grains, and nuts, and which may exclude honey, roots or tubers such as in Jain vegetarianism; 2) lacto-, ovo-, or lacto-ovo-vegetarian diets which are vegan diets that incorporate dairy products, eggs, or both of them, respectively. Other vegetarian diets are less stringent in terms of meat, fish, or chicken intake and are called flexitarian diets .

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USE OF ORAL VITAMINS IN SKIN DISEASES

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Vitamin A

Function It is essential for growth and differentiation of all cells, pre/postnatal development, immunity, vision, erythropoiesis and free oxygen radical supression. It has a major role on photoprotection, proliferation, differentiation, keratinization, immunity and inflmamtion of skin, mucous membrane integrity and wound healing.

Source Retinol, the preformed vitamin A in animal products (liver, fish, egg, dairy ones) and provitamin A in carotenoids (leafy greens, orange/red/yellow fruits and vegetables) are dietary supplies.

Deficiency Malabsorption, pancreatic diseases, bariatric surgery, infections, liver cirrhosis, chronic alcohol consumption, insuffient diets are risk factors. Cutaneous manifestations of symmetrical follicular papules with central keratin plugs, xerosis, hair casts, and violaceous-brown macules are called as phrynoderma. Eye anomalies as xeropthalmia, night blindness, infections, and osteoporosis may also associate.

Preventation and treatment of skin diseases Retinoids are used to prevent photocarcinogenesis and to treat psoriasis, acne, T cell cutaneous lymphoma, wound healing, phrynoderma, hand eczema, ichtyosis, lichen sclerosus, pityriasis rubra pilaris etc.

Vitamin B1 (thiamine)

Function It is necessary for energy metabolism, growth development and nerve function. It acts as a coenzyme in carbohydrates, amino acids, and fatty acids metabolic pathways.

Source Thiamine is rich in lentil, bea, rice, milk, egg, pork and black beans.

Deficiency Chronic alcoholism, poor dietary intake like anorexia nervosa, increased metabolic requirements, gastric bypass surgery, congestive heart failure, advanced age, prolonged parenteral nutrition are major risk factors. Beriberi and Wernicke-Korsakoff syndrome are mayor conditions with abnormalies in cardiovascular, muscular, gastrointestinal, central and peripheral nervous systems. An edematous waxy skin, cheilitis and glossitis observed in skin examination.

Vitamin B2 (riboflavin)

Function It is a fundemantal coenzyme in oxidation/reduction reactions, nutrient metabolism, hormonal synthesis, and cell signaling

Source Most plant and animal derived food as poultry, beef, mushrooms, salmon, egg, almonds, dairy and breads contain riboflavin.

Deficiency manifests as an oculo-orogenital syndrome with angular cheilitis, glossitis, skrotal/vulvar dermatitis sparing of the midline, and seborrheic dermatitis. In addition, migraine, anemia, conjunctivitis, and cataracts may present.

Preventation and treatment of skin diseases It is used for skin conditions related with B2 deficiency

Vitamin B3 (niacin/nicotinic acid and derivative niacinamide/nicotinamide)

Function Niacin is a precursor for NAD, which is a cofactor in numerous biochemical rections. It is critical for energy transfer, DNA repair, food metabolism, detoxification and cell signaling. In skin, it promotes epidermal turnover and supresses epidermal inflammation

Source Diets including poultry breast, salmon, pork, beef especially liver, brown rice, peanuts and sunflower seeds are rich in vitamin B3. Intestinal microbiome also produce small amounts.

Deficiency Genetic disorders as Hartnup disease, malabsorbative conditions, inadequate dietary intake, alcoholism, carcinoid tumors and medications are related conditions with niacinamid. Deficiency is characterized by the three ''Ds'' of pellagra: dermatitis, diarrhea, and dementia. Cutaneous manifestations are burning, itchy erythema, vesicles/ bullae leading to painful hyperpigmented plaques which localized on hands, face, neck and extensor arms, and feet.

Preventation and treatment of skin diseases Vitamin B3 was shown to prevent photocarsinogenesis, qctinic keratosis and skin cancer. It has been used for skin conditions like autoimmune bullous diseases, acne, atopic dermatitis, rosacea, aging, seborrheic dermatitis and melasma. For bullous diseases, it is generally combined with tetracyclines.

Vitamin B5 (panthotenic acid)

Functions It is essential for energy metabolism by biosynthesis of coenzyme A and acyl transmitters. Roles in skin are keratinocyte proliferation and differentiation, epidermal hidration and wound healing.

Source foods of plant and animal animal organs (liver and kidney), fish, shellfish, milk products, egg, avocado, legumes, mushroom and sweet potatoes. Bacterial synthesis is not enough for needs.

Deficiency is rare due to the presence in many foods. In the existence of genetic mutations or nutricient malnutrition, gastrointestinal disturbance, irritability, muscle cramps and headaches may occur as well as skin irritation, burning feet and gray hair.

Preventation and treatment of skin diseases Pantothenol, or provitamin B5, is widely used in the health-care and cosmetics industries. Improvement was shown with oral vitamin B5 in wound healing, graying of hair, atopic dermatitis, , diaper dermatitis and first degree burns.

Vitamin B6 (Pyridoxine)

Function It has a key role neurotransmitter synthesis, amino acid, fatty acid and folate metabolism, hemoglobin synthesis, and gen regulation. In the skin it acts as a photosensitizer.

Source It is found in milk, chickpeas, fish, beef, poultry, nuts,, potatoes, banana, carrot, egg, and vegetables like winter squash.

Deficiency Risk factors are alcoholism, liver cirrhosis, metabolic syndrome, diabetes, rheumatoid arthritis, medicines especially isoniazid. Noncutaneous manifestations include peripheral neuropathy, seizures and anemia. Skin findings are similar to deficiencies of other B vitamins. Glossitis, oral ulcer, angular stomatitis, xerosis, seborrheic dermatitis, pellagrous-like lesions and intertriginous erosions.

Preventation and treatment of systemic diseases It has been used for porphyria, hand/feet syndrome due to chemotherapeutics. Excess supplementation may result in photosensitivity and skin tumorigenesis

Vitamin B7 (biotin, vitamin H)

Function is an essential cofactor for carboxylation involved in important metabolic pathways, gene regulation, and cell signaling

Source is foods like whole-wheat bread, liver, pork, salmon, cereals, walnuts, peanuts avocado, egg yolks. Bacterial synthesis by colonal bacteria is another supply.

Deficiency Other than genetic carboxylase and biotinidase deficiencies, rare acquired biotin deficiencies are consuming too much egg whites, antiepileptics, pregnancy and lactation, Skin manifestations are a ''mask-like,'' periorbital and

perioral exfoliative dermatitis, glossitis, conjunctivitis, and alopecia. Besides, neurological findings may occur.

Preventation and treatment of skin diseases It is recommended for alopecia, uncombable hair syndrome, seborrheic dermatitis and nail conditions like brittle fingernails, trachyonychia, and habit tic deformity with limited data.

Vitamin B9 (folic acid)

Function Folic acid is essential for cell growth and differentiation.

Source Green leafy vegetables, citrus fruit juices, legumes, fortified foods, white rice, spinach

Deficiency Pregnancy, malabsorbtion, alcoholism, cancer, losses in hemodialysis and chronic inflammatory diseases are risk factors. Anemia, fatigue, irritability, peripheral neuropathy and diarrhea are , weight loss may appear, besides cutaneous findings of angular cheilitis and glossitis.

Preventation and treatment of skin diseases Aphthous stomatitis and livedoid vasculopathy benefit from folic acid supplementation, while vitiligo and psoriasis not. Supplementation is necesssary to prevent the advers effects of methotrexate in dermatology.

Vitamin B12 (cobalamine)

Function It plays an important role in DNA synthesis

Source Vitamin 12 founds in only animal foods, is especially rich in animal livers, meat, veal, pork, poultry, cheese and milk.

Deficiency is rarely due to inadequate diets other than vegans), and mainly result of malabsorption (pernicious anemia Crohn's disease or overgrowth of intestinal bacteria. Its deficiency is associated with hematologic, neurologic, psychiatric, gastrointestinal, dermatologic, and cardiovascular manifestations. Cutaneous expressions are skin hyperpigmentation pronounced on interphalangiel joints of hands and feet,and oral mucosa, vitiligo, angular stomatitis, glossitis and hair changes.

Preventation and treatment of skin diseases B12 was found to be useful to prevent hyperhomocysteinemia in patients treated with isotretinoin. Patients with recurrent aphthous stomatitis benefit from oral B12, while patients with vitiligo not.

Vitamin C (ascorbic acid)

Function It has effects on collagen synthesis and stabilization, antioxidation, photoprotection, wound healing, restriction of melanin production, DNA repair and keratinocyte differentiation.

Source Vitamin C is found in various citrus fruits and vegetables, including sweet peppers, broccoli, and brussels sprouts.

Deficiency Cigarette smoking, restricted diets, alcoholism,anorexia nervosa, low-socioeconomic status, cancer, gastrointestinal diseases, oral contraceptive use, and advanced age are risk factors. Dermatologic signs are corkscrew hairs, ecchymoses, gingival hemorrhage, perifollicular hemorrhagy, follicular hyperkeratotic papules, poor wound healing and gingivitis. Fatigue, hemarthrosis, and ophthalmic manifestations are common.

Preventation and treatment of systemic diseases It has a potential role in the treatment of malignant melanoma. Atopic dermatitis, porphyria cutanea tarda, herpes zoster/postherpetic neuralgia are other skin disease in which oral vitamin C was used as an adjuvant.

Vitamin D

Function It regulates skin proliferation and differation, besides antiinflammatory, immunmodulatory and antioxidant effects

Source It can be acquired through exposure to UV-B light, diet, or supplementation. Vitamin D2 (ergocalciferol) comes primarily from plants, whereas vitamin D3 (cholecalciferol) is acquired from both sunlight and animal sources, especially fish.

Deficiency Risk factors for vitamin D deficiency genetic tendency, include pregnancy, darker skin types, obesity, vegetarian/ vegan diets, obesity, excessive alcohol intake, gastric bypass surgery, indoor occupations, extensive use of sunscreens, comprehensive coverage with sun-protective clothing and several medicine. The low vitamin D levels were found to be related in various skin diseases such as psoriasis, atopic dermatitis, acne, vitiligo, hidradenitis suppurativa, lupus erythematosus, fibrosing skin disorders, ichthyosis, polymorphic light eruption, melanoma and nonmelanoma skin cancers.

Preventation and treatment of systemic diseases Data is insufficient to recommend vitamin D for preventing and treating diseases above.

Vitamin E (α- tocoferol, predominant form in the skin)

Function It has antioxidant, antiinflammatory, photoprotective, antiaggregant, humectant and immunregulatory roles. It also accelerates wound healing, promotes tumor cell apoptosis and supresses sebum production.

Source The main natural sources of vitamin E are fresh vegetables, vegetable oils, cereals, and nuts.

Deficiency occur due to insufficient intake, malabsorbative conditions, liver and pancretatic diseases, abetalipoproteinemia, and a recessive genetic disorder. Muscle weakness, ataxia, dementia, cardiac arrhythmia, visual problems are oberved as well as alopecia, eczematous eroption and prolonged wound healing in the skin.

Preventation and treatment of systemic diseases It is mainly used topically in combination with vitamin A and vitamin C in cosmetic industry. Oral forms had been used for atopic dermatitis, psoriasis, yellow nail syndrome, epidermolysis bullosa and acrodermatitis chronika atroficans. Effects on cancer avoidance, collagen synthesis and wound healing are protective objectives. Oral vitamin E should be questioned before skin surgery.

USE OF TOPICAL VITAMINS IN SKIN DISEASES

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Vitamins are required constituents of the human diet because they are essential for the development and maintenance of body functions. Vitamins are categorized as either fat-soluble (A, D, E, K) or water-soluble (all others) (1). Vitamins are used topically in prevention and treatment of numerous dermatological diseases including skin cancers, atopic dermatitis, psoriasis, alopecia, vitiligo, acne and photoaging. Biotin, nicotinamide, folic acid, vitamin A, C, D and E are used in dermatology practice (2-5).

Retinoids are compounds derived from vitamin A or having structural and/or functional similarities with vitamin A. They are classified into three generations based on their molecular structures. After binding of receptors, retinoids play role in regulating cell growth, differentiation and apoptosis. Topical retinoids can be used in the treatment of acne vulgaris, rosacea, psoriasis, pityriasis rubra pilaris, lichen planus, ichthyosis, Darier's disease, aging/photoaging, actinic keratosis and non-melanoma skin cancers (6).

Vitamin D is a pro-hormone that plays a central role in skeletal and many other systems. Growing evidence suggests that it is also implicated in cutaneous diseases. It can be topically used in psoriasis, vitiligo, polymorphic drug eruption and alopecia areata (7).

Vitamin C is a potent antioxidant and it can be used topically to treat and prevent several dermatological diseases. It is unstable and difficult to deliver into the dermis in the optimum dosage, but it has an excellent safety profile. It finds increasing use in hyperpigmentation, photoageing, tissue inflammation and promotion of tissue healing (8).

Topical usage of vitamins may also have some risks such as teratogenicity, allergic reactions, and others. Physicians should warn patients about these risks (9). Despite the development of many new formulations for the use of vitamins in topical agents, there is a lack of controlled clinical trials. Large-scale controlled studies are warranted on topical usage of vitamins (10).

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EVOLUTION OF THE USE OF ANTIOXIDANTS IN ANTIAGING COSMETICS

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One of the major matters nowadays is the battle against the aging of the body, especially that of the skin, which is the visible feature of the aging process itself.

For optimal defence, a balance must be maintained between free radical formation in the oxidative stress process and antioxidants production.

The effectiveness of endogenous antioxidant system is diminished during aging; therefore, the exogenous supplementation of antioxidants is a protective approach against age-associated skin oxidative damage.

Enrichment of the endogenous cutaneous protection system after topical administration of antioxidants is proved and well documented. Among the different cosmetic actives, many different antioxidants are incorporated in anti-ageing products due to their beneficial effects on the skin aging, but still there have been relatively little scientific data to support these claims and studies proving their efficacy are limited. However, the combination of antioxidants is more relevant for use especially for the specific agents' families. There is still need for innovative antioxidants considered in the light of recent advances in skin oxidative stress and insight on the stability and in vivo efficacy.

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DIETARY SUPPLEMENTS IN DERMATOLOGY BEYOND HAIR AND NAIL DISEASES

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Dietary supplements including minerals, vitamins, prebiotics, amino acids in concentrated forms can be consumed throughout the day. Also supplements are used in many diseases such as neurological, cardiovascular, pulmonary, musculoskeletal, autoimmune (diabetes, Hashimoto's disease), psychiatric and dermatological diseases. Dietary supplements commonly used in dermatology include biotin, zinc, vitamin D, omega 3 and selenium. Also nicotinamide, polypodium, turmeric, melatonin and horse chestnut are used rarely.

These dietary supplements, especially used in hair and nail diseases, have also been used in many different disease groups such as inflammatory diseases, precancerous lesions, acne and hidradenitis suppurativa (HS).

In the literature, zinc is used in alopecia areata, acne, HS, wound healing, while vitamin D is used in atopic dermatitis, psoriasis, nonmelanoma skin cancer. While nicotinamide was used for photoprotective purposes, to prevent actinic keratosis, nonmelanoma skin cancer, polypodium (heliocare) was used for photoprotection, melasma, actinic keratosis, vitiligo. Turmeric, or curcumin, is derivated from Curcuma longa plants and is used in psoriasis. Selenium and omega 3 have been used for treatment in psoriasis. Again, horse chestnut has been used in chronic venous insufficiency with its anti-inflammatory activity and anti-edema effect. Melatonin is a hormone that regulates the circadian rhythm and can be used in psoriasis, melasma, and atopic dermatitis.

It is important to conduct more scientific studies with larger series on dietary supplements, to share experiences and to enrich the literature. When these products are necessary for treatment, comorbidities should be considered and drug interactions should be considered meticulously.

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MERCURY/LEAD/ARSENIC/GOLD/SILVER AND OTHER HEAVY METAL TOXICITIES IN DERMATOLOGY

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While some metal ions are essential nutrients, others can be toxic at low concentrations. The term "heavy metal" refers to metals with high densities (>5 g/cm^3) with bioaccumulative potential along the food chain and high toxicity to living organisms [1]. Various heavy metals are toxic to human body and their dermatologic manifestations exhibit a vide variety including skin color changes [2], contact dermatitis [3], even skin cancer [4]. This is a review about the dermatological manifestations on heavy metal intoxications.

Mercury intoxication: Mercury is a highly toxic metal that is found in three forms: elemental, organic and inorganic. Toxicity varies depending on the form of mercury, dose, and rate of exposure. Intoxication mainly occurs through inhalation of vapor and fumes at homes or workplaces. It causes a wide array of manifestations affecting the central nervous system, gastrointestinal tract, kidneys, skin and mucosae, mimicking autoimmune or systemic inflammatory diseases. Cutaneous findings of mercury intoxication include allergic contact dermatitis (most common), acrodynia (pink disease), popular/papulovesicular eruption, baboon syndrome and acute generalized exanthematous pustulosis [5-7]. Rarely, granulomas may occur through direct inoculation or injection of elemental mercury [8]. Diagnosis of mercury poisoning can be made by assessing blood, urine, hair, or nail concentrations. However, as mercury deposits in multiple organs, individual concentrations do not correlate with total-body mercury levels [7].

Lead intoxication: Lead is a widely used industrial metal. Historically, lead based paint and gasoline were the main sources of lead intoxication [9]. Due to its accumulative nature, it can contaminate food, water, soil and some traditional and Ayurvedic medicines. Occupational exposure and exposure through cosmetic products is also possible. Although lead is no longer a main component of cosmetics for white color, it has not been completely eliminated from cosmetics, and it can be found in trace amounts especially in eye products, henna and lipsticks. Lead intoxication may affect multiple organ systems. Among its skin findings, "lead line" which is a narrow grey-blue line at the edge of the gingiva is characteristic. It may also lead to hair loss, generalized skin pigmentation and nail changes. Blue-grey macules on the buccal mucosa, oral pigmentation, ulcerative stomatitis and gingivitis are other mucosal findings of lead intoxication. Chronic lead toxicity may also lead to dry skin and decreased skin elasticity [10]. Lead may be involved in the etiology of recurrent aphtous stomatitis together with mercury, cadmium and copper [11].

Arsenic intoxication: Arsenic is a known carcinogen. Its carcinogenic effects may lead to skin cancer as well as lung, bladder, liver and prostate cancer and leukemia. The types of skin cancer that increase with chronic arsenic exposure are mainly basal cell and squamous cell carcinoma. Arsenic induced keratoses are specific keratinized papules and plaques that are skin cancer precursors. Apart from carcinogenesis, arsenic also has non-carcinogenic effects on different organ systems as well as the skin, including melanosis [12].

Gold toxicity: Gold preparations were historically used in the treatment of diseases such as rheumatoid arthritis, pemphigus and psoriatic arthritis for approximately 70 years. An emerging material, gold nanoparticles are promising agents for use in biomedicine and a few are being tested in clinical trials [13]. The main factor that limits the use of gold ions or gold nanoparticles in biomedicine is their potential for toxicity. Gold therapy can trigger a variety of adverse reactions on numerous organs. Mucocutaneous side effects are the most common group of adverse reactions. The adverse effects of gold are divided into irreversible and reversible reactions. Irreversible adverse reactions are benign and associated with cumulative doses higher than 1.5 g. Chrysiasis, which is a bluish-grey discoloration of the sun exposed skin is a cutaneous irreversible adverse reaction of gold therapy. Apart from chrysiasis, skin rashes and mouth ulcers are common reversible adverse reactions. Skin manifestations can range from isolated pruritus to transient nonspecific dermatitis, to exfoliative dermatitis or toxic epidermal necrolysis [14]. Macular, popular, urticarial eruptions, lichen-planus like lesions and erythema nodosum can also be seen in gold toxicity. Among mucosal side effects are loss of taste, metallic taste, stomatitis, gingivitis, glossitis and oral ulcers [14].

Silver intoxication: This is a usually benign condition called argyria, that may occasionally lead to systemic symptoms. Argyria is caused by chronic exposure to silver containing products such as colloidal silver, acupuncture needles and

silver sulfadiazine [2]. It is more common in men with a mean age of 58 years [15]. The main finding is an irreversible blue discoloration of the sun exposed areas such as the face, neck, arms, hands and nails. Blue discoloration of the lunulae is specifically called "azure lunulae" [16]. Systemic findings include agranulocytosis, seizures and pleural edema, and may occur upon higher levels of silver toxicity [15]. Skin biopsy is helpful for the diagnosis and is characterized by silver compounds deposited along the basement membraned of sweat glands, elastic fibers and fibrous sheaths of pilosebaceous units. Treatment options are limited, and Q-switched 1064 nm Nd:YAG laser has shown some effectiveness for treating the discoloration. Sun protection is essential [2].

Other heavy metals in dermatology: Thallium is one of the most toxic heavy metals and its toxicity may lead to digestive issues, polyneuropathy and diffuse alopecia [17]. Among heavy metals, cobalt, chromium, nickel and palladium are important skin sensitizers which are commonly used in the manufacturing of dental and orthopedic metal alloys. Previous sensitization to these metals may lead to systemic allergic dermatitis upon placement of such alloys [18, 19]. Palladium dental alloys are also associated with gingivitis in the absence of a positive patch test [20].

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ACUPUNCTURE AND FUNCTIONAL MEDICINE FOR SKIN DISEASE: IS THERE AN EVIDENCE?

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Functional medicine (FM), the main approach of Traditional Chinese Medicine (TCM), has been used to treat a wide range of ailments in the Far East for centuries. According to TCM philosophy, any disease results from disruptions in the body's qi that flow through channels or meridians that form a network all along the body. The Chinese word "qi" pronounced as "Chi" means the life energy or force in the human body. Qi is an energy pathway that can heal a body both physically and mentally to reach a person's exact potential.

FM includes various methods such as acupuncture, naturopathy, massage, chiropractic medicine, osteopathic medicine, body movement therapies, tai chi, and yoga. Until recently, in the general population, acupuncture and other functional medicine modalities have already had a meaningful place for the management of various incurable diseases and particularly, chronic conditions. However, in the last years, FM has begun to be attractive also among health professionals working in the field of modern medicine globally besides The Far East. At the present time, certain modalities have been practiced by complementary and alternative medicine professionals in outpatient clinics of numerous official or private health institutions.

Acupuncture, which has a long medical history in China, Taiwan, Japan, and Korea, uses fine needles which stimulate specific points in the body to restore the balance of "qi". Variations using heat or moxibustion, cupping, suction, or pressure are also practiced. Traditionally, acupuncture is often used together with other modalities in TCM.

Nowadays, it is claimed that these modalities have become a complementary part of western medicine as a result of the need to meet deficiencies in conventional procedures of modern medicine. Furthermore, these modalities are put forward that they have a science-based approach to identifying and resolving the root causes of chronic medical conditions. For this reason and because of becoming widespread of acupuncture and other FM procedures in the community it is required not only a better understanding of their use in dermatology but also scientific evidence describing its effect. Is this approaches really based on science and evidence?

In fact, there is no absolute scientific proof if acupuncture points stated as the meridians exist. It seems to be hard to prove scientifically as well and remains unclear they work or do not. It is claimed that these methods in TCM try to balance vital energy, while some believe they run by a neurological effect. In numerous studies conducted previously was suggested that acupuncture has made an improvement in a variety of dermatologic conditions such as Herpes zoster and postherpetic neuralgia, acne, atopic eczema, localized scleroderma, facial or neck wrinkles, chloasma, prurigo, warts, urticaria, psoriasis, hyperhidrosis, tinea pedis, uremic pruritus, and itch. On the other hand, in the therapy of acupuncture, some side effects including vasovagal events, local infections, internal organ damage, pneumothorax, spinal cord injury, hepatitis B infection may occur, and also during moxibustion, it can be experienced serious thermal scarring burns on the skin.

Until the past decade, as the results on their effectiveness have been reported mostly with retrospective case series and case reports, there has still been a lack of good quality and satisfactory clinical trials evaluating the efficacy of FM and Acupuncture in dermatology. However, numbers of randomized controlling trials (RCTs), systematic reviews, and meta-analyses have recently begun to increase. Different study designs, difficulty in the use of controls such as placebo and sham acupuncture, sample sizes, outcome measures, and treatment durations are limiting factors relating to the generalizability of data obtained from RCTs. It is proposed that future studies be performed with standardized placebo-controlled, double-blind and large-scale RCTs which eliminate any bias. In these circumstances, they can facilitate opportunities for meta-analysis. Additionally, All these are important and needed for the evaluation of the efficacy of acupuncture as a treatment modality in dermatology.

In conclusion, although some promising results are reported, high-level scientific evidence is needed for use in certain dermatologic diseases. Obtaining the scientific-based evidence for acupuncture in dermatology has been limited probably due to mainly its natüre, as well. Thereby, acupuncture or other FM modalities are still controversial among Western medical practitioners and scientists.

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TIPS IN NAIL SURGERY

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Nail surgery is often said to be challenging and both physicians as well as patients are afraid of it. Admittedly, nail surgery may be delicate but it is not more difficult than other types of dermatologic surgery provided one knows what and how to do: the diagnosis be clear, the surgeon must know the anatomy, biology and basics of nail pathology and how nail changes develop and manifest.

Foremost, patients are afraid of pain and doctors do not want to hurt their patients: Preoperative pain management with analgesics and non-steroidal anti-inflammatory drugs, if needed a mild tranquilizer is recommended. The injection pain is reduced by using a #30 gauge needle, very slow injection, neutralization and prewarming of the anesthetic solution. A vibration device and talking to the patient – so-called vocal anesthesia or "talkesthesia" – are helpful to distract the patient. For the fingers 2-4 the transthecal anesthesia is ideal as it avoids damaging the neurovascular bundle of the proper digital arteries and nerves.

It is imperative to start surgery only after the anesthesia is in full effect. Higher percentage local anesthetics work faster and longer, and a large volume lasts longer. Ropivacaine is a new anesthetic working as fast as lidocaine and as long as bupivacaine; we prefer 0.5 – 1% as one can start with the surgery right away. Its action lasts more than 12 hours, in children often even longer.

Postoperative pain prevention is achieved by elevating the operated extremity for 24 – 48 hours. Sufficiently strong and high-dosed pain killers are a given according to the procedure performed.

Many patients are also afraid of the dressing change because they had experienced them as painful before. All dressings after nail surgery are blood-stained. The blood is getting progressively harder with time, but the clotted blood is still relatively soft after 24 hours. My patients are asked to come for the first dressing change after 24 h, the operated digit is put into a warm bath and the gauze dressing gently dissolved until it floats off virtually on its own.

Bleeding during surgery takes the sight of the surgical field. A tourniquet should therefore be used. For fingers, a sterile glove is donned on the prepped hand and a tiny hole is cut at the tip of the glove finger, which is then pulled over the fingertip and rolled down to the base. This gives both complete anemia and prevents bleeding obscuring the pathology.

If a tourniquet is contraindicated in patients with severe circulatory impairment, there is a point for manual compression of the proper digital arteries for the assistant right proximal to the distal interphalangeal joint.

Unfortunately, nail avulsion is still the most frequently performed nail intervention. It is almost never indicated – except for retronychia – and often does a lot of harm. Fingernails take 6 months to regrow, the big toenail 18 months. Lack of the nail means absence of counterpressure of the nail for the toe tip during gait, and the result is often a distal bulge impeding the uncomplicated regrowth.

If a nail has to be avulsed the least traumatizing method must be used: either the distal or proximal approach using a nail elevator, never using a sturdy hemostat clamp.

Histopathology is the gold standard for the diagnosis of nail pathologies. The lateral longitudinal nail biopsy ideal for all purposes but risks the loss of the lateral nail fold. A back stitch suture can avoid this. Median nail bed (and matrix) biopsies require meticulous suture to avoid a split nail. Sharp undermining allows to bring the wound edges together.

For the diagnosis of longitudinal melanonychia, we have developed a tangential matrix biopsy – shave biopsy – allowing to rule out subungual melanoma without the risk of post-biopsy nail dystrophy.

A subungual exostosis may be shelled out by sectioning around it from the pulp, dissecting it, clipping it off the terminal phalanx bone and then peeling it off the overlying nail bed.

Finally, the defect after excision of tumors of the free margin of the proximal nail fold in median position may be repaired by raising two flaps from both sides and suturing them together; for medium-sized defects narrow flaps are designed, for larger defects two small rotation flaps with a broad base.

There are many more tips to make nail surgery easier, safer and improve the outcome.

TIPS FOR MOHS MICROGRAPHIC SURGERY

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Mohs Micrographic Surgery has an ambivalent situation in Dermatology. This ambivalence depends largely on the geographic location, not the technique itself. In some geographic locations like North America, it's a part of daily dermatologic practice, in other words a dermatologic routine for non-melanoma skin cancer treatment since the mid 20th century[1]. Whereas it is newly built in Europe. And we may say it is under construction in Turkey. We have 2 medical centers in Turkey, Hacettepe University and Ege University where microscope controlled dermatologic surgery is preferred to standard surgery for skin cancer. In Ege University they use the "Tubingen Torte method" which is also named the "3D-histology", for 100% control of the histopathologic examination of the surgical margins. 3D-histology uses paraffin blocks thus at least 24 hours is necessary to prepare the histologic slides for microscopic control. This is a reason why the method is also named as slow-Mohs.

I personally have experience with the Tubingen Torte, the Munich method and Mohs micrographic surgery, namely all the 3 microscope-controlled surgical techniques, and I prefer Mohs micrographic surgery. And in this lecture, I am going to tell you the reasons that make Mohs surgery a superior option among other microscope-controlled surgeries. Nevertheless, I would not like to be misunderstood, I want to express myself in the right way. Any of these microscope-controlled surgeries; either in the form of 3D-histology, Münich method, or Mohs surgery; is far too superior to the standard surgery in terms of surgical margin control.

By the way, Mohs surgery by definition gives a mistaken idea that it is the surgical technique which makes the difference. Unfortunately, this is not right. There is very little difference in the surgical technique between Mohs surgery, 3-D histology, Münich method and/or standard surgery. The main difference that lies beneath these techniques is the way they handle the tissue before histopathologic examination. A clearer explanation is that it is the pathology that makes the difference in the technique which results in the lowest recurrence rate for primary and recurrent high risk non melanoma skin cancer treatment.

So, the question should be what is the difference in the pathology? How do we handle an excised tumor, to make it named as Mohs surgery? And how do we handle an excised tumor, to make it named as standard surgery?

In Mohs surgery, before freezing the excised tissue to be cut in the cryostat the tissue has to be flattened. To lay the tissue flat superficial beveled relaxing incisions parallel to the edge of the excised tissue passing through epidermis and a portion of dermis are made. The tissue is prepared in a manner that allow the full epidermis, dermis and subcutaneous tissue to be observed in a single *en face* section. Tissue is divided into pieces if it is larger than the width of a microscope slide. For divided tissues the subdivided edges that lack epidermis are color coded by inks to ensure that the surgical margins are completely included on the slide.

Temperature of the cryostat is set to -20^{0}C to -30^{0}C. To facilitate embedding special devices can be used. Particular attention must be paid not to do unnecessary trimming in order to avoid false positives[2]. For proper *en face* adjustment of the tissue, trimming with 2 **µm**, not more than 3 cuts should be used. Horizontal frozen sections are cut between 3-5 **µm**. Thicker sections are necessary for fatty tissues. Sections that come off the knife are grasped with a soft brush to prevent folds and are placed in a defined order on the slides. Three to 6 sections are cut from each tissue block. Sections are hand-stained with hematoxylin and eosin. Clearing is made by xylene. It is essential to ensure high quality slides, accurate mapping and most importantly correct interpretation of histopathological slides to achieve 100% surgical margin control.

Kaynaklar

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TIPS FOR SCAR PREVENTION AND REVISION

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Meticulous planning and technique will often lead to superior scars. Setting reasonable expectations of aesthetic outcomes for patient before surgery and/or scar revision is important. Even the best dermatologic surgeons must confront scars that are aesthetically unacceptable. Often, just waiting may be the best approach, as wound healing is a dynamic process. Sometimes surgical intervention is needed to optimize the appearance of scars. With careful assessment of the scar, various scar revision techniques can be applied to create an aesthetically pleasing scar. In this presentation I will discuss tips to prevent unsightly scars and review select methods of scar revision such as intralesional steroids, laser surgery, dermabrasion, simple fusiform or elliptical excisions as well as other surgical excisional techniques like W-plasty, geometric broken-line closure, Z-plasty, V–Y repair.

WHAT IS NEW? DIAGNOSTIC TECHNIQUES

Dr. Sezgi SARIKAYA SOLAK

Dermatologists diagnose skin diseases mainly based on clinical examination in combination with histopathological examination. However, clinical examination alone may not be sufficient to make a definite diagnosis and skin biopsy is an invasive technique that may cause stress or morbidity in patients. With the significant advancement of technology, there are emerging new diagnostic techniques that help dermatologists in diagnosis and management of the skin diseases. These new emerging technologies include confocal microscopy, optical coherence tomography (OCT), high frequency ultrasonography (HFUS), fluorescent imaging and spectroscopy.

Confocal microscopy provides images by using differences between refractive indexes of cellular structures. Melanin, keratin, collagen and inflammatory cells are the highly refractile structures and are seen as bright white whereas non-reflective structures appear dark. With this mechanism, black and white images that are horizontal and parallel to the skin surface are obtained. Confocal microscopy provides the highest resolution of current imaging modalities. It is mainly used to identify melanoma and non-melanoma skin cancers.

Optical coherence tomography (OCT) utilizes back-scattered light to provide images. Variations in the refractive indexes of skin structures creates contrast. OCT is performed in real-time with rapid image acquisition (less than one minute). The incident beam and back-scattering light compose a grey-scale image. Wavelength of the incident beam determine the depth of visualization. Longer wavelengths provide visualization of deeper structures whereas shorter wavelengths enable better resolution. OCT can generate images skin with a maximum depth of 2 mm. It has been most extensively used in the diagnosis of non-melanoma skin cancers.

High frequency ultrasonography (HFUS), creates images of the skin using reflection of ultrasound waves. Differences of impedance at the skin interface create different reflections and provide a grey-scale image. In epidermis keratin and in dermis collagen provides hyperechoic (white) appearance. In the subcutis fascia and connective tissue are hyperechoic (white) whereas fat globules are hypoechoic (grey). Anechoic areas are seen in black. HFUS has a lower resolution than OCT but higher scan depth. It is most commonly studied in determination margins of skin tumours and satellite, in-transit or nodal metastases.

With the significant improvement of imaging technologies in dermatology, new devices and techniques will be more readily available. Consequently, it seems that in the near future dermatologists may be able to use these new techniques and diagnose skin diseases non-invasively in routine clinical practice.

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AUTOANTIBODIES IN SKIN DISEASE

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Autoimmunity is an immune response commonly involving T and B lymphocytes against the self. Particular protein or structure targeted by these T and B lymphocytes is called the self-antigen and antibodies reacting against these self-antigens are called autoantibodies.[1,2]

Autoimmunity often results in autoimmune diseases. These disorders might be generalized, such as systemic lupus erythematosus, or tissue- or organ-specific, such as pemphigus. They can be acute or chronic affecting 5% of the general population. Most autoimmune diseases are more common in women and people with a family history of autoimmune diseases.

The exact cause of a particular autoimmune disease is often not fully understood. Many risk factors were suggested in their pathogenesis including genetic factors, infections, hormones, and drugs.[1,2]

- Genetic factors are most commonly polygenic
- Infections may trigger an autoimmune process by mimicking a self-antigen or by increasing co-stimulatory molecules
- Genes on the Y chromosome may protect men
- Estrogen may play a role in the increased susceptibility of women
- Certain drugs (eg, penicillamine, captopril, and vancomycin) can precipitate autoimmune diseases (pemphigus vulgaris and pemphigus foliaceus).
- There is no evidence for vaccines concluding that they cause autoimmune disease in well-designed trials

Unraveling the precise mechanisms of autoantibody-induced pathology has been the focus of much research in recent years. It is important to know these autoantibodies as they are the cause of different clinical presentations and most possibly some of them will be the target for future treatments.

This talk will include the main autoimmune skin diseases and novel findings for these diseases, please see Table 1.

TABLE 1. Autoimmune skin diseases and pathogenic autoantibodies

Autoimmune blistering diseases [3-9]
Systemic lupus erythematosus [10]
Systemic sclerosis [11]
Sjögren's syndrome [1,2]
Morphea [12]
Lichen sclerosus [1,2]
Dermatomyositis [13]
Alopecia areata [14]
Vitiligo [15]
Psoriasis [15]

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NEW USES OF OLD DRUGS IN SKIN DISEASES

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It is not an uncommon practice for dermatologists to treat cutaneous conditions with medications that are not indicated for the specific condition being treated because of the diverse spectrum of the pathophysiologic processes affecting the skin and the resistance of some skin diseases to conventional therapies.

Metformin is one of the old drugs that has increasingly being used to treat some dermatological conditions primarily or as an adjunct therapy nowadays. Metformin is an oral anti-hyperglycemic drug that acts as an insulin sensitizer by reducing liver glucose production and increasing glucose utilization by muscle and fat cells. The good results obtained with metformin as the first-line treatment of type 2 diabetes have led to its successful use in many other conditions, such as cancer, nonalcoholic fatty liver disease, chronic kidney disease, metabolic syndrome, obesity, coronary artery disease and polycystic ovary syndrome. It has also been used successfully in some dermatological diseases recently including psoriasis, hidradenitis suppurativa and acne. Reduction in hyperglycemia, hyperandrogenism, inflammatory cytokines, NLRP3 inflasomme are some of the the potential mechanisms of action of metformin in inflammatory skin disorders (1).

Generalized vitiligo has an unpredictable course and may a huge impact on the quality of life and till date no treatment has been universally effective. Corticosteroids are often used as a disease stabilizing agents in active disease and the alternative options in cases where corticosteroids are ineffective, contraindicated or not tolerated are limited. Cyclosporine is a valuable therapeutic agent in several dermatological disorders but evidence of its efficacy in vitiligo has been lacking until recently. In 2019 and 2021 two studied reported similar effectiveness of cyclosporine to pulse corticosteroids and another study suggested that through screening and molecular docking, PRKDC, CUL7, CUL1, HSPA8, HSPA4, and SIRT7 were the most likely multi-target mechanism of cyclosporin A in the treatment of vitiligo (2-4).

Another old drug used in new dermatological indications is pentoxifylline. It is a phosphodiesterase inhibitor which is commonly used in intermittent claudication from peripheral artery disease by reducing inflammation and increasing blood flow. Pentoxifylline is effective for many dermatological conditions both as a primary drug as well as an adjuvant. The cellular and molecular actions of pentoxifylline is exerted through:immune modulation, antitumor necrosis factor-α effects, antifibrinolytic effects, effects on endothelial cells and adhesion molecules. It has been used in papular pruritic eruption of HIV, leishmaniasis, graft-versus-host disease, sarcoidosis, fibrosing diseases and recurrent aphthous stomatitis. Recently there have been reports and studies of successful use of pentoxifylline in generalized granuloma annulare, necrobiosis lipoidica, subcorneal pustular dermatosis and prevention of keloids. It can also be used intralesionally in the treatment of keloids, alopecia areata and topically in vitiligo (5).

Intralesional methotrexate is a cytotoxic chemotherapeutic agent, used in dermatology for many years. It can be used as monotherapy or as neoadjuvant treatment with acceptable cosmetic results and a low side-effect profile. Recently there is increasing literature about it's use in keratoacantomas and also a recent study revealed it's success in localized alopecia areata (6).

Rosacea is another dermatological disease that may be resistant to various therapies. Hidroxychloroquine which is an age-old immunomodulatory agent with a low side-effect profile has been used in rosacea patients recently. The efficacy of hydroxychloroquine 2x200 mg was found to be similar to doxycycline 1x100 mg in reducing erythema and papules of rosacea (7).

Other old drugs used in new indications are dapsone in hidradenitis suppurativa, losartan in dystrophic epidermolysis bullosa, itroconazole in infantil hemangioma, alitretinoin in refractory prurigo and prurigo nodularis and isotretinoin in refractory seborrheic dermatitis (8-10).

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AROMATHERAPY IN DERMATOLOGY

Emine Ünal

Aromatherapy refers to the therapeutic use of aromatic essential oils.Aromatheray act as; systemic effects as drug or enzyme or, placebo.International Union of Pure and Applied Chemistry (IUPAC) rules apply to naming aromatic compounds. Essential oils could be produced from any plant part: Leaves (eucalyptus and peppermint oil) , flowers (lavender and rose oils), woody parts (juniper and sandalwood), roots (vetivert and calamus) and sap (benzoin and frankincense) . They are obtained by boiling with water or by passing water vapor through the material by distillation, cold pressing (for citrus peel essences) and consuming (extraction) with organic solvents or liquefied gases. Single-compound botanicals are psoralens, capsaicin, podophyllin and, indigo. We know all this formulations and sometimes use in our dermatological practice. (1)

Essential oils and aromatherapy as alternative therapy in acne

-Tea tree oil (Terpinen-4 ol)

Tea tree oil (TTO) is considered an essential oil, obtained by steam distillation of the leaves and terminal branchlets of Melaleuca alternifolia. TTO is well tolerated rarely make pruritus, burning, and scaling. TTO reduce both inflammatory and non inflammatory lesions in acne (2,3).

-Lactobacillus-fermented Chamaecyparis obtusa leaf extract

Chamaecyparis obtusa (C.obtusa) is a species of cypress that grows in Asia and is widely used in cosmetic industry. Fermentation of C.obtusa by Lactobasillus fermentum (LFCO) yields an extract that has strong inhibitory effects on Propionibacterium acnes. LFCO is antiinflammatory and, sebosupressive and associated with a reduction in size of sebaceous glands. It is offered that LFCO is more effective than TTO in acne vulgaris (4).

-Copaiba (oleoresin) (Diterpene)

Copaifera ssp. produces an oil-resin that presents antiinflammatory, antitumor, antiseptic, germicidal, antifungal, and antibacterial activity. It has been used for centuries as a traditional medicine in Brazil and America , named as ‘’skin-healing agent ‘’ (5).

Sandalwood oil

Sandalwood oil is used as a therapeutic agent in many Asian countries to treat inflammatory and cutaneous eruptions. It has antibacterial actions against Staphylococcus aureus, Staphylococcus epidermidis, and P.acnes. Anti-inflammatory effects are thought to occur via inhibition of cyclooxygenase 1 and 2 and 12 - lipoxygenase pathway sandalwood oil 0.5% was formulated with salicylic acid and used in acne. It is suggested that it decrease both inflammatory and noninflammatory lesions (6,7).

Rosemary extract

Rosemary extract contains at least three bioactive compounds: rosmarinic acid, carnosol, and carnosic acid. In vivo mouse models have found inhibition of P.acnes-induced inflammation (7).

Jeju essential oil

Jeju oil is derived from Thymus plants. It may have antibacterial activities with effects against P acnes and, may be useful in acne (7).

Special part

Tea tree oil (TTO) is an essential oil, steam-distilled from the Australian native plant, Melaleuca alternifolia. Tea tree (Melaleuca alternifolia) oil contains primarily terpinen-4-ol, but more than 100 other constituents have been identified, including 1,8-cineole (eucalyptol). It has a minimum content of terpinen-4-ol and a maximum content of 1, 8-cineole. Terpinen-4-ol is a major TTO component which exhibits strong antimicrobial and anti-inflammatory properties. Tea tree oil exerts antioxidant activity and has been reported to have broad-spectrum antimicrobial activity against bacterial, viral, fungal, and protozoal infections affecting skin and mucosa.Several studies have suggested the uses of TTO for

the treatment of acne vulgaris, seborrheic dermatitis, demodicosis, rosacea and, chronic gingivitis. TTO also provides success in fungal skin and nail infections. Terpinen-4-ol has good antibiofilm activity (3,4).

Demodicosis

We know Demodex spp. are mites that cause severel dermatological conditions like rosacea, seborrheic dermatitis, blepharitis and, scalp foliculitis. Terpinen-4-ol can be used as acaricides to treat a number of ocular and cutaneous diseases caused by demodicosis (8). TTO also accelerates the wound healing process and exhibits anti-skin cancer activity. Tea tree oil has estrogenic and antiandrogenic activity, so topical application around the breast should be avoided.

Lavender oil

Lavender (Lavendula angustifolia) flowers, leaves and oil contain linaloyl acetate, linalool, perillyl alcohol, 1,8 cineole (eucalyptol), and at least 100 other known compounds. Lavender preparations have traditionally been used for anxiety and other neurologic conditions, infections, pain and a variety of other conditions, often as aromatherapy. Lavender oil is the best known anxiolytic aromatherapeutic oil. Lavender is "generally recognized as safe" (GRAS) as a food by the U.S. Food and Drug Administration (FDA). Lavender oil is one of the most valuable aromatherapy oils, its anti-bacterial and anti-fungal activities can be explained by main components such as linalool, linalyl acetate, lavandulol, geraniol, or eucalyptol. In general, lavender is well tolerated, but no data exist on the excretion of any components of lavender into breastmilk or on the safety and efficacy of lavender in nursing mothers or infants.Lavender has no specific lactation-related uses. Lavender oil has estrogenic and antiandrogenic activity, so topical application around the breast should be avoided. It also has antipsoriatic activity (9).

In a study on rabbits, lavender oil was shown to be good for aphthous ulcers.RAU patients treated with lavender oil showed a significant reduction in inflammation level, ulcer size, healing time, from 2-4 days [2 days (40%), 3 days (50%), 4 days (10%)], and pain relief mostly from the first dose, compared to baseline and placebo. No side effects were reported (10).

In psoriasis, aromatherapy may reduce dry and itching skin (Melissa officinalis), reduce stres (Chamaemalum nobile), promote healing (Bergamot- Citrus bergamia), induce relaxation and sleep, and enhance wellbeing (Lavandula angustifolia) (7).

RESULTS

There is as yet no proof of psychosocial outcome effectiveness, cost effectivenes, or any other economic advantages.

Aromatherapy is used worldwide, the number of randomized controllled studies in dermatological diseases is still low. Further clinical studies are needed.

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SKIN CARE PRODUCTS:

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Skin constitutes the largest living organ that protects the body from the external environment, helping to regulate temperature and fluid balance, keeping out harmful microbes and chemicals and providing some protection against sunlight.

The industry offers a wide range of skin care products to clean, soothe, restore, reinforce, protect and to treat our skin and hence to keep it in "good condition". The promotion of skin care products including their claims are often based on an effect (e.g., moisturizing, antioxidant), evoked by an active (e.g., urea, tocopherol) that is delivered through a vehicle (e.g., lotion) that relies on a specific technology (e.g., nanotechnology).

Based on a needs-assessment, skin care procedures are dedicated to : • Remove dirt, sebum, sweat, exfoliated corneocytes, exudates, and other non-wanted substances from the skin •Reduce/eliminate unpleasant skin symptoms • Restore damaged skin • Reinforce/fortify undamaged but vulnerable skin • Protect damaged, undamaged and vulnerable skin from various noxes • Provide a pleasant skin and body feel

The technology of skin care is broad and differs from many other cosmetic categories because of the functional nature of many of the products. Skin care products can theoretically be assigned to three different regulatory classes – medicinal products, medical device and cosmetics.

Product Functionality:

1. Cleansing Products: Skin cleansers constitute an important segment of the skin-care marke Skin cleansing includes washing, showering and bathing.
2. Soothing, Restoring, Reinforcing Products: Moisturizers, anti-aging products, Reinforcing products will create or support natural and healthy skin conditions.
3. Protecting Products: Sunscreens, barrier creams .

The three most common active agents in skin care products: petrolatum, dimethicone, and glycerin. These agents form the vehicle or delivery system for other active agents, such as sunscreen and botanicals.

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PARADOXICAL CUTANEOUS SIDE-EFFECTS OF BIOLOGICS

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Paradoxical reactions include a variety of inflammatory manifestations and conditions that can be both treated and triggered by the same cytokine-targeted biologic agent (1). The skin is one of the main organs affected by these reactions and presents a wide range of clinical and pathological aspects. Although paradoxical cutaneous reactions were initially described as a class effect of anti-tumor necrosis factors (TNFs), in the sequel, cutaneous reactions with other biological agents such as anti interleukins (IL) (anti-IL-6, -IL-17, -IL-12/23) and rituximab have also been reported. They can be induced de novo during treatment with the biologic in patients without a history of cutaneous inflammatory disease, or pre-existing as in paradoxical psoriasis. They can also occur as an exacerbation of a cutaneous inflammatory disease with or without a change in clinical morphology (2).

The exact etiopathogenesis of these reactions is not known yet. Genetic factors are thought to play an important role in their occurrence. The main mechanisms thought to play a role in the immunopathogenesis of cutaneous paradoxical reactions are; a) TNF-α / type-1 interferon (IFN) cytokine imbalance, b) a change in the cutaneous immune response pattern, c) shift of activated innate or adaptive immune system cells to the skin, d) imbalance or dysfunction of regulatory T cells. Different clinical types of cutaneous paradoxical inflammation are thought to be caused by different immunopathogenic mechanisms (1,3,4).

Paradoxical psoriasis and its clinical variants (plaque, guttate, pustular, scalp, inverse, and palmoplantar) are accepted as prototypes of paradoxical cutaneous reactions (3). This adverse event has been observed in 2-5% of patients treated with TNF-α inhibitors (5,6). Although most of the reported paradoxical psoriasis reactions are associated with the use of TNF inhibitors, the number of cases associated with interleukin inhibitors such as ustekinumab, secukinumab, and ixekizumab is increasing (3,7). It can occur in a wide clinical spectrum, ranging from typical erythematosquamous or pustular lesions clinically indistinguishable from a traditional plaque or pustular psoriasis to atypical papulosquamous eruptions with “psoriasiform”, “eczematous” or “lichenoid” lesion morphology (8).

Apart from paradoxical psoriasis, many different cutaneous paradoxical reactions such as hidradenitis suppurativa (HS), lichen planus like-lichenoid reactions, granulomatous reactions,

and vasculitis have also been described (1,3). As the variety of biological agents used and disease indications increase, new cutaneous paradoxical reactions will continue to be identified. Recognition and treatment of these reactions are very important for increasing the drug survival of biological agents.

Since there are no generally accepted algorithms for the management and treatment of patients in cutaneous paradoxical reactions, treatment strategies such as dose reduction or discontinuation of the responsible biologic should be evaluated on a case-by-case basis with the primary treating physician. Management of these reactions consists of topical or systemic skin-directed therapies, depending on the severity and extension of the cutaneous lesions, and it is generally associated with switching over to other disease-modifying regimens for treating the underlying condition (1).

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EFFICACY OF BIOLOGIC AGENTS ACCORDING TO HLA TYPE

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Biologics are protein molecules produced by recombinant DNA technology and they target the specific sites in the immune-pathogenesis pathway of the diseases. Because of the specific action on immune system, they are presumed to have lesser side effects compared to the traditional immune-suppressants. However, they still have limited use because of unknown long-term safety profile. Biologic are classified as; 1) Monoclonal antibodies, 2)Fusion antibody proteins, and 3) Recombinant human cytokines and growth factors. It is unclear why some medications differently act on different patiens? Genetics and other factors are accused for this concern. Causes of antidrug antibody (ADA) formation include; Patient-related factors and drug-related factors. Patient-related factors are; 1) Genetic background, 2) Concomitant medications used (immune-suppressants, in particular) and 3) Disease activity. Drug-related factors are; dose, frequency, route of administration, formulation, impurity and post-translational modifications of the drug, origin and target of the monoclonal antibody. In some cases, the drugs lead to production of ADAs. Thus, immunogenicity of biomolecules may limit biological therapeutic drug development. Adverse immune responses to biotherapeutics may change from mild hypersensitivity reactions to potentially life-threatening anaphylactic reactions. They can have negative impacts human health and drug efficacy.

There are some investigations on how the genetics (Human leucocyte antigen-HLA types) affect disease process and the response to treatment. Some studies showed that HLA-Cw*06 positivity is higher in patients with PsA (1). However, HLA-Cw*06 together with HLA-DRB1*07 positivity was demonstrated to be a negative predictor for PsA severity in Western countries (2). HLA genes predict disease severity in psoriasis (especially, HLA-Cw6) and rheumatoid arthritis, but the situation is unclear for psoriatic arthritis (PsA). Patients with PsA carrying both HLA-Cw6 and HLA-DRB1*07 alleles have a less severe course of arthritis. This suggests a probable protective effect. No association was detected with disease severity and SE status (2).

Dand et al. investigated individual differences in response to biologic therapies. They questioned whether HLA-C*06:02 (the primary genetic susceptibility allele for psoriasis) predisposes patients to respond differently to: adalimumab (anti-TNF-α) and ustekinumab (anti-IL-12/23). According to their results: HLA-C*06:02 (-) patients were significantly more likely to respond to adalimumab than ustekinumab (approx. 3 times), and the difference was greater in HLA-C*06:02 (-) patients with psoriatic for severe psoriasis. arthritis (approx. 6 times). Biologic-naive patients who were HLA-C*06:02(+) and psoriatic arthritis negative demonstrated significantly poorer response to adalimumab at 12 months. They concuded that HLA-C*06:02 status can offer substantial clinical benefit when selecting treatments (3).

The meta-analysis by van Vugt et al. showed a differential response to ustekinumab therapy based on HLA-C*06:02 status in patients with psoriasis. Although HLA-C*06:02 (+) patients had high PASI75 (75% improvement in Psoriasis Area and Severity Index) response rates after 6 months, the PASI75 response rate was also high in the HLA-C*06:02 (-) group. They concluded that there were no rationale for excluding patients from ustekinumab treatment based on a negative HLA-C*06:02 status (4).

Burlando et al. investigated whether HLA-Cw6 (one of the most strongly associated psoriasis susceptibility alleles) status influences the response rate to biologic therapies at 16 and 48 weeks. In that study, HLA-Cw6 status did not affect baseline characteristics, or treatment response at week 16; however, at week 48, IL-12/23 and IL-17 targeting drugs were more effective on Cw6- (+) patients than on Cw6-(-) patients. They concluded that TNF-targeting drugs seemed to be more effective on Cw6- (-) patients than on Cw6- (+) patients and the HLA-Cw6 test could be used to support the choice of the correct biologic (5).

Sin CZ et al. aimed to describe the severity of psoriasis, demographic features and HLA polymorphism among Chinese patients with active peripheral type PsA. They found that compared with Western population, Chinese patients had less psoriasis and PsA burden. The frequencies of HLA-Cw*06, HLA-Cw*12, and HLA-DRB1*07 were not increased. In contrast, HLA-Cw*0702 and HLA-DRB1*08 allele frequencies were increased compared with psoriasis patients and normal population in Taiwan (6).

Benucci et al. investigated the correlation between HLA haplotypes and the development of ADAs in patients with rheumatic diseases. They investigated 248 patients with inflammatory rheumatic diseases (RA,AS, PsA) after 6 months of treatment with anti-TNF drugs (infliximab, adalimumab, etanercept, certolizumab, golimumab). Serum drug and ADA levels were determined after 6 months.The ADA-positive samples underwent an inhibition test, and the true-positive samples underwent genetic HLA typing. The frequency of HLA alleles was HLA-DRβ-11 = 0.636, HLA-DQ-03 = 0.636, HLA-DQ-05 = 0.727. Thus, they concluded that patients with the HLA-DRβ-11, HLA-DQ-03, and HLA-DQ-05 alleles were at a higher risk to develop ADAs. They reported that there was an association between HLA and genetic factors associated with the occurrence of ADAs in patients with rheumatic diseases (7).

Gulliver et al. investigated the success or failure rates of the biologic treatments (etanercept, adalimumab, efalizumab, infliximab or ustekinumab) in HLA-Cw6(+) and HLA-Cw6(-)psoriasis patients. They reported that HLA-Cw6 presence was significantly associated to the treatment outcomes for biologics efalizumab, infliximab and ustekinumab; but not etanercept or adalimumab. They proposed to use HLA-Cw6 status as a biomarker for biologic treatment in moderate-to-severe psoriasis patients (8).

Stickler et al. reported that HLA-DRB1*07 allele and nG1m1 genotypes had synergistic effects. Thus, those patients might be more likely to develop immune responses to therapeutic antibodies and patients homozygous for nG1m1 might be at a greater risk for ADA generation (9). Moreover, Sazonovs et al. reported that here is a significant association between HLA-DQA1*05 and the development of antibodies against anti-TNF agents (10).

In conclusion, some genotypes are more prone to develop antibodies against biologics and investigation of the susceptible genotypes may be of importance for the success of treatment.

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MONITORIZATION OF BIOLOGICAL AGENTS

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Abstract

The most important things are selecting right patient, informing patient about potential advantages, risks and treatment scheme and taking patients approval when using biological agents. Information should be on patient's file for monitorization are medical history, physical examination, previous medications (with dose-duration-adverse reaction-efficacy-causes of quitting the treatment), type of psoriasis, disease duration, presence of psoriatic arthritis, comorbidities and other medication, effect of psoriasis on life quality, heigh-weight (BMI), acute-chronic infections, history of tuberculosis, demyelinating diseases (in patient or 1st degree relatives) and pregnancy situation (1,2).

Complete blood count, urinalysis, liver function tests, hepatitis serology, C-reactive protein, anti-HIV, beta-HCG, chest x-ray, IFN-gamma release assay (quantiferon) (if not available, PPD) are must-done investigatements before beginning treatment (1,3-5). Work-up could be extended according to clinic, risk factors or exposures. Physical examination is recommended monthly in first 3 months, and later every 3 months. Monitorization of biological agents with blood tests are summarized in Table 1.

Table 1: Monitorization of biological agents with blood tests.

	Beginning	3. month	6. month	9. month	12. Month / every year
CBC	x	X	X	X	x
Urinanalysis	x	X	X	X	x
Sedim, CRP	x	X	X	X	x
LFTs	x	X	X	X	x
Urea, Kre	x	X	X	X	x
Glucose	x	X	X	X	x
Beta HCG	x	Whenever required.			
Anti HIV	x				x
Hep B/C ser.	x				x

Work and follow-up for tuberculosis infection is important in biological agent therapy. PPD and quantiferon tests can be positive in both active-latent tuberculosis. False negative and false positive results are both possible. Quantiferon test should be prioritized in patients who are candidates for anti-TNF treatment (1-3). Consideration should be done with medical history, physical examination, chest x-ray, PPD/Quantiferon results. If INH prophylaxis is indicated, it should be given 300 mg/day for 9 months. Patients under anti-TNF treatment should be checked for TB every 6 months (1,2). Symptomatic patients should be considered for TB in any time. Patients without evidence of active or latent TB should be considered for latent TB every year. Patients under biological agent therapy should be checked for TB every 3 months. After quitting anti-TNF treatment, patients should be under follow-up for 6 months (3-5). Attention should be paid on extrapulmonary, atypical and disseminated TB forms as well. Biologial agent therapy could be started after 1 month of INH prophylaxis (4,5). Monitorization of tuberculosis under biological agent treatment is summarized in Table 2.

Table 2: Monitorization of tuberculosis under biological agent treatment

	Beginning	3. month	6. month	9. month	12. month/ every year
PPD	x				
Quantiferon	x				x
Chest x-ray	x				x

Malignancy should be check at the beginning of biological agent treatment and patients have to be under routine follow-up. 200 PUVA sessions, 350 UVB sessions, more than 2 years of cyclosporine treatment , history of malignancy in family indicates increased malignity risk (1-3). Biological agents can be used in patients with solid organ tumors (cured at least for 5 years) and non-melanoma skin cancers (1). Detection of malignity under biological agent treatment requires quitting biological agent treatment immediately.

Biological agent therapy in reproductive age group is still contraversial because of lack of randomized clinical trials. Anti-TNF and ustekinumab treatments are under category B.

In females , contraception during and 6 months after biological agent treatment is recommended. Contraception is not required in males. Consulting and considering with obstetrician is recommended for detection of pregnancy under biological agent treatment . Anti-TNF treatment during pregnancy requires delaying baby's vaccine scheme for 6 months (4,5).

Live vaccines are contraindicated in biological agent treatment. Biological agent treatment should be quitted 6-12 months before live vaccines, can be continued 4 weeks after vaccination (1-4). Inactive vaccines can be administered however immune response could not be enough. Influenza and pneumococcal vaccines are recommended.

Surgery under biological agent therapy is another important subtitle. For elective surgeries, risk of infection-discontinuing treatment requies makinf profit-loss analysis. If treatment is decided to be stopped, discontinuation period should be 3 to 5 half-life of biological agent or time between two doses (choose longer duration). For urgent surgeries, biological agent therapy should be quitted.1-2 weeks after surgery or after risk of surgical area infections minimized, biological agent treatment can be started again (1-3). Minor surgical interventions or minor traumas do not require discontinuation of treatment.

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ARE BIOLOGICS REALLY SAFETY? QUICK UPDATE WITH NEW STUDIES

Şule Ketenci Ertaş

In recent years, innovative and highly effective as well as cost-effective biologic therapies have improved the management of many chronic diseases in both dermatology and rheumatology. Incredible progress has been made in disease activity and control scores compared to ten years ago. While initially the safety of biologics was a matter of great debate, we now know that biologics are safe under appropriate monitoring. In patient follow-up, some safety concerns are drug-specific, while some safety concerns are general. To give a few examples, the infusion reaction seen in infliximab treatment with TNF inhibitors, Candida infection seen in IL-17 inhibitors are drug-specific, while conditions such as severe infection increase, hepatitis B and C reactivation, intestinal pneumonia and immunogenicity can be given as examples of general concerns about biologics. Additionally, there are still concerns about the safety of new biologics and biosimilars that have been introduced recently. More data needs to be collected about the security profile. In addition, their potential for ineffectiveness and toxicity, and their immunogenicity are discussed. In my presentation, I aimed to provide an overview of the characteristics and potential challenges in the safety profile assessment of biologics.

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BOTULINUM TOXINS FOR INFLAMMATORY SKIN DISEASE

Doç. Dr. Filiz Canpolat

Dışkapı Yıldırım Beyazıt Eğitim ve Araştırma Hastanesi

Dermatoloji Kliniği

Botulinum toxin (BoNT-A) is a neurotoxin produced by the bacterium *Clostridium botulinum* which causes a flaccid muscle paralysis. It is currently used for aesthetic treatments and in the focal hyperhidrosis. Recently, botulinum toxin has also been used experimentally in many other dermatological conditions with good results.

BoNT-A's most recognized mechanism of action is to inhibit acetylcholine release at the presynaptic neuromuscular junction. As acetylcholine is also a neurotransmitter of the autonomic nervous system, BoNT can block both sympathetic and parasympathetic nerve endings. BoNT's ability to prevent acetylcholine binding to postsynaptic receptors within the eccrine sweat gland and inhibit sweat production has lead to its extensive use in the management of hyperhidrosis. Furthermore, it has been suggested that BoNT exerts anti-nociceptive action via blocking the action of substance P, hence it is, more recent, used in myofascial pain syndromes and headaches.

In this presentation, I emphasizes the great potential of the use of BoNT-A in a large number of heterogeneous dermatological diseases. Currently, we do not know all the molecular and pathophysiological mechanisms underlying the therapeutic effects of this drug. From a clinical point of view, it is evident that many of the diseases that affect the folds (inverse psoriasis, Hailey-Hailey disease, Hidradenitis suppurativa) can improve after injection of botulinum toxin probably owing to its anhidrotic effect reducing bacterial contamination and maceration. Further studies should investigate the role of BoNT-A in the regulation of neuropeptides and the link with the neuroimmune system in order to better understand its therapeutic potential.

The limits of the wide application of BoNT-A are substantially restricted by its high cost, since the safety profile is well established and patients tolerate the injections well.

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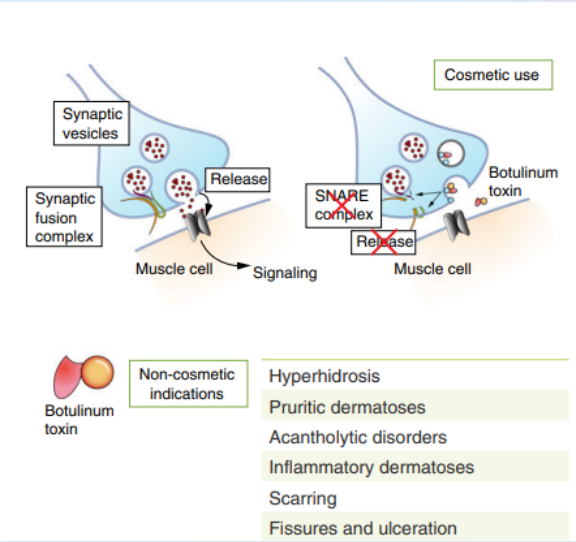

Figure 1. Botulinum toxin: mechanism of action and non-cosmetic dermatological indications.

BOTULINUM TOXIN FOR ANTIAGING

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Botulinum toxin is very commonly used for the improvement of the appereance of wrinkles and deep lines (1). But can it also prevent the aging? Botulinum toxin also enhances the skin tightening and fine lines via mesobotox. It is widely used to correct the accordion lines, barcode lines (smooker's lines), perioral and periorbital fine lines via the biostimulation and mesobotox (1). It helps for face lift, improve the skin texture and also corrects facial asymetry problems (1).

The recommended doses of BoNT-A 10-30 units for upper face forehead lines, 2-5 units for eyebrow lift, 5-15 units for the crow's feet, 20-25 unites for the frown glabellar lines, 5-10 units for bunny lines, 2-6 units for dimpled chin and 3-6 units for the corners of the mouth to the depresor anguli oris to improve marionetti lines (2). For the glabella, BoNT-A should be injected to 1 cm upper from the orbital rim. For the frontal horizental lines V shaped injection configuration is recommended for women. On the crow's feet wrinkles injection of BoNT-A 2 cm's lateral to the external orbital rim is very important (2). Two seperate injections one at each eyebrow tail and the other to the external part of the frontal muscle on the lateral part of the mid pupillar line provides eyebrow lift. The weakening of the masseter results in a smoother and slimmer lower face contour (2). The masseter injection points should be below the ear lobe–mouth corner line and about 1,5 cm above the mandibular angle border. In Caucasians, the dosages should not exceed a total dose of 30 s.U per side, distributed evenly into three points with about 10 s.U per point on the masseter (2).

The platysmal bands on the neck are apparent in some slim patients and become more prominent when they speak or smile (2). The total maximum dose recommended for the platysmal bands is 50 s.U per side, with 5–10 s.U per point (2). It is recommended that injectors should start from the first point at the jaw line, and go down every 2 cm's to at least the middle of the bands with a maximum of 10 points including 5 units of BoNT-A with a sum of 50 units on each side (2). On the decolte wrinkles injection of 7.5-10 units of BoNT-A for each side into 5-6 points on a V- shaped configuration with a total of 100 units is recommended (2).

In a clinical study for the reduction of the deltoid muscular hypertrophy prabotulinum toxin A has been injected at 5 points on the deltoid muscular area with a total dose of 50 units in 10 patients (3). Although the thichkness of deltoid significantly decreased the patients satisfaction scores were found to be relatively low. However, further studies are needed to confirm the efficacy of BoNT-A for the upper arm slimming. We also aim to achieve a feminen look to the base of neck-trapezıous muscle via body counturing with BoNT-A injection. On the trapexius muscle 3 points and on the paraspinal neck areas 2 points each including 5 units of BoNT-A are first marked and a total 25 units enables female patients have a slimmer and feminine look (4). Along the lower edge of the pectoral major muscle a total of 45 units of BoNT-A on 3 neighbouring points each having 15 units of BoNT-A has been used to help breast lifting in the literature (4).

Nowadays some patients define that their skin is less oily, fresher and even brighter without any surface abnormalities, and smoother after repeated consecutive BoNT-A injections. Intradermal superficial injection of very high diluted BoNT-A; mesobotox lifts up the face and tightens the skin, so it reduces the fine lines (5). It also improves the skin surface textural abnormalities (5). It reshapes the eyebrows, corrects facial asymetry, and even provides a medical rhinoplasty. Mesobotox is also quite beneficial for seborreich and acne prone skin, as it decreases sebaceous glands, blocks the muscarinic receptors and lowers the acetylcholin binding (6). Intradermal superficial BoNT-A injection enables to show similar results seen in fillers (5). Mesobotox helps to reduce seborrhea and as it weakens muscular activity and faciliates wound healing (5,6). Mesobotox supplies a biostimulation which means collagen upregulation and downregulation of matrix metalloproteinase enzymes that causes decreased collagen degradation. As a result mesobotox promotes the remodeling of the aged skin (5). The most important tip for mesobotox is that injection should be superficial as deep injection may cause a frost face. BoNT-A should be much more diluted such as in 8-10 cc of saline solution. Highly diluted, very low doses of BoNT-A 1 unit injection with 1 cm intervals in superficial papule technique is recommended (5). For mesobotox 30 gauge short needle and a 27 gauge rigid canule are needed. High total doses are forbidden, the total one area dose should never be more than 50 units (5). Accordion lines on the perioral areas and fine lines can be improved by the combination of the mixed injection of ultradiluted BoNT-A with a low viscosity HA (5).

Scars are defined as marks that remain after the healing of a wound. They cause significant cosmetic concerns, especially when located on conspicuous areas such as the head and neck. BoNT-A has been reported as a treatment measure for hypertrophic scars and keloids in a number of studies (7). The direct inhibitory efficacy of BoNT-A on fibroblasts and fibrosing agents such as Transforming growth factor beta confirms it's usage in scar prevention. It shows the anti-inflammatory effects on wound healing process during the first 2-5 days immediately early after the surgery (7). Generally, high doses of BoNT-A are recommended with an average total of 300 IU for hypertrophic scars, 50 IU for scar prevention (7). The injection of BoNT-A promotes the transdifferentiation of primary keloid tissue myofibroblasts to adipocyte like cells. It lowers the increased α-smooth muscle actin and collagen 1 and 3 (8). BoNT-A also activates the Smad signaling pathway which means the upreguation of some adipocyte markers such as Peroxisome proliferator-activated receptor gamma (PPAR- γ) and enhancer-binding proteins alpha (C/EBPα) (8). In another in vitro study that evaluates the quantitative changes in the skin, direct or indirect effects of BoNT-A on fibroblasts, the amounts of the collagen production after limited or repated consecutive BoNT-A injections were measured (9). The wrinkle reduction, skin quality, histological collagen deposition, fibroblastic responses of the biomechanic skin properties were examined. Besides from a cumulative wrinkle improvement, regular and frequent BoNTA injections have been shown to stimulate collagen production and lead an organization of the collagen networks that results with a better and younger appeareance (9).

In an in vitro study that examines the effect of BoNT-A in different serotypes prepared in different dilutions on the fibroblast contactions, it has been found that onabotulinum toxin did not significantly decrease fibroblast lenght at any time point or dilution (10). At 1:7 dilution ratios, abobotulinum toxin decreased fibroblast lenghts after 2 hours and significantly after 10-12 hours (10). So different commercial preperations and variable diulutions of BoNT-A toxins cause different fibroblast contractions in vitro (10).

As a result, the presence of the progressive wrinkle reduction and qualitative improvements seen with frequent, regular injections of BoNT-A supports the evidence of an ongoing process of dermal repair that leads to prolonged and cumulative antiaging effects. The skin closely interacts with the nervous system, thus future studies should investigate the link between BoNT-A and the cutaneous neuroimmune system to better understand its therapeutic potential such as antiaging in dermatology.

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OCULAR (PTOSIS ETC.) AND ASYMMETRY SIDE-EFFECTS OF BOTULINUM TOXIN INJECTIONS

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Botulinum toxin is a substance that has been used widely for many years and nowadays there are many experiences all around the world. The toxin is frequently used in cosmetic dermatology.1 Apart from face and neck rejuvenation, it is also used in the treatment of facial asymmetries. However, as botulinum toxin is used in the treatment of facial asymmetries, it can also cause asymmetry with improper injections. Thus, botulinum toxin applications are double-edged sword.

Side effects of toxin administration may be simple and short-lived, such as bruising, erythema, and tenderness, or it may be longer-lasting and result in serious deterioration in quality of life.2 Asymmetry complications are usually related to injection technique and dosage. It may be possible to prevent it by administering low doses and high concentrations (less diluted).2,3

The periorbital region and the glabella are frequently preferred areas in botox applications, and it is possible to encounter some side effects in the injections of these sites. These side effects may be observed with the spread of the injected toxin to the adjacent areas, and therefore, low doses and high concentrations are recommended.3 As a result of the application of botulinum toxin to the periorbital area and glabella, xerosis, periorbital edema, asymmetric smile, pseudoherniation, eyebrow and eyelid ptosis, ectropion, diplopia, drooping of the lateral tail of the eyebrow may be observed. In addition, some other asymmetries can occur if toxin reaches the cheek area as a result of incorrect injection into this area.1,3 The most feared of these side effects is eyelid ptosis, its frequency is approximately 1-5% which is usually unilateral.4 The formation mechanism of this complication is the diffusion of toxin to the levator palpebrae superioris muscle.3 Eyelid ptosis usually lasts for 2 to 12 weeks and is especially evident in the evening hours, when eye fatigue peaks during the day.3,4

Apart from periorbital complications, other various asymmetries may also occur in botulinum toxin applications. The most common among these is a condition called the “Mephisto sign”. The entity is defined as the over-raised lateral eyebrow fold.3 The complication can be corrected by injecting an additional dose of botulinum into the active muscle at the follow-up examination. In addition, iatrogenic asymmetries may also be encountered with injections of different and/or inappropriate doses to the contralateral side in each injection. This situation can be corrected with the administration of additional doses to the side where the muscles are stronger, but overcorrection should always be kept in mind and is a situation that should be avoided.1–3

Asymmetric smile can be observed after both upper and lower lip botox injections.1,3 Lip asymmetries can be observed in lower face injections. During the treatment of the mental muscle, it is possible to conclude with facial asymmetries and every single injection should be given carefully during the facial botulinum toxin treatment.1

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DEVICE BASED TREATMENT FOR VAGINAL WELLNESS

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Vaginal wellness is a highly popular issue because of the increasing demands and development of energy based devices technology. Vaginal wellness is a popular of interest to multiple specialties, including dermatologists, plastic and reconstructive surgeons, urologists, and gynecologists. Modern women and men relationships are more confident and demandable. Evidence suggests that minimally invasive, energy-based devices-radiofrequency and laser therapy-are effective at vaginal tightening and decreasing symptoms of genitourinary syndrome of menopause (GSM) and/or vulvovaginal atrophy (VVA).(1)

Vaginal tightening is highly demandable among the modern sexually active mothers. Decreasing symptoms of genitourinary syndrome of menopause (GSM) is also important. (3)

Genitourinary syndrome of menopause (GSM), encompassing the disorders of atrophic vaginitis, urinary incontinence, and pelvic prolapse, affects the majority of postmenopausal women, as well as patients who are undergoing breast cancer treatement, post-ovarectomy, post-radiation, and breast-feeding. There is a need for better treatment options for these common conditions that adversely affect physical function and quality of life and that are often underserved by existing options. (4)

Lasers have been used to treat genitourinary tissue for over 40 years, and over the past decade, several lasers and radiofrequency devices have been developed and clinically tested for the treatment of GSM, with an accumulating body of evidence demonstrating their safety and efficacy. (5) Fractional lasers, including carbon dioxide, erbium: YAG and hybrid technologies, as well as monopolar radiofrequency devices, work by resurfacing and/or stimulating via heat the vaginal lining resulting in a re-epithelialization, neovascularization and remodeling of the vaginal tissue from an atrophic postmenopausal state to a thickened, glycogen-rich and well-vascularized state similar to premenopausal vaginal lining. These changes are correlated clinically with improved function on a variety of validated vaginal health scales and urinary incontinence tests. Currently cleared for general application to genitourinary tissue, clinical trials are underway for FDA clearance or approval for specific GSM indications.(6)

In recently radiofrequency and laser are found to be efficacious for the treatment of vaginal laxity and/or atrophy.(8)

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AESTHETIC DERMATOLOGY: WHAT'S NEW? WHAT'S TRUE?

Sadiye Kuş

The world of cosmetic dermatology is growing rapidly and seems to be ever changing. This presentation aims to document novelties in aesthetic dermatology, in the fields of botulinum toxin and hyaluronic acid fillers. For this purpose Pubmed was searched from Jan 1st 2021 to Jan 31st 2022 with keywords "botulinum toxin" and "hyaluronic acid filler". Abstracts from studies, case reports and reviews were reviewed according to their relevance to "novelty". Appropriate articles were elected and scrutinized for further inspection. A selection of these breakthrough novelties are as follows:

Injectors need to be aware that not every 27G/30G needle has the same extrusion force even though the external diameter is similar (27G or 30G); this might additionally influence the ability to withdraw blood during a pre-injection aspiration manoeuvre.1

Strategic placement of soft tissue fillers may help to reposition facial ligaments that have changed their orientation during the aging process.2

Scanning electron microscopy (SEM) investigation provides objective evidence for the deformation of needle tips after repeated facial soft tissue filler injections. These data may help improve patient safety and comfort during these minimally invasive procedures.3

3-point injection technique resulted in the absence of adverse events like eyebrow ptosis, upper eyelid ptosis, medial eyebrow ptosis, and lateral frontalis hyperactivity as opposed to current injection algorithms for treating the glabella that rely on a five- or seven-point injection technique.4

Concerns have been expressed about the association of adverse reactions following soft tissue filler injections and the COVID-19 vaccines. The information of 106 survey participants from 18 different countries was analyzed. The data collected does not support the concern for an increased risk of developing adverse reactions following soft tissue filler injections associated with the COVID-19 vaccines compared to that risk associated with other previously described triggers or the default risk following soft tissue filler injections.5

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TOPICAL TREATMENT STRATEGIES TO MANIPULATE HUMAN SKIN PIGMENTATION

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Since ages, the skin colour is an important issue for human race. Melanocyte abnormalities are mentioned during the fetal developmental stages in literature from ancient cultures. The deciding factor for the pigmentation is melanin. An old notion of melanocyte producing melanin is now obsolete. It is the epidermal unit which is responsible for the process of melanogenesis, production and distribution of the melanin[1]. Skin pigmentation is a result of melanin produced by melanocytes in the epidermis. Melanocyte activity, along with the type and distribution of melanins, is the main driver for diversity of skin pigmentation.

Pathophysiology of Skin pigmentation:

Skin hyperpigmentation occurs with inflammatory processes and some skin diseases. Skin pigmentation is not just a cosmetic problem. It significantly affects the quality of life and the underlying cause must be determined and non-physiological melanogenesis must be prevented.

It can be said that pigmentation is a process that proceeds through four main pathways:

1. UV-induced skin pigmentation: the "tanning pathway"
2. Agents for "sunless tanning" and skin cancer prevention
3. cAMP inducers: forskolin and phosphodiesterase PDE4D3
4. Salt inducible kinase (SIK) inhibitors

Reasons for skin hyperpigmentation

Epidermal hyperpigmentation : Acquired hyperpigmentation of skin is often associated with epidermal hyperpigmentation, which is characterized histologically by a normal or increased number of melanocytes in the basal layer, increased activation of melanocytes, and increased epidermal melanin in all layers [2]. Most skin lightening agents target epidermal pigmentation either at the level of tyrosinase action or at other points of the tanning pathway [3].

Dermal hyperpigmentation: Dermal hyperpigmentation is associated with the presence of melanophages in the superficial dermis, along with an infiltrate of lymphohistiocytes around blood vessels and in dermal papillae. Melanophages are myeloid-derived macrophages that, unlike other dermal macrophages, upregulate genes related to glutathione metabolism and phagosome maturation. Importantly, a number of studies have demonstrated that synthesis of melanin and survival of melanocytes are closely connected to oxidative stress [4].

Other causes of hyperpigmentation and hypopigmentation of skin: Other mechanisms for skin hyperpigmentation include dermal melanocytosis due to localized increased number of dermal melanocytes. Certain drugs may also induce hyperpigmentation through pigment deposition within dermal macrophages. Depending on the offending agent, the pigmentmay be composed of hemosiderin (venous stasis dermatitis), drug complexes (e.g., minocycline), and lipofuscin (medication-induced, normal aging) [5].

Agents for treatment of skin hyperpigmentation: These agents act by inhibition of tyrosinase activity and/or melanogenesis and upregulation of collagen production in the skin. The depigmenting agents impacting the different stages of the melanogenesis pathway are listed below.

Table 1. Mechanistic classification of depigmenting agents [6]

Stage of melanin	Mechanistic class	Active compounds
Before melanin	Tyrosinase glycosylation inhibitor	Hyaluronic acid
During melanin synthesis	Tyrosinase inhibitors	α-Arbutin, azelaic acid, Dglucoronic acid, dihydrochalcone, fucoxanthin, genistein, glabridin, xymenynic acid
	5-lipoxygenase inhibitor	Boswellic acid
	Superoxide scavenger	Cyanidin-3-glucoside
	Reactive oxygen species scavengers	Beta-carotene, curcumin, lycopene
After melanin synthesis	Melanosome transfer inhibitor	Niacinamide
	Skin turnover accelera	Lactic acid, retinoic acid
	Collagen synthesis activators	Asiaticoside, caffeine, chrysin, dipalmitoyl-hydroxyprolene, bglucogallin, salidroside
	α-SMA activator	Arabinoxylans
	Hyaluronic acid synthesis activator	Pycnogenol

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ECZEMATOUS, ACNEIFORM, AND PIGMENTED DRUG ERUPTIONS

Özlem Kaplan

Drug-related cutaneous reactions are among the most common dermatoses. Hypersensitivity reactions to drugs can cause a variety of different skin disorders, the most frequent being maculupapular eruptions and urticaria. Here, our aim is to summarize eczematous, acneiform and pigmented drug reactions with current literature data.

Eczematous Drug Eruptions: Eczematous drug eruptions are skin reactions that resemble eczema both clinically and histologically. Most of them present with xerosis, erythematous papules and plaques.

Eczematous eruptions can be caused by a variety of medications, such as tumor necrosis factor-a inhibitors, interleukin-17 A inhibitors, epidermal growth factor inhibitors, and immune checkpoint inhibitors. The Incidence has been reported to be 7-10 % of all cutaneous drug reactions (1). HCV antivirals; Interferon-a, ribavirin, telaprevir, sofosbuvir, simeprevir occurs eczematous drug reactions with an incidence 4-54%. The eczematous eruptions associated with HCV antiviral agents typically present as erythematous papules and microvesicles, xerosis with cracks and fissures (1).

Xerosis is associated with EGFR inhibitors (gefitinib, erlotinib, cetuximab, osimertinib, lapatinib, panitumumab) in 12-55 of patients. Mammalian target of rapamycin inhibitors (everolimus, sirolimus and temsirolimus)cause xerosis and eczematous rash beyond papulopustular eruptions (1).

Some eczematous drug reactions present with systemic contact dermatitis; the responsible agents are streptomycin, aminophylline and prednisone. Dyshidrotic eczema on palmoplantar surfaces occurs with IVIG, most of the cases are related with high-dose treatments (1).

TNF-a inhibitors (infliximab, etanercept, adalimumab, certolizumab and golimumab) cause eczematous drug reactions frequently. (2-20% in non-dermatolojic conditions, 1-6% in psoriasis patients taking TNF-a inhibitors.) Infliximab has been linked to higher rates of eczematous eruptions compared with other agents. (1).

Ixekizumab and secukinumab are IL-17A inhibitors that used for psoriasis and other inflammatory conditions treatment. Anti-IL-17A agents incite eczematous eruptions in 2–12% of patients, these reactions occur after several months of treatment (2).

Also, it was reported that the Pfizer-BioNTech COVID -19 vaccines caused generalized eczematous reactions in two patients who had a personal or family history of atopy (3).

The differential diagnosis for an eczamatous drug eruption includes atopic dermatitis, allergic contact dermatitis, asteatotic eczema, psoriasis, scabies, dermatophyte infection, mycosis fungoides, autoimmune blistering diseases and connective tissue diseases. The diagnostic gold standard is medication discontinuation followed by a monitored drug rechallange. In cases of new onset eczema, especially in older adults, a drug-induced eczema should be considered. If the medication is non-essential, usage is interrupted. If the medication can not be stopped, additional tratment is given. Emollients, topical corticosteroids, oral corticosteroids, and oral antihistamines are used to treat eczematous cutaneous eruptions (1).

Acneiform Drug Eruptions: Drug-induced acne is a specific subset of acne that usually has some specific features. Characteristics of drug-induced acne are monomorphic pattern, scarcity of comedones and cysts, unusual locatization of acne such as arms, trunk, lower back and genitalia beyond the seborrheic area, an unusual age of onset, a resistance to conventional acne therapy and the notion of a recent drug introduction (4).

Corticosteroids, neuropsychotherapeutic drugs, antituberculosis drugs, and immunomodulating molecules are the most classical drugs associated with drug-induced acne (4).

Steroid acne or steroid folliculitis is an acneiform drug induced eruption that may appear after the administration of systemic glucocorticoids. It affects the trunk and the upper aspects of the arms (5).

Neuropsychotherapeutic drugs (tricyclic antidepressants, lithium, antiepileptic drus, aripiprazole and selective serotonin reuptake inhibitors) induce acne. Amineptine related acne is related high dose and long-term amineptine intake. Lithium-induced acne is more frequent among allergic patients and independent dose (4).

A number of dietary supplements have been associated with acne, including those containing vitamins B6 and B12, iodine, whey protein, and "muscle building supplements" that may potentially be contaminated with anabolic androgenic steroid. Lesions usually heal quickly after vitamin B12 withdrawal (6).

Immunomodulator drugs cyclosporine and sirolimus induce acne. Acne occurs approximately 15% of patients. Antituberculosis drugs; isoniazid, rifampin, ethionamide are a cause of acneiform rash (4). Chloracne patients present with comedones on the face, malar crescent, retroauricular folds, axilla, back, chest, lower limbs and genitalia (4).

Acneiform eruption has become a hallmark of targeted therapies. Targeted therapies have been used for inflammatory or tumoral diseases that interact with specific key molecules. For antitumoral therapies, papulo-pustular rash is clinically reported as a prognostic factor for a good response to treatment (4).

EGFR inhibitors have been used for the treatment of carcinoma of the lung, pancreas, gastrointestinal tract, breast, and squamous cell carcinomas of the head and neck. EGFR inhibitors have the highest incidence of acneiform rash affecting 60-100% of patients. Acneiform eruptions occur in more than 50% of cases treated with EGFR inhibitors and in 75% to 100% of cases treated with cetuximab. The acneiform eruption is dose-dependent; occurs predominantly on the head, neck, and upper aspects of the body; and arises in the first 2-4 weeks of therapy. EGFR inhibitors induced acne may even have a positive relation to survival (5).

MEK inhibitor; trametinib that has been used in metastatic melanoma frequently induces acneiform eruptions (7).

Vascular endothelial growth factor (VEGF) inhibitor Bevacizumab that is used to treat various neoplasms, including colorectal, lung, breast, kidney cancer, and glioblastoma causes follicular acneiform eruption (7).

Proteasome inhibitor; Bortezomib has been used as second line of treatment in patients with multiple myeloma is a reason af acneiform eruption (8).

The most common differential diagnosis is Pityrosporum folliculitis produced by an overgrowth of the Malassezia species, often secondary to oral or systemic corticosteroids or secondary to broadspectrum antibiotics such as the tetracyclines (7).

Medical history data may provide clues as to the potential role of a newly introduced drug in the development of these eruptions, as do unusual clinical features, i.e. high age at onset, atypical location, resistance to conventional therapy, and a monomorphic clinical pattern (4).

Treatment recommendations for papulopustular acneiform eruptions depend on the Common Terminology Criteria for Adverse Events (CTCAE) grading. For grade 1 eruptions, topical antimicrobials; for grade 2 eruptions, topicals are combined with oral antimicrobials. Sopical steroids may be advised. For grade 3 eruptions, in addition to previous recommendations, oral prednisone (0,5 mg/kg) or oral isotretinoin (0.3-0,5 mg/kg) may be proposed. For grade 4 eruptions, oral glucocorticoids may be recommended together with dose interruption or discontinuation of the antineoplasmatic agent (5).

Pigmented Drug Eruptions: Drug ınduced pigmentation represents 10 to 20% of all cases of acquired hyperpigmentation. The main drugs implicated in causing skin pigmentation are nonsteroidal anti-inflammatory drugs, antimalarials, amiodarone, cytotoxic drugs, tetracyclines, heavy metals and psychotropic drugs (9).

Nonsteroidal anti-inflammatory drugs (paracetamol, salicylates, dapsone) may trigger the occurrence of pigmented lesions but usually result in fixed drug eruption lesions (9).

Antimalarials (chloroquine, hydroxychloroquine, mepacrine (quinacrine) and mefloquine) affects nails, legs, head and rarely mucous membranes. Pigmentation is predominating on sun-exposure areas. Hyperpigmentation is certainly the most frequently reported adverse effects of this category of drugs (9).

Amiodarone that is an anti-arrhythmic and coronary vasodilator has long been known to induce a distinctive blue-gray or purple discoloration of sun-exposed areas, especially the face with prominent involvement of the nose and sometimes the ears (9).

The skin pigmentation may take several different topographical patterns with cytotoxic drugs.

- Diffuse pigmentation: Busulfan, cyclophosphamide, methotrexate, hydroxyurea (hydroxycarbamide), procarbazine
- Serpentine supravenous pigmentation at infusion sites: Fotemustine, fluorouracil
- Flagellated pigmentation: Fluorouracil, bleomycin
- Reticulated pigmentation: Fluorouracil (9).

Psychotropic drugs (phenothiazines, tricyclic antidepressants) may induce a pigmentation on sun-exposed areas. Chlorpromazine is the most frequently involved drug with a blue-gray metallic pigmentation.

Tetracyclines-ınduced pigmentary changes have been mainly reported with minocycline and less frequently doxycyclin. Hyperpigmentation is on sun-exposed areas, in areas of acne scars, at sites of previous inflammation. Mucous membranes and internal organs can be affected (9).

Treatment is often limited to sun-avoidance or interruption of treatment with the offending drug but laser therapy recently gave rise to hope of a cure in some cases. These measures are often followed by a fading of the lesions but the pigmentation may last for a long time or may even become permanent in a small percentage of patients (9).

As a result, many drugs used in the medicine can cause eczematous, acneiform and pigmented drug reactions. For this reason, detailed drug anamnesis may cause to earlier diagnosis, and approaches such as discontinuing or changing the used drug may lead to earlier treatment of the patient.

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GRANULOMATOUS AND LYMPHOMATOID DRUG ERUPTIONS

Gökşen Ertuğrul

Granulomatous and lymphomatoid drug eruptions are rare entities.

Granulomatous drug eruptions (GDEs)

Granulomatous drug eruptions are rare conditions in which granuloma formation occurs as the body's attempt to contain an exogenous or endogenous triggering agent(1). GDEs are a rare subgroup of noninfectious granulomatous diseases of the skin (2). Granulomatous drug eruptions may be localized to the skin or may include major systemic involvement (1). There is 5 major types of granulomatous drug eruptions; interstitial granulomatous drug reaction (IGDE), drug-induced accelerated rheumatoid nodulosis, drug-induced granuloma annulare (GA), drug-induced sarcoidosis, and miscellaneous presentations.

Interstitial granulomatous drug reaction

Erythematous-to-violceous annular plaques are usually observed in the intertriginous areas, flexural surfaces of the arms and medial thighs (1). On microscopy, IGDRs typically present with dermal interstitial and perivascular infiltrates of lymphocytes and histiocytes, and also eosinophils multinucleated giant cells (3). Drug-associated, reversible, granulomatous T cell dyscrasia is a subtype of IGDR.

Drug-associated, reversible, granulomatous T-cell dyscrasia

Clinically, it appears as patches or annular plaques from sun-protected areas such as the insides of the arms, thighs, and intertricular areas. Epidermotropism and angiocentric infiltrates containing large transformed cells and cells with an atypical cerebriform morphology were also seen. Although these infiltrates regress when the offending agent is removed, they otherwise very strongly mimic cutaneous T-cell lymphoma (4). After discontinuation of the causative agent, lesions have been seen to resolve with an average of 8 weeks (5).

Drug-Induced Accelerated Rheumatoid Nodulosis

The clinical presentation is as skin-colored erythematous endure papules and nodules that develop on the methocarpophalangeal and proximal interphalangeal joints of the hands or sometimes at the elbows. They may occur hours or months after the use of agents such as methotrexate, azaothioprine, and leflunomide (1).

Drug-Induced Granuloma Annulare

Localized involvement is seen in the majority of drug-induced GA cases. Histological findings of drug-induced GA are palisator granulomas, collagen degeneration, mucin and an accompanying lymphohistocytic infiltrat (6). In most cases, the lesions regress after the drug is discontinued. However, lesions can also regress spontaneously or with local steroid cream treatments (7).

Drug-Induced Sarcoidosis

Drug-induced sarcoidosis may present as nodular, linear, annular, grouped erythematous papules, or as a maculopapular rash (1). Drug-induced sarcoidosis can occur as a multisystem disease with lung, liver, eyes, lymphoid system and cutaneous involvement (8).

Histologic findings often comprise noncaseating, epithelioid histiocytic granulomas, multinucleated giant cells, and a lack of extensive inflammatory infiltrate. While resolution occurs within 3-6 months after discontinuation of the triggering drug, immunosuppressive therapy may be necessary in some patients (1).

Lymphomatoid Drug Reactions (LDEs)

Lymphomatoid drug reactions are atypical T cell cutaneous lymphocytic infiltrates induced by pharmacological therapy. These atypical cutaneous lymphoid infiltrates are also called drug-induced pseudolymphoma. Drug-induced pseudolymphoma can be examined under 2 main headings clinically and pathologically as lymphocytoma cutis and atypical T

cell lymphocytic infiltrates (drug-associated reversible T cell dyscrasia). Endogenous T-cell lymphoproliferative diseases and drug-induced pseudolymphomas are difficult to distinguish from each other because of clinical, histological, and phenotypic similarities (9).

Histologically a band like infiltrate in upper dermis with variable degree of exocytosis of lymphocytes is seen and eosinophils are commonly found. Loss of pan T- cell markers is not observed. İmmunohistochemistry reveals either predominance of $CD4^+$ or $CD8^+$ lymphocytes and admixture of variable number of $CD30^+$ lymphocytes (10).

Drug-İnduced Lymphocytoma Cutis

One of the most common clinical presentations of drug-induced pseudolymphoma is lymphocytoma cutis. It typically presents as solitary or several plaque-like and/or nodular lesions localized to the head, neck, and upper trunk. A distinct subset of drug associated lymphocytoma cutis is Jessner's lymphocytic infiltrate of skin that clinically mimics tumid lupus erythematosus (11). Biopsies show lymphocytic infiltrates that usually decrease in density from the superficial to the subcutis and typically do not have significant subcutaneous extension (10).

Drug-Associated Reversible T Cell Dyscrasia

Drug-induced reversible T-cell dyscrasia is used for drug eruptions containing epitheliotropic cytologically atypical lymphocytes with an abnormal phenotypic and molecular profile. The time between initial exposure to the implicated drug and the development of cutaneous eruption is often uncertain. Phenotypically, there are substantial reductions in CD7 expression (usually not more than %70 cells) (12).

Specific variants of the drug associated reversible T cell dyscrasia are; Pityriasis lichenoides like drug reaction, DRESS syndrome, drug associated reversible granulomatous T cell dyscrasia, CD30 positive angiocentric lymphomatoid drug reaction, drug induced pigmented purpuric dermatosis (9).

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PSORIASIFORM DRUG ERUPTIONS

Ahsen Eslem Kılıç

Psoriasis is a chronic relapsing and remitting autoimmune condition which presents as erythematous, well-defined plaques with silvery white scales with a reported prevelance of up to 4.8 percent in a general population. The lesions usually occur on scalp, palms, soles, nails, and more commonly on the extensor aspects of the limbs and trunk (2). Psoriasiform drug eruption is defined as heterogeneous group of disorders characterized by clinical or histological resemblance to psoriasis at some points during a disease. A psoriasiform eruption is used also to describe a histological reaction pattern, which exhibits presence of cellular infiltration, papillomatosis, and epidermal hyperplasia with elongation of rete ridges (1).

Drug-provoked psoriasis can be divided into two categories. The first category, drug-induced psoriasis, is where discontinuation of the causative drug stops the further progression of the disease. The second category, drug-aggravated psoriasis, is where the disease progresses even after the discontinuation of the offending drug. Clinically, drug-provoked psoriasis can present as generalized plaque psoriasis, palmoplantar pustulosis, or erythroderma. Drugs that appear to have a strong causal relationship to psoriasis are beta-blockers, lithium, synthetic antimalarials, nonsteroidal anti-inflammatory drugs (NSAIDs), and tetracyclines (1).

Psoriasiform eruptions are the most common cutaneous consequence of beta-blocker therapy, seen more frequently in patients with no past or family history of psoriasis. The pathogenesis of beta blocker-induced psoriasis includes a delayed- type hypersensitivity reaction, immunological mechanisms including impaired lymphocyte transformation, or alterations in the cyclic adenosine monophosphate (cAMP) pathway. The blockade of epidermal ß2 receptors leads to a decrease in intraepidermal cAMP causing keratinocyte hyperproliferation. Proctolol, the prorotype of beta blockers is no longer available due to high incidence of cutaneous side effects reported. Transformation of plaque-type psoriasis into pustular psoriasis with pindolol has also been observed. In addition, atenolol has been reported to precipitate psoriasiform pustulosis. Topical application of timolol in the treatment of open-angle glaucoma has been reported to induce psoriasis and to transform psoriasis vulgaris into psoriatic erythroderma through the passage into the systemic circulation via the conjunctiva (1).

Psoriasiform eruptions are the most common cutaneous side effects during lithium treatment and has been reported since 1972. The most common presentation of lithium- provoked psoriasis is the classic plaque-type lesions (1).

The exacerbation and induction of psoriasis during treatment with antimalarials has been widely acknowledged. Different than the others, in immunohistochemical staining, CD123-positive cells were observed in the perivascular area in the upper dermis.. Resolution of psoriatic lesions usually occurs within one month of discontinuing the AM agent.(3). The use of chloroquine and hydroxychloroquine in patients with psoriasis is considered by some to be a contraindication (1).

The tetracyclines are one group of antibiotics that has been described in association with psoriasis with no definitive latency period. Some tetracyclines may cause photosensitization, which may result in predisposed patients with psoriasis to experience exacerbation through the Koebner phenomenon secondary to phototoxicity (1). Some less commonly reported agents are ACEIs, terbinafine, benzodiazepines, interferons, digoxin, clonidine, amiodarone, quinidine, gold, imiquimod, fluoxetine, cimetidine, gemfibrozil, sorafenib and abatacept (1,4,5).

Understanding the pathogenesis of drug provoked psoriasis not only helps to achieve a greater appreciation of the disease process, but is also useful in providing guidance for treatment methodologies.

LICHENOID DRUG ERUPTIONS

Lichenoid reaction (LR) is an adverse effect which may be caused by systemic administration of drugs.. The prevalence of LR has been reported to be approximately 2.4% in the general population and occurs in women three times more than in men (8) Lichenoid reactions reported in association with many systemic medications are now known such as ACE inhibitors, interferon alfa, antihistamines, lithium, antimalarials, methyldopa, beta-blockers, NSAIDs, carbamazepine,

penicillamine, furosemide, penothiazines, gold, phenytoin, hydroxycarbamide, proton pump inhibitors, corticosteroids and sulphonylureas (8). There is only one report of lichenoid drug eruption associated with bendamustine (7).

Unlike idiopathic lichen planus, which typically involves flexural surfaces, lichenoid drug eruption is characterized by an extensive symmetric eruption of flat-topped violaceous plaques involving the trunk and extremities (6,7). Lichenoid drug eruption does not exhibit classic Wickham striae. Mucous membrane involvement is less common and is often associated with specific drugs, including allopurinol, angiotensin converting enzyme inhibitors, cyanamide, gold, keto-conazole, nonsteroidal antiinflammatory drugs, penicillamines, sulphonylurea, and carbamazepine (1).

The histopathologic feature of lichenoid reaction is that subepithelial infiltrate is more diffuse and less band like, with deeper extension into the connective tissue and a more mixed cell population, including eosi- nophils and plasma cells, perivascular infiltrate and parakeratosis. Lichenoid reaction and lichen planus on the microscope characteristics are no different, so detailed anamnesis is more important (8).

It is important for the practitioner to use antihistamines and corticosteroids in case of cutaneous reactions before obtaining a certain diagnosis to avoid improper use of drugs.

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VACCINATION AND DRUG USE

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Immunosuppressive drugs are widely used in dermatology practice. These drugs pose a higher risk for serious infections that some of them are vaccine-preventable illnesses. Vaccination is an important part in care of these patients and physicians should be aware of vaccine efficacy, safety, and appropriate timing.

Before starting an immunosuppressive drug, each patient's vaccination status, exposure and travel history should be reviewed in detail. Immunization status for *Haemophilus influenzae, tetanus, pertussis, varicella zoster, hepatitis A and B, Human papillomavirus, influenza, Neisseria meningitides and Streptococcus pneumoniae* should be assessed. Ideally, vaccination should be performed before the start of immunosuppressive therapy

There are three main types of vaccines: Live vaccines contain attenuated natural pathogens, they mimic the natural infection and, there is a risk of viral transmission, persistence, and active infection. Inactivated vaccines contain the killed pathogen, purified pathogen antigens or inactivated toxins, they are considered safer, but they need to be repeated overtime (boosters). Genetic-based vaccines are designed against SARS-CoV-2 infection, they act as inactivated vaccines.

Live vaccines are contraindicated in patients on immunosuppressive therapy. Inactivated vaccines are safe but, vaccine response may be suboptimal and antibody titers may decline more rapidly.

Live vaccines should ideally be administered ≥4 weeks prior to the start of immunosuppression. Exceptions can be made for patients on low-dose immunosuppression (MMR and Herpes zoster). Low-dose immunosuppression is defined as when the patient uses prednisone < 20 mg/day or, methotrexate ≤ 0.4 mg/kg per week or, azathioprine ≤ 3.0 mg/kg per day or, mercaptopurine ≤ 1.5 mg/kg per day.

Inactivated vaccines are recommended to be completed ≥2 weeks before the immunosuppressive medication. If not feasible, inactivated vaccines should be performed as soon as possible and ideally during periods when immunosuppression is low.

How long immunosuppressive drugs should be stopped after vaccination?

For live vaccines, biological agents or disease-modifying drugs should not be started until after 5 half-lives after administration. This period is 4 weeks for high-dose corticosteroids, methotrexate ≥20 mg/week and etanercept, 3 months for TNFα inhibitors, 6–12 months for rituximab. For inactive vaccines, a minimum period of 2 weeks, up to 4 weeks, is generally recommended before (re-)initiation of the immunosuppressive treatment. For drugs given in dosage intervals of ≥4 weeks, administration of vaccines midcycle or 2 weeks before the next dose seems a reasonable option.

What about vaccine efficacy during immunosuppressive therapy?

Rituximab is associated with the greatest decline in immune response to vaccinations, followed by methotrexate. Immune responses to vaccination among patients treated with TNF inhibitors tend to be well preserved, with the exception of the response to hepatitis B virus vaccination. Vaccine responses are decreased while on methotrexate therapy. It is recommended to stop methotrexate for 2 weeks after vaccination. Vaccine responses are decreased while on cyclosporine or mycophenolate mofetil (MMF) therapy. Both drugs have a relatively short half-life. No data are available on how long these drugs need to be stopped for optimal responses to vaccination. Impaired antibody responses have been reported on azathioprine therapy. Most findings suggest that azathioprine has a better vaccine-induced immunity profile than MMF and cyclosporine. Data in elderly patients and children receiving corticosteroids confirmed sufficient serum antibody responses following influenza vaccination. Varicella zoster vaccination was also found to be successful in patients on chronic/maintenance corticosteroids. Rituximab is associated with inability to produce an immune response to vaccines without functioning B- and T-cells. Vaccination responses and the formation of neutralizing antibodies are decreased.

Some studies indicated that a partial immune response to the influenza vaccine in patients receiving rituximab therapy may occur, therefore influenza vaccine is recommended annually. With TNF-alpha inhibitors, vaccination immune responses are lesser however enough protective immunity is usually reached. Response to HBV vaccination is diminished

and the double-dose vaccination should be considered. Postvaccination serologic testing of response is recommended. Although very few data exist, secukinumab, ixekizumab and ustekinumab seem to not interfere with antibody production, preserving the humoral response to vaccines. No data on the response to live or inactive vaccines are available for guselkumab or risankizumab

Vaccination of close contacts: Attenuated virus strains in some live vaccines can be transmitted to the close contacts of vaccinated individuals. Additional precautions are needed for transmission of virus to others.

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MASKNE AND MASK ROSACEA

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Maskne terminology emerged when the coronavirus epidemic (COVID-19) entered our lives in 2019. It has become mandatory for everyone to wear masks all over the world to protect against the disease and prevent the spread of the disease. Due to this situation, it was observed that the mask caused some dermatological diseases in the face area. The most common dermatological diseases related to personal protective equipment are acne, rosacea, irritant contact dermatitis and psoriasis triggered by köbnerization.

Maskne can occur with exacerbation of existing acne vulgaris or new acne outbreaks in individuals who do not have acne. It can be considered as a variant of acne mechanica and acne tropica. It is thought that the development of maskne is triggered multifactorially. Heat, pH changes and humidity of biofluids that develop due to mask use cause microbiome dysbiosis. Pressure, occlusion and friction cause mechanical stress. These factors lead to follicular occlusion and may result with maskne.

Maskne also shows some clinical differences from acne vulgaris. Acne vulgaris often tends to involve the T-zone of the skin (forehead and nose), adult acne the U-zone (cheeks and chin), while the maskne tends to involve the O-zone (around the mouth and nose). In addition, inflammatory lesions i are observed more frequently than non-inflammatory lesions in maskne.

Clinical criteria proposed for maskne are onset of acne within 6 weeks of start of regular face mask wear or exacerbation of acne over the masked area, distinct pattern (the O-zone) and exclusion of differential diagnoses (perioral dermatitis, seborrheic dermatitis, pityrosporum folliculitis, and acne rosacea)

Rosacea can be induced or worsened by prolonged periods of mask wearing, and called as mask rosecea. With the use of masks, there is an increase in sebum production, which may stimulate inflammation due to Demodex folliculorum, which is considered a trigger in Rosacea and leads to an increase in papules, pustules, and erythema. In addition, excessive humidity and heat caused by the use of masks for a long time also play a triggering role in rosacea.

To prevent mask and mask rosacea, it is necessary to clean the face with a gentle cleanser, apply a moisturizer half an hour before wearing the mask, take a short break from the use of the mask to reduce the pressure and humidity due to the mask, drink plenty of water and pay attention to oral hygiene.

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ARTIFICIAL INTELLIGENCE IN DERMATOLOGY: WHERE WE NOW?

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To make an accurate diagnosis in dermatology, it is necessary to recognize many situations and be exposed to thousands of patients over the years. Dermatologists usually reach a diagnosis by the experience they have gained from these past situations and patients. Artificial intelligence (AI) is defined as a computer science that simulates human brain using artificial neural networks and involves creating programs that aim to reproduce the human cognition for classifying and analyzing complex data. As hardware and software technology have developed enormously in recent decades, AI has become more important in our medical practice as well as our daily lives. Certainly, dermatology has a unique position in the application of AI in the medical field because it includes large clinical and dermoscopic image databases for the training of AI. There are already numerous AI studies on skin disorders such as melanoma and non-melanoma skin cancers, psoriasis, atopic dermatitis, acne, autoimmune diseases, ulcer evaluation, and onychomycosis that report accuracy equal or exceeding dermatologists for the diagnosis from clinical and dermoscopic images. Therefore, dermatologists should have a basic understanding of the concepts of AI not only to design but also to interpret medical studies in this area. This lecture aims to present a basic introduction to the concepts of AI as well as present an overview of the current research into AI in dermatology, examining both its current applications and its future potential. Even though it holds tremendous potential, it's difficult to say that AI will replace dermatologists, at least in the near future. AI will likely become a valuable adjunct modality in our clinical practice.

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COMORBIDITIES IN INFLAMATUARY AND AUTOIMMUNE SKIN DISEASES

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Comorbidities in dermatologic disease have been found to cover a diverse array of body systems from cardiovascular to psychiatric, thereby conferring a variable and multifaceted impact on patients (1,2). Several highly prevalent dermatologic diseases carry a strong burden of comorbidities, underscoring their relevance to both patients and providers (1). Whether comorbid conditions are causal of the dermatologic disease in question, are an effect of the disease, or share a common pathophysiologic underpinning are all questions requiring investigation beyond epidemiologic study. Nonetheless, identification and understand- ing of comorbidities are important goals and serve to provide practitioners with a context of how best to evaluate patients (3). Improved context of evaluation can enhance the provider's ability to recommend screening and preventive measures. Understanding of comorbidities is of significant importance for treatment algorithms, because they can influence treatment choice and may lead to the identification of novel therapeutic targets through elucidating common underlying pathophysiologic mechanisms (1-4).

METHABOLIC SYNDROME:

There is an distinctly increased risks of type 2 diabetes, hypertension, hyperlipidemia and obesity in psoriasis and hidradenitis supurativa patients (5,6).

CARDIOVASCULAR DISEASES:

With increased oxidative stress in chronic inflammation, reactive oxygen products are elevated and may cause cardiovascular diseases. There was also a higher prevalence of MetS in patients with mucous membrane lesions than in those who did not have mucous membrane lesions (5,6).

GASTROINTESTINAL DISEASES:

There is an distinctly increased risks of type 2 diabetes, hypertension, hyperlipidemia and obesity in psoriasis and hidradenitis supurativa patients (5,6).

RESPIRATORY AND ALLERGIC DISEASES:

The most common comorbities in Chronic Urticaria (CU) and Atopic Dermatitis (AD). The identified prevalence of atopy was 28.1% in children with Chronic Urticaria (15.4% of asthma, 13.8% of allergic rhinitis, and 9.4% of atopic dermatitis); and similar in AD (7).

ENDOCRINE AND CONNECTIVE TISSUE DISEASES:

The most common skin diseases; which are usually together with thyroid diseases; are lupus, rheumatoid arthritis are alopecia areata, atopic dermatitis and vitiligo (8,9).

CEREBRAL AND CEREBROVASCULAR DISEASES:

Autoimmune bullous diseases; principally Bullous Pemphigoid; are especially associated with neurological conditions such as Parkinson's disease, Alzheimer's disease, stroke and epilepsy (10).

Understanding comorbidities in dermatologic disease is highly relevant to providers for the purposes of not only screening but also patient counseling and disease prevention. Elucidation of these comorbidities can also shed light on common underlying pathophysiologic mechanisms that guide the treatment decisions and development of future potential therapeutic targets. Future studies in this area should seek to investigate a basis for causal inference for observed comorbidities while generating further evidence-based screening guidelines for comorbidities in dermatologic patients (1).

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TREATMENT UPDATES FOR SEXUAL TRANSMITTED SKIN DISEASES

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More than 30 different bacteria, viruses and parasites are known to be transmitted through sexual contact. Eight of these pathogens are linked to the greatest incidence of sexually transmitted disease. Effective treatment is currently available for several STIs. Three bacterial STIs (chlamydia, gonorrhoea and syphilis) and one parasitic STI (trichomoniasis) are generally curable with existing single-dose regimens of antibiotics. For herpes, human papillomavirus (HPV). and HIV, the most effective medications available are antivirals that can modulate the course of the disease, though they cannot cure the disease. For hepatitis B, antiviral medications can help to fight the virus and slow damage to the liver(1,2).

In this presentation, 2021 CDC Sexually Transmitted Infections Treatment Guidelines will be reviewed and also treatment recommendations will be compared with the IUSTI (International Union against Sexually Transmitted Infections) treatment guidelines(1-4).

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SPONTANEOUS REGRESSING SKIN TUMORS AND INFLAMMATORY SKIN DISEASES

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Spontaneous regression is defined as the partial or complete disappearance of a previously documented lesion, tumor, or disease without treatment or trauma.

Regression of skin tumors

The general incidence of tumor regression is not clearly known since it is not possible to closely monitor the organs except skin. On the other hand, spontaneous regression of skin tumors, either partial or total, is a well-known and common phenomenon. The immune system plays an important role in the regression of skin tumors. While almost all keratoacanthoma (KA) cases regress completely, the percentages of totally regressed melanoma and basal cell carcinoma (BCC) cases are not clear. Moreover, there are some other benign and malignant skin tumors that might regress spontaneously including Merkel cell carcinoma (MCC) and lymphomatoid papulosis (LyP).

Melanoma: Regression is not a rare event in melanoma. The overall incidence ranges from 10% to 35% and was reported in up to 58% of thin melanomas. The rate of completely regressed melanomas with metastases was shown as 8% of all melanoma cases. Studies throughout the years showed that the host-immune-mediated responses play an important role in the regression of melanoma, particularly through CD8+ cytotoxic T lymphocytes.

Basal cell carcinoma: Spontaneous regression of BCC in histopathologic evaluation is not a rare finding and is characterized by various lymphocytes that infiltrate the tumor. Moreover, clinical areas of depigmentation and scarring due to regression are also common in superficial BCC. The incidence of complete regression of BCC is unknown; however, in studies of intralesional interferon alpha, 29% of the tumors in the placebo arm were regressed. The immune response is thought to play a primarily role through CD4+T lymphocytes releasing cytokines such as INF-γ.

Keratoacanthoma: KA, a self-regressing tumor, is considered a benign variant of squamous cell carcinoma. It is characterized by growth over a few weeks followed by spontaneous regression in a few months. The signaling and cellular mechanisms in its spontaneous regression have not been clearly identified. A possible correlation with the hair follicle cycle was suggested.

Merkel cell carcinoma: MCC is a rare and highly aggressive primary cutaneous neuroendocrine carcinoma and favors the elderly. Despite the high rates of recurrence and metastasis, there are reports of spontaneous regression. The mechanism of this regression remains unclear; however, it has been reported that apoptosis caused by T-cell immunity was responsible for the regression. Programmed cell death 1, an inhibitory receptor, was shown to be expressed in approximately half of tumor-infiltrating T cells in MCC.

Lymphomatoid papulosis: LyP is an indolent T-cell lymphoma characterized by recurrent lesions with histopathological features suggestive of a CD30-positive lymphoma. The lesions usually regress within 2 to 12 weeks and leave hypo-hyperpigmented or characteristic atrophic scars. Although the exact mechanism is yet unknown, interactions between CD30 and its ligand may contribute to apoptosis of the neoplastic T cells.

Other: It has been suggested that lichen planus-like keratosis may be the inflammatory stage of regressing benign including mainly solar lentigines and seborrheic keratosis or malignant skin tumors.

Regression of inflammatory skin diseases

Atopic dermatitis (AD), one of the most common inflammatory skin diseases, typically starts in infancy or early childhood. While it shows spontaneous remission in a subset of patients, others have a lifelong disease. It was shown that among all cell types in spontaneously regressed AD, melanocytes constituted the largest numbers of differentially expressed genes. T-cells showed increases in regulatory markers, and a general skewing toward a more Th1-like phenotype in such studies.

On the other hand, psoriasis, one of the other most common inflammatory skin diseases, often has a fluctuating course that is independent of treatment. However, guttate psoriasis, a rare type of psoriasis, is considered a form that may resolve spontaneously after a few months. The resolution of lesions was shown to be associated with decreasing numbers of CD4+ T cells and an increase in the numbers of activated CD8+ T cells. This suggests that different immune mechanisms may exist in acute guttate and persistent plaque psoriasis.

Cutaneous lichen planus (LP), a common chronic relapsing inflammatory skin disease, presents with pruritic papules and plaques on the skin. Cutaneous LP shows a spontaneous remission in up to two-thirds of patients in the first year, while oral LP may persist up five years before remission.

Acne vulgaris, an inflammatory disorder of the pilosebaceous unit with a chronic course, is a common but self-limiting disease. In contrast to many other inflammatory skin diseases with chronic intermittent courses, spontaneous regression occurs among almost half of the patients with acne.

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LECTURE TITLE: CHRONIC URTICARIA: WHERE WE ARE IN SOLVING THE DISEASE"

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Chronic urticaria is a group of very debilitating conditions that all involve mast cell activation and the release of proinflammatory mediators, which result in the recurrent development of wheals, angioedema, or both. Significant progress has been made, over the past years, in our understanding of the pathomechanisms of chronic urticaria, both chronic spontaneous urticaria as well as chronic inducible urticaria. As for chronic spontaneous urticaria, it is now clear, that several different mechanisms contribute to the activation and degranulation of mast cells. Different endotypes are linked to distinct phenotypic profiles and differences in the response to treatment. In chronic inducible urticaria, things are less clear. We now know that mast cells are essential in some types of chronic inducible urticaria such as cold urticaria, where depletion of mast cells results in complete response. We also have convincing evidence that histamine is a major but not the only driver of the development of signs and symptoms in chronic inducible urticaria. Taken together, we have progressed in solving this disease but have a long way to go, and future studies need to identify and characterize in detail targetable drivers of the pathogenesis of chronic urticaria to provide for better treatment approaches.

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SYMPTOMATIC DERMOGRAPHISM (SD), WHAT´S NEW?

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Symptomatic dermographism (SD), formerly also known as urticarial factitia, is a form of chronic inducible urticaria (CIndU) characterized by chronic itch and the development of itchy wheals upon skin exposure to friction, for example after rubbing or scratching of the skin

SD is the most common form of physical urticaria and has a prevalence rate of 2–5% in the general population (1). Typically, the urticarial lesions occur within seconds to minutes and may persist for 1.5–2 h. The average disease duration is 6.5 years with a large variance and the quality of life (QoL) is significantly impaired (2-3). SD is diagnosed using the patient history and needs to be confirmed by provocation test.

The pathogenesis of symptomatic dermatographism is believed to be an exaggerated immunologic response at the level of the mast cell, which is characterized by either excessive histamine degranulation or a lower threshold for degranulation. The exact trigger for this degranulation is unknown; some believe the mechanical trauma releases an unknown antigen that interacts with the IgE receptors on mast cells (4). This theory is supported by dermatographism being elicited in normal subjects via passive serum transfer (5).

A recent study has described two new variants of food related SD showing that food worsens SD symptoms (food-exacerbated SD) and some patients only develop SD after eating, approx. 10 min after testing (food-dependent SD). The authors suggest that increased central parasympathetic activity in the postprandial state may result in lowering of mast cell degranulation thresholds or directly activate mast cells, through muscarinic receptors, as has been shown in the gastrointestinal system (6).

To diagnose SD is important to perform a provocation test. For this, a calibrated dermographometer, commercially available (HTZ Limited, New Addington, UK) can be used. It has a springloaded smooth steel tip of 2.3 mm in diameter and the pressure on the tip can be varied by turning a furled head at the top of the instrument. The scale settings from 0 to 15 are equivalent to a range of tip pressures from approximately 20– 160 g/mm^2 (196–1569 kPa). The tool needs to be calibrated before its use in the clinical setting to adjust the applied pressure to the desired values. The development of a pruritic palpable wheal to applied pressure of <36 g/mm^2 is considered diagnostic of symptomatic dermographism (7). The tool's adjustability allows for determining the patient's trigger threshold. Recently, a simplified dermographic tester was developed (8). This instrument (FricTest_; Moxie, Berlin, Germany) consists of a disinfectable plastic comb with four tips (which are 3.0, 3.5, 4.0, and 4.5 mm in length, respectively), which apply graded shearing forces to the skin, thus allowing for the determination of the trigger threshold. Each tip is 3 mm in diameter and has a slightly rounded end to minimize traumatization of the skin. To obtain a response, the instrument is placed vertically so that the tips are touching the skin, and then stroked once from across the width of the volar surface of the forearm for a distance of approximately 60 mm. A response to dermographic testing is considered positive if a pruritic palpable wheal of ≥3 mm width is present within 10 min of provocation (8).

The use of a second-generation H1-antihistamines (2nd AH1) at the licensed dose is recommended by the current international guideline for chronic urticaria as the first-line treatment option for SD. When SD is insufficiently controlled by a standard dosed 2nd AH1, dose escalation to up to 4 times the standard dose is advised. The recommended treatment options for H1-antihistamines (AH1)-resistant patients with SD include omalizumab and ciclosporin.

Alternative treatments recently reported include the use of benralizumab, lirentelimab and anti-Kit antibodies. Benralizumab is humanized monoclonal anti-interleukin-5 receptor antibody. Symptoms as well as skin provocation testing including trigger threshold measurements 3 months after the start of treatment with benralizumab every 4 weeks were strongly reduced (9).

Lirentelimab, an anti-sialic acid-binding immunoglobulin-like lectin 8 (Siglec-8), that selectively inhibits mast cell activation and depletes eosinophils led to 50% (5 of 10) and 40% (4 of 10) complete itch and hive resolution by FricTest, respectively in patients with symptomatic dermographism (10).

CDX-0159 is a re-engineered variant of CDX-0158, a potent KIT inhibitor that decreased MC numbers in several preclinical models and decreased plasma tryptase levels in cancer patients, indicating a reduction in MC numbers/activity. CDX-0159 was designed to improve its safety profile and increase its serum half-life. Mast cells differentiation, proliferation, and survival require activation of KIT receptors by stem cell factor (SCF). CDX-0159 is a humanized monoclonal antibody (mAb) inhibiting SCF-dependent KIT activation. A single 3mg/kg IV dose demonstrated a 95% complete response (negative provocation testing) in SD patients and was generally well tolerated (11).

Further studies are needed to better characterize the etiology, the pathogenesis as well the development of novel therapies for the treatment of patients with SD.

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SOCIAL AND PSYCHOLOGICAL IMPACTS OF CHRONIC URTICARIA & ANGIOEDEMA

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Chronic spontaneous urticaria (CSU) is a debiliating skin disease that affects 0.5% to 1% of the population. CSU lasts for more than six weeks, characterized by itching, urticarial plaques, and/or angioedema. Its etiology and treatment are difficult even for specialists. This debiliating situation of the patients is so obvious that the clinician is inevitably affected by this. So, the old saying of dermatology specialists comes to mind: "I would rather have a tiger enter than a chronic urticaria patient through the door of the outpatient clinic."

CSU has a huge impact on the psychology and daily life of the patient. Studies have shown that the severity of this condition is at least comparable to the quality of life of patients with coronary artery disease and severe asthma. It is also a disease that causes disturbances in family relations, compromising work and school performance, and adversely affecting leisure activities. It is now better known that pruritus, urticaria plaques and angioedema have effects that can harm a person's physical appearance and social life. While sleep disturbances and fatigue caused by the disease are another problem, sleep disorders such as insomnia, fatigue and drowsiness are frequently observed due to the side effects of antihistamines used in the first step in treatment of CSU. While patients complain of recurrent and chronic pain syndromes such as tension-type headaches and fibromyalgia, the prevalence of psychiatric disorders such as depression, hysteria, hypochondria and post-traumatic stress disorder is high.

As a result, complementary treatment modalities for patients suffering from CSU appear to be necessary due to the high frequency of other comorbid disorders and psychological symptoms.

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ANTIBIOTIC RESISTANCE IN DERMATOLOGY

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Although antibiotics saved the past and our generation from death, it is impossible to consider them innocent and life-saving. Antibiotic resistance is now one of the most crucial health problems of our time. The antibiotic-resistant bacteria, called superbugs, will be one of the major causes of death in the next generations.1

There were approximately 35,000 deaths due to infections with superbugs in the United States in 2019.2 This number is increasing every year in all over the world. With the Covid-19 pandemic, the lack of effective treatment of the disease led physicians to use more antibiotics, which caused this problem to grow.3

What are the causes of antibiotic resistance in dermatology?

The main reason for the formation of antibiotic-resistant bacteria is antibiotic misuse. Antibiotic resistance in dermatology has increased with antibiotic use in acne vulgaris. Antibiotic resistance in acne vulgaris was first reported in the 70s.[4] The transmission of antimicrobial resistant strains through long-term repeated use of antimicrobials has become a major concern in general medicine, as well as in dermatology.[5]

In the treatment of acne, which affects millions of people, first-line treatment has been topical or systemic antibiotics used for long periods, especially in past years. Although long-term antibiotic use is not recommended in the guidelines, unfortunately, antibiotics are usually the first choice in acne vulgaris.[5] The dermatologists prescribe antibiotics for months in the treatment of acne due to the anti-inflammatory effects of the antibiotics. The duration of taking antibiotics for acne vulgaris is much longer than the one or two-week period of antibiotic use in the treatment of infections. Long-term use of antibiotics is one of the crucial conditions for antibiotic-resistant bacteria.[6] The bacteria have the capacity to transfer their antibiotic resistance mechanisms like genes not only to their offspring, but also to other bacteria by gene transfer elements such as plasmids. In addition, antibiotic resistance may occur with various mutations.[4]

Treating viral or fungal infections with antibiotics, prescribing broad-spectrum antibiotics instead of narrow-spectrum antibiotics, taking antibiotics for a long period and/or inappropriate dosage, over-the-counter use of the antibiotics in some countries are the other reasons for antibiotic-resistant bacteria. In addition, antibiotics are added to animal feeds and the water of plants as preservatives in some countries. Thus, humans may inadvertently ingest antibiotics or antibiotic-resistant bacteria with food.[4,7,8]

Measures should be taken to prevent antibiotic resistance

- To prevent antibiotic resistance, dermatologists, as well as the other physicians, have an important duty. Paying attention to the parameters written below to prevent antibiotic resistance in society is crucial.5,7,9,10
- Antibiotic sales without a prescription should be prevented.
- Public should be trained on the conscious use of antibiotics as well as the physicians.
- The antibiotics should not be prescribed for the viral, parasitic or fungal infections.
- If not necessary, narrow-spectrum antibiotics and one type of antibiotics should be prescribed instead of broad-spectrum antibiotics and multiple antibiotics.

- Antibiotics should be used in appropriate doses and duration.
- If possible, auxiliary tests such as Gram staining and culture antibiogram should be carried out before prescribing antibiotics.
- Rapid diagnostic tests should be established to confirm bacterial infection, resulting in a few hours or even minutes.
- More attention should be paid to discovery of new antibiotics and pharmaceutical companies should be encouraged in this respect.
- Antibiotic resistant-bacteria may be transmitted by contact. Attention should be paid to the use of common item at home. The healthcare professionals should wash their hands or apply disinfectant before and after each examination of the patients and use disposable gloves.
- In cases of possible non-antibiotic treatments such as acne vulgaris, other treatment options should be considered. The addition of topical benzoyl peroxide or retinoids to the antibiotics in acne vulgaris treatment should be done in case of prevent antibiotic resistant-bacteria to form biofilms.

Conclusion

Antibiotic resistance is an increasing problem in dermatology as in all branches of medicine. Like all physicians, dermatologists have a great deal of work to reduce the likelihood of mortality and morbidity due to antibiotic-resistant bacteria and prevent this resistance from being transmitted and increased. It should be noted that prevention is always easier than treating.

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ANTIBIOTIC THERAPY IN ACNE

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Acne vulgaris is defined as a multifactorial chronic inflammatory disease of the pilosebaceous unit. Even if there are prominent advances for illuminating the pathogenesis of acne, the precise aetiopathogenesis of acne has not been clearly understood yet. The main factors causing the emergence of the disease; increase in seborrhea or disseborrhea (quantitative/qualitative change of sebum) with androgen activity in the pilosebaceous unit; abnormal follicular hyperkeratinization, Propionibacterium acnes (P.acnes) follicular colonization, inflammation that includes both innate and acquired immunity. Apart from these basic factors, recent developments and innovations in the pathogenesis of acne, especially in the inflammatory process, draw attention. Treatment is planned according to the severity of the disease, age, gender and the risk of scarring. Combined therapies should be preferred because of different mechanisms effective in the pathogenesis.

Topical antibiotics are the first choice in patients with mild and moderate papulopustular lesions. They show anti-inflammatory effect by inhibiting polymorphonuclear leukocyte chemotaxis and antibacterial effect by inhibiting bacterial protein synthesis. They are not recommended in comedonal acne. Combined use with benzoyl peroxide (BPO) and topical retinoids is recommended to increase the effectiveness of topical antibiotics and prevent bacterial resistance development. Topical antibiotics used in acne vulgaris; macrolides (erythromycin), lincosamide (clindamycin), cyclins (tetracycline), fluoroquinolones (nalidixic acid) and disulon (dapsone). Erythromycin and clindamycin are the most commonly prescribed and longest used antibiotics. Combinations with clindamycin are mostly recommended and have high proof value and very successful. In the European guideline, the combination of clindamycin + BPO is recommended as the treatment with the highest level of evidence in mild and moderate papulopustular acne.

Systemic antibiotics are used in inflammatory moderate and severe acne resistant to topical treatments. Tetracycline group antibiotics (doxycycline, tetracycline, limecycline, and minocycline) are the first-line treatment in moderate and severe acne, unless contraindicated. In the presence of contraindications or intolerable side effects, the second choice is macrolide group systemic antibiotics (erythromycin, azithromycin). Except for tetracycline and macrolide group antibiotics, systemic antibiotics should not be preferred unless it is necessary. Efficacy in systemic antibiotics occurs after 1 month, if there is no response in 6-8 weeks, the treatment should be changed and should never be used for maintenance therapy. If the treatment should be repeated, the previously effective agent should be preferred, and other antibiotic groups should be considered in case of insufficient response. The most important problem with the use of systemic antibiotics in the treatment of acne is the development of bacterial resistance and the ineffectiveness of the drug over time. While bacterial resistance caused by topical antibiotic use is limited in the application area, systemic antibiotics affect the normal body flora in the skin and other systems, causing bacterial resistance development as well as proliferation of opportunistic pathogens and impairment of the natural microbiota.

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RATIONAL USE OF MEDICINE SESSION: HOW CAN WE PREVENT ANTIBIOTIC OVERUSE?

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WHO defined rational use of medicine as “Patients receive medications appropriate to their clinical needs, in doses that meet their own individual requirements, for an adequate period of time, and at the lowest cost to them and their community.” in 1985.

The use of too many medicines per patient (polypharmacy), over-use of injections when oral formulations would be more appropriate, inappropriate use of antimicrobials, often in inadequate dosage, for non-bacterial infections, failure to prescribe in accordance with clinical guidelines, inappropriate self-medication, often of prescription-only medicines are the common types of irrational medicine use. Decreased patient adherence to treatment, drug interactions, increasing incidence of adverse events, developing resistance to some drugs, relapse or prolongation of the disease, increased treatment costs are consequences caused by irrational medicine use. There are some important points to provide rational use of drugs in diagnosis and treatment process: Current diagnosis and treatment guidelines should be taken as a basis, If drug treatment is used, appropriate drugs should be selected, It is necessary to determine the appropriate dose and duration of administration for each drug and to write the appropriate prescription, Prediction of interactions in multiple drug use is important, Patients and their relatives should be informed about the treatment.

Appropriate use of antimicrobials can be lifesaving, but irrational use needs to be closely monitored. The overuse of antibiotics in health is a concern that has increased over the years and led to increased antimicrobial resistance. For cellulitis management, dermatology consultation is important for reducing misdiagnosis, unnecessary hospitalization and inappropriate use of antibiotics. Early dermatology consultation reduced unnecessary antibiotic use for pseudocellulitis and improved patient outcomes by identifying and addressing correct diagnoses. Antibiotics are among the most commonly prescribed therapies in dermatologic practice not only for infectious skin diseases, but used predominantly for acne vulgaris, rosacea and for many other inflammatory diseases. Prescribing antimicrobials when they are not necessary, prescribing the wrong type of antimicrobial, prescribing them for the incorrect duration, cause irrational use and overuse of antibiotics. It is important for clinicians to prescribe antibiotics judiciously. But this is not suggesting that antibiotics be withheld in cases where they are clearly indicated, especially in cases of cutaneous infections. Giving appropriate duration of treatment, avoiding long-term use of antibiotics, considering nonantimicrobial treatment options help to battle with antibiotic overuse.

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ALGORITHMIC APPROACH FOR NAIL DISEASES

Arzu Karataş

A stepwise approach is crucial for diagnosing nail disorders. Most nail diseases can be diagnosed by a careful evaluation of the patient with clinical history, examination and by simple office procedures like onychoscopy and light microscopy. A detailed history and clinical examination of nails, skin, hair, and various systems should be made. Even if the patient presents with a disease involving only one digit, all twenty nails should be examined.

A detailed history taking is a key to the diagnosis of any nail disease. Questioning the time of appearance/duration, mode of onset, disease course, occupation, hobbies, habits, skin and systemic diseases, and family history of nail changes may provide important clues for the diagnosis.

A thorough clinical examination of nails with adequate lighting without glare (natural light is preferred source) is a must. The nail polish needs to be removed. Both nail and skin are affected in many disorders, e.g., psoriasis, lichen planus, etc. Hence, a complete skin examination (including mucosa and hair) is essential.

The clinical examination of a nail; starts from examination of nail plate; however, it should also include examination of nail bed and periungual tissue, including the distal pulp. For nail plate examination the shape, size, thickness, transparency, discolouration, surface changes, adhesion to nail bed, alignment of the nail plate with phalanx may be evaluated and noted. For nail bed examination, onycholysis, erosion of epithelium of nail bed, the masses of scale may be the clues. The colour, shape, and size of the lunula may also help diagnose. The periungual tissue examination should include the colour, oedema, scaling, pustulation, cuticle or mass in some cases.

The clinical examination may be supplemented with fungal culture, KOH examination, onychoscopy, nail fold capillaroscopy, nail plate and or nail bed biopsy, X-ray, USG, and MRI.

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WHAT NAIL PROBLEMS CAN/CANNOT BE CURED?

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Nail disorders are difficult to treat and often frustrating for both patients and clinicians. Because of the slow growth rate of the nail plate (3 mm/ mo for fingernails and 1.5 mm/mo for toenails) and the difficulty of getting the drug actives to penetrate the nail tissues, it is usually necessary to wait several months before seeing the results of treatments. This delay often leads to discontinuation of therapy by the patients. Knowledge of the disease to be treated and the patient's status are important for the choice of the best treatment option (1).

Brittle nails, onychomycosis, bacterial and viral infections of the nail unit, onychotillomania/onychophagia, ingrown nail/retronychia, nail psoriasis, some nail tumors and drug-induced nail disorders can be cured (2-6).

Onychomycosis is the most common fungal infection of the nails caused by dermatophytes, yeasts, or non-dermatophytic molds. There are currently 3 main strategies to treat onychomycosis: oral therapies, topical therapies, and a combination of both (1).

Bacterial infections of the nail unit can occur as isolated infections or complicate other nail disorders. Treatment options are local medications with antiseptics, drainage of the abscess when present, topical and systemic antibiotics. Viral infections of the nail unit are treated with various treatment methods according to the etiological agent (3).

Onychotillomania/Onychophagia management is challenging, as the habit is hard to alter. Pharmacologic treatment of onychotillomania includes N-acetylcysteine at 1200-2400 mg/d. Other remedies include manicuring or pedicuring the nails, use of occlusive dressings, and cyanoacrylate adhesives, bad tasting nail lacquers, along with behavioral modification and habit reversal train (2).

When the nail plate starts to grow backward "retro," it pushes into the proximal nail fold and leads to chronic paronychia, pain, and drainage. For early, mild forms, treatment with topical steroids can halt the process, leading to reversal and healing. For chronic, severe forms, nail avulsion is required (7).

Nail involvement is estimated to affect 80–90% of patients with psoriasis at some point in their lives and is often associated with severe disease. The treatment of nail psoriasis varies according to disease severity (8).

Nail tumor assessment generally follows the basic rules of skin tumor assessment: lesions with rapid growth, tenderness, and destructiveness warrant further exploration. Benign nail tumors are typically slow growing, slowly evolving, painless (except glomus tumors) lesions. The definitive treatment is typically excision, but recurrence rate is high for many of these benign lesions (5).

Nail lichen planus, congenital abnormalities and genetic syndromes cannot be cured (7,9).

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DERMATOSCOPIC DIAGNOSIS AND MANAGEMENT OF SPITZOID LESIONS.

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Spitz nevi are an odd entity in the universe of nevi. These melanocytic lesions are characterised by the onset in adolescence and early adulthood, variety of clinical and dermatoscopic presentation, rapid growth and tendency to involution. A pattern of lines converging to a common structureless area, known as starburst pattern, is commonest dermatoscopic pattern and the most recognizable one. Others include structureless/homogeneous pattern (both pigmented and nonpigmented), pattern of clods/globular, pattern of lines reticular/reticulated, pattern of depigmented lines reticular/inverted network, vascular pattern of regularly distributed vessels of any type, vascular pattern of vessels with radial arrangement/vascular starburst pattern and pattern of polarizing-specific non-crossing white lines orthogonal/inverse network, and multicomponent/mixed pattern (1).

Some Spitz nevi can resemble spitzoid melanomas in clinical presentation and dermatoscopy, and some melanomas may also imitate a Spitz nevi too. The cases where pathology is unable to provide reliable distinction between them had been termed atypical spitzoid tumours (ASTs). The most challenging lesions are the one presenting multicomponent dermatoscopic pattern, which is a hallmark of melanoma, but can be present in about 10% of Spitz nevi and 80% of ASTs (1).

Although Spitz nevi are contemporarily regarded as benign, there is still unclear whether they are completely distinct form other spitzoid tumors, especially spitzoid melanoma, or they are just a benign end of the spectrum of spitzoid tumours with progressive burden of cytological and architectural atypia (2). Over the years different approaches were proposed to manage these exotic tumours. Based on the current observations on the follow-up with the patients with ASTs, 99% of them are just Spitz nevi. As positive sentinel lymph node biopsy (SLNB) was noted in about 30-40% of cases, they were reported to have no prognostic significance and thus, SLNB is no longer recommended. The surgical excision should be followed by yearly regional lymph node palpation, and a lymph node sonography in case of the presence of suspect mass (3,4)although cell deposits are commonly detected in the sentinel lymph nodes of patients with atypical Spitz tumours, their prognosis is substantially better than that of patients with melanoma and positive sentinel lymph node biopsies. We did a systematic review of published reports to assess the role of sentinel lymph node biopsy as a prognostic method in the management of atypical Spitz tumours. The results of our analysis did not show any prognostic benefit of sentinel lymph node biopsy; having a positive sentinel lymph node does not seem to predict a poorer outcome for patients with atypical Spitz tumours. These findings indicate that, especially in the paediatric population, it might be prudent initially to use complete excision with clear margins and careful clinical follow-up in patients with atypical Spitz tumours.”,”container-title”:”The Lancet. Oncology”,”DOI”:”10.1016/S1470-2045(13.

The main factors influencing the management of Spitz nevi are: harmony of the lesion, its texture and the age of the patient (1). As dermatoscopic chaos in structure and colour distribution is the main criterion of melanoma, all lesions with spitzoid features but deprived of harmony should be excised. The incidence of melanoma in all spitzoid lesions regardless of harmony and age was 32% for nodular lesions and 13% for flat lesions, which is the reason for removal of all nodular spitzoid lesions. In flat and harmonic spitzoid lesions no melanoma has been observed below the age of 12, and the grater rise in malignancy was noted over the age of 30. For this fact, flat harmonius spitzoid lesions do not need any intervention or follow-up in children below 12. 80% of Spitz nevi involute, so for the low (yet not negliable) risk of melanoma in the age bin of 12-30, follow-up every 2-3 month is acceptable until the lesions becomes stable for 6 months or involutes (1,5).

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DERMATOSCOPIC DIAGNOSIS AND MANAGEMENT OF ACRAL LESIONS

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The palmoplantar skin is anatomically and histologically unique. It is characterized by a thick, compact cornified layer and by the presence of dermatoglyphics, consisting of ridges and furrows (sulci) that run on the surface in a parallel fashion and form loops, whorls, and arches in highly individualized patterns. Hair follicles are absent, but eccrine sweat glands, whose ducts open in the center of surface ridges, are well developed. Melanocytic lesions of the palms and soles exhibit unique dermoscopic patterns that are significantly different from those seen in nonglabrous skin, due to the distinctive histologic characteristics of the acral skin. In this lecture it will be mentioned especially melanocytic leson of the acral area.

The main pigmentation patterns of acral melanocytic lesions are as follows:

- **Parallel furrow pattern** – Linear pigmentation along the furrows of the skin markings.
- **Lattice-like pattern** – Pigmented lines along and across the furrows.
- **Fibrillar pattern** – Fine fibrillar or filamentous pigmentation usually arranged in the direction crossing the parallel skin markings.
- **Parallel ridge pattern** – Band-like pigmentation located on the ridges of the skin markings

The first three patterns are typically seen in benign acquired nevi, whereas the parallel ridge pattern is the hallmark of acral melanoma. Since early melanoma and benign melanocytic nevi on the palms and soles may have a similar appearance on naked eye examination, the recognition of these specific pigmentation patterns by dermoscopy is of great help for the clinician in determining whether a lesion should be biopsied or not.

Acquired melanocytic nevi — Most melanocytic nevi detected on the palms and soles are acquired. Approximately two thirds of acquired acral nevi show one or combinations of the three major benign dermoscopic patterns: the parallel furrow pattern, the lattice-like pattern, and the fibrillar pattern. In addition to the three major dermoscopic patterns, minor patterns, formerly collectively called nontypical patterns, can be detected in approximately one-third of acquired melanocytic nevi of the palms and soles. Minor patterns include:

- Globular pattern
- Acral reticular pattern
- Homogeneous pattern
- Globulo-streak-like pattern

Congenital melanocytic nevi — Small congenital melanocytic nevi (≤1.5 cm) may occur on the palms and soles, but their prevalence is not known. Dermoscopic features typically detected in congenital melanocytic nevus of the palms and soles include the parallel furrow pattern, crista dotted pattern, and peas-in-a-pod pattern, as described below.

Crista dotted pattern — The crista dotted pattern consists of dots/globules of pigment regularly distributed on the ridges of the skin markings.

Peas-in-a-pod pattern — The peas-in-a-pod pattern is a combination of the parallel furrow and the crista dotted patterns.

Other findings — Congenital nevi of the palms and soles may also show: The symmetric distribution of dermoscopic features and an even pigmentation support the diagnosis of congenital nevus. Elements of the clinical history (eg, presence since infancy, stable course over time) may be additional clues to the diagnosis. However, lesions with equivocal or suspicious dermoscopic features should be biopsied for histopathologic evaluation.

Transition pattern – Pigment network on the nonglabrous side and parallel furrow pattern or lattice-like pattern on the glabrous side of the lesion.

Melanoma — The parallel ridge pattern and an irregular, diffuse pigmentation are highly sensitive and specific features of early and advanced acral melanoma, respectively. Advanced melanoma of the palms and soles may also show dermatoscopic features characteristic of melanoma of nonglabrous skin, including irregular dots/globules, irregular streaks, blue white veil, regression structures, and polymorphous vessels. **Parallel ridge pattern** — The parallel ridge pattern consists of a band-like pigmentation, tan to black in color, located on the ridges of the skin markings. It is highly characteristic of melanoma of the palms and soles and reflects the preferential proliferation of melanocytes in the crista profunda intermedia during the early horizontal growth phase. PRP has 99% specificity in detecting both melanoma in situ and advanced melanoma on the acral volar skin.

Exceptionally some **benign acral lesions may show PRP** on dermoscopy.These benign lesions include pigmentation due to a dye such as para-phenylenediamine, acral pigmented macules associated with Peutz–Jeghers syndrome, anti-cancer drug-induced hyperpigmentation on the volar skin, acral subcorneal hemorrhage and pigmented warts.

In conclusion it is important to check the algoritms such as the three-step and BRAFF and malignant patterns for not to miss an acral melanoma.

The three-step dermoscopıc algorıthm — The three-step algorithm for the diagnosis and management of melanocytic lesions on the palms and soles was originally proposed in 2007. The step 1 of this algorithm is based upon the high sensitivity, specificity, and positive predictive value (86, 99, and 94 percent, respectively) of the parallel ridge pattern for early acral melanoma. Sensitivity, specificity, and positive predictive value of the parallel furrow pattern/lattice-like pattern for melanocytic nevi are 67, 93, and 98 percent, respectively. A revised version of the three-step algorithm was published in 2011 and is presented here:

Step 1 – The lesion is examined for the presence of the parallel ridge pattern. If the parallel ridge pattern is found in any part of the lesion, the lesion should be biopsied regardless of the size. If the lesion does not show the parallel ridge pattern, proceed to Step 2.

Step 2 – The lesion is examined for the presence of one or an orderly combination of the typical benign dermoscopic patterns (ie, typical parallel furrow pattern, typical lattice-like pattern, regular fibrillar pattern). If the whole area of the lesion shows one or a combination of two or three typical benign patterns, further dermoscopic follow-up is not needed. If the lesion shows equivocal dermoscopic features (ie, part or total absence of any typical/regular patterns) proceed to Step 3.

Step 3 – The maximum diameter of lesions that do not show typical benign patterns is measured. Lesions >7 mm should be excised or biopsied for histopathologic evaluation. Lesions ≤7 mm should be monitored clinically and dermoscopically at three- to six-month intervals.

The BRAFF checklist: The BRAAFF algorithm, by taking into consideration all of the dermoscopic criteria that are useful to differentiate acral naevi from AM, is a practical tool to help in the detection of AMs that deviate from the pathognomonic PRP, thus increasing the diagnostic accuracy. The BRAFF checklist include the scoring system as follows:

Acronym	Criterion	Points
B	Irregular **b**lotch	+ 1
R	Parallel **r**idge pattern	+ 3
A	**A**symmetry of structures	+ 1
A	**A**symmetry of colours	+ 1
F	Parallel **f**urrow pattern	− 1
F	**F**ibrillar pattern	− 1

A total score of ≥ 1 is needed for a diagnosis of melanoma.

To simplify the interpretation of the algorithm further and to enhance its applicability, we provide below four simple management suggestions when examining an acral lesion. (i) A lesion dermoscopically exhibiting a PRP should be excised (Fig. 4); (ii) a lesion displaying a symmetric PFP or a symmetric fibrillar pattern is very probably benign and should not be excised; (iii) a lesion exhibiting a PFP or fibrillar pattern should be excised if displaying marked asymmetry (asymmetry of colours plus asymmetry of structures) or a slight asymmetry (of colours or structures) plus irregular blotches; and (iv) a lesion lacking a PRP, PFP or fibrillar pattern should be excised in the presence of asymmetry (of colours or structures or both) or in the presence of irregular blotches.

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DERMATOSCOPY OF MUCOSAL SURFACES

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Dermoscopy has been extensively studied in the clinical evaluation of melanocytic and non-melanocytic lesions, but available literature on the dermoscopic features of oral mucosal lesions are relatively scarce. Mucoscopy refers to the dermoscopic evaluation of dermatoses affecting mucosa and semi-mucosa.

Mucoscopic features of oral and genital dermatoses will be discussed in this presentation.

1. Normal variants|

Fordyce's spots: These ectopic sebaceous glands may be present either on buccal or lipmucosa. Dermoscopy shows whitish to yellowish discrete ovoid struc-tures corresponding with sebaceous glands located in the dermis with central opacity (the opening of sebaceous glands onto the surface) surrounded by linear and branching vessels.

Lingual varicosities: This physiological variant is usually observed in elderly individuals, mostly on the ventral surface of the tongue, and is related to elastolytic degeneration of sublingual veins. On dermoscopy, it is characterized by red to dark-blue lacunae with a linear distribution with white shiny structureless areas.

2. Inflammatory conditions

Lichen planus: Oral LP most commonly involves the buccal mucosa, tongue and gingiva and presents as reticular, papular, plaque-like, erosive, atrophic or bullous lesions. Dermoscopy of LP of the lips shows white reticularlines (Wickham striae), corresponding to compact orthokeratosis above zones of wedge-shaped hypergranulosis, over a pink or violaceous background. LP lesions on the tongue display white reticular (or crossing) lines, erythematous background and curved vessels. In patients of darker skin phototype besides white areas, brown and reddish areas could be observed (tricolor background). Additionally, blunted papillae, tiny erosions, interspersed clods and a polymorphic vascular pattern have been reported.

Lichen sclerosus: LS of the oral mucosa is uncommon with less than 40 cases reported in the literature. A single dermoscopic report of LS on the tongue showed atrophic papillae within a well-demarcated white, homogenous area.

Plasma cell cheilitis: PCC is a rare inflammatory disease of unknown etiology, primarily affecting the lower lip in the elderly. Clinically it presents as well-margined erythema or a dark-red/brown plaque. Reported dermoscopic features are a well-demarcated white structureless area with telangiectasias.

3. Vascular lesions

Venous lake: VL is a benign, acquired vascular lesion composed of dilated veins which most commonly appears as a dark blue or red, soft nodule/plaque on the lower lip in elderly individuals. Dermoscopy shows either a structureless pattern or globules of purple, red or bluish color, which corresponds to the spaces filled with erythrocytes, sometimes with thrombi. Mucoscopy may be useful to differentiate between VL and labial melanotic macule.

Pyogenic granuloma: PG is an acquired, benign vascular proliferation affecting skin and mucosa. Three main structures have been described dermoscopically; red homogenous areas, white collarette, and white lines (so called double rail).

Angiokeratoma: Dermoscopy of angiokeratoma circumscriptum shows multiple red-bluish lacunae, whitish veil and milky-red areas corresponding with dilated and congested vessels and underlying hyperplastic squamous epithelium.

4. Benign proliferations and cysts

Mucocele: Mucocele is a benign lesion of the oral mucosa that occurs as consequence of mechanical trauma on the discharge duct of the salivary gland. Dermoscopic presentation changes with the evolution of the lesion. Type 1 (classical) mucocele had purplish color and reticular branching vessels, type 2 (associated with hyperkeratosis due to recurrent trauma) showed erythema, hyperkeratotic white areas and unclear hairpin vessels, while type 3 (end-stage, lack of mucinous material) showed erythema, yellow areas, and marked hairpin vessels.

Granular cell tumor: GCT is uncommon benign neoplasm, most commonly located within the head and neck area, including oral mucosa and tongue, which probably derives from Schwann cells or their precursors. Dermoscopy of GCT of the tongue showed central white-yellowish structureless areas and peripheral polymorphic vessels.

5. Infectious conditions

Black hairy tongue: BHT refers to brownish-black discoloration of the tongue associated with hypertrophy of the filiform papillae, usually with the presence of secondary infection of Candida albicans and/or Bacillus subtilis varietas niger. Dermoscopy shows brownish hair-like elongation of filiform papillae with whitish lingual papillae.

6. Benign pigmented lesions

Physiological hyperpigmentation: PHP is distributed symmetrically, mainly within gingiva and diagnosed most commonly among non-Caucasians. Dermoscopically it is characterized by the presence of parallel and homogenous structureless pattern.

Pigmented fungiform papillae of the tongue: PFPT are benign mucosal conditions that typically develop in dark-skinned individuals. Dermoscopically they are characterized by projections with pigmented borders, interspersed by dichotomized vessels originated in their base, with an aspect resembling metaphorically the so-called rose petals. Due to the pigment that is restricted to the borders, they have a much beter defined contour than the usual non-pigmented fungiform papillae.

Amalgam tattoo: AT is an artificial pigmentation observed on the oral mucosa as blue-black macules with the presence of grainy structureless homogeneous bluish pattern. From a clinical point of view, the most important issue is to differentiate between lesions associated with basal layer hyperpigmentation and those associated with melanocytic proliferations (including melanoma). Based on the current knowledge, most melanocytic nevi on the vermillion lip reveal asymmetric homogeneous, regular pigmented network and homogeneous blue pattern. Features that should rise melanoma suspicion are: the presence of gray, blue or white color in conjunction with brown, the presence of ≥3 colors, and a multicomponent pattern. Moreover, irregular network, irregular dots and globules, blue-white veil, atypical vessels, and reticular depigmentation are also suggestive of malignancy.

7. Autoimmune disorders

Discoid lupus erythematosus: The most frequent dermoscopic features of mucosal DLE are telangiectasia, white structureless areas, and ulceration. In labial DLE, the predominating features are telangiectasia, brown pigment spots, scales, white structureless areas, bleeding spots, and erosions.

Other connective tissue disorders: The study analyzing dermoscopic patterns of filiform papillae in patients with connective tissue autoimmune diseases (including rheumatoid arthritis, systemic lupus erythematosus, mixed connective tissue disease, CREST syndrome, scleroderma, Sjögren syndrome, and dermatomyositis) found out that flattened/round filiform papillae were significantly more common in CTD group compared to controls.

8. Others

Median rhomboid glossitis: MRG is uncommon disorder of the tongue, which affects less than 1% of the population and typically manifests as a reddish, flat, rhomboid macule or plaque located medially on the dorsum of the tongue. Dermoscopy shows atrophic filiform papillae in the affected area, in comparison to peripherally distributed papillae of normal size.

Geographic tongue: GT refers to white and red, sharply demarcated, irregular patches of variable distribution resembling a map that affects 1-14% of general population. Dermoscopy shows loss of filiform papillae in clinically reddish areas on the dorsal surface and whitish lines demarcating affected from unchanged regions.

Aphthous stomatitis: AS is a condition of multifactorial origin that may affect up to 20% of population and manifests with well-demarcated ulcerations covered by fibrinous exudate and surrounded by an erythematous halo. Dermoscopy reveals three zones; central yellowish-red area surrounded by whitish structureless region and a rim of erythema.

Dermoscopy is possibly helpful in differential diagnosis and management of some of the lesions in this particular location, however more studies with higher number of patients are needed to confirm the initial observations, especially is some rarely observed entities.

Mucoscopic findings always need to be correlated with clinical history and in case of any doubts verified histopathologically

to avoid the diagnostic pitfalls. Technological advances are needed to adjust commercially available dermoscopes for mucoscopic purposes, including some hard to reach areas, like the palate or gingivae. Fear of contamination of instrument and cross-infection are important concerns by many clinicians while using dermatoscopes on the mucosal surfaces. The use of transparent film dressings for performing can be used to perform mucoscopy of mucosal region.

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DERMATOSCOPY IN INFLAMMATORY AND INFECTIOUS DERMATOSES

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Dermatoscopy has well-documented value in improving the diagnosis of skin tumours. It is continually gaining appreciation in the field of general dermatology such as cutaneous inflammatory and infectious diseases. In this paper, dermoscopic features of cutaneous inflammatory and infectious diseases will be summarized.

Dermatoscopy of plaque psoriasis typically reveals white scales and regularly distributed, dotted vessels on a light red background.[1] Dotted vessels in a patchy distribution and yellow serocrusts represent the main dermoscopic criteria in all subtypes of dermatitis.[2] Dermoscopy enables the visualization of Wickham striae which are highly sensitive and specific criterion for the diagnosis of lichen planus and they are surrounded by dotted or linear vessels.[1] Lesions of pityriasis rosea dermoscopically display peripheral whitish scales, typically combined with dotted vessels that lack the regular distribution of psoriasis.[2] Erythematotelangiectatic rosacea reveals large polygonal vessels, papulopustular type reveals follicular plugs, follicular pustules white scales and also demodex tails and whitish amorphic follicular material.[2] Early lesions of discoid lupus erythematosus display perifollicular whitish halo, follicular keratotic plugs, red dots and white scaling. Late lesions are chracterized by whitish structureless areas and blurred linear branching.[3] In cutaneous sarcoidosis, dermoscopy shows the presence of orange-yellowish globular-like or structureless and linear vessels.[4] Furthermore, dermatoscopy is used in the diagnosis of many inflammatory skin diseases such as granuloma annulare, necrobiosis lipoidica, lichen sclerosus, morphea, urticarial vasculitis, pigmented purpuric dermatoses, porokeratosis, Darier disease, Grover disease and mastocytosis.[2] Delta-wing jet with contrail sign has been defined for scabies. It indicates the irregular burrow excavated by the mite. The mite's anterior part of body is visible at dermoscopy as a small black arrowhead area at the end of the whitish wavy line. This finding is considered pathognomonic for scabies.[5] The most important feature of human papillomavirus infections is dotted vessels and/or hemorrhagic points.. Common warts are the most common type of warts. It's dermoscopy demonsrate grouped papillae with dotted or loop vessels and/or hemorrhagic points and lines often surrounded by a whitish halo, it is likened to a ''frogspawn appearance''.[6] Molloscum contagiosum shows usually at dermoscopy as the presence of a central pore on a white-yellowish amorphous area, often surrounded by thin crown vessels.[7] Tinea capitis may show at dermoscopy comma hair, zig-zag hair, corkscrew hair, Morse code-like or barcode hairs, black dots, dystrophic hairs and hair casts.[8] Dermoscopic examination of cutaneous leishmaniasis often show that generalized erythema and yellowish white round-to-oval structures. Moreover hyperkeratosis, central erosion, ulceration, white starburst-like pattern and various vascular structures may be observed.[9]

Dermatoscopy is not a definitive diagnostic method of most inflammatory and infectious dermatoses such as potassium hydroxide examination, culture and histology. However it is low cost, practical and easy diagnostic method. Consequently, it should be commonly used in differential diagnosis of cutaneous inflammatory and infectious diseases by dermatologists.

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TITLE: THE PATH TO A BEAUTIFUL CHIN - NON-INVASIVE DOUBLE CHIN REMOVAL

Medhat Abdelmalek

This lecture will spot the light on the non-invasive technique to contour and improve the appearance of the “double chin” by reducing fat on the upper neck.

EMPLOYING AN AESTHETICIAN IN A DERMATOLOGY PRACTICE: FACTS AND CONTROVERSIES

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Employment of aestheticians in dermatology offices, is it a good or bad idea, beneficial or harmful? Is this ethical?

Who is the aesthetician? What is the definition of the profession, what does it cover?

Aesthetician is not a licensed healthcare professional. The aesthetician usually has a certification program that can be completed in a total of six to twelve months (1).

According to the Associated Skin Care Professionals (ASCP);

Aestheticians focus on the application of various treatments to the skin to maintain and improve its appearance (except for medical treatment!).

Aestheticians are trained in skin wellness, helping their customers balance oil and moisture content and achieve a healthy, youthful complexion (2).

Techniques used by aestheticians may include facial steaming, chemical and mechanical exfoliation, hair waxing, cleansing, and makeup applications.

The ASCP also states that aestheticians can evaluate customer skin and recommend skin-care products, cosmeceuticals (except for medical treatment!).

Procedures aestheticians can do (3);

Skincare (only peelings containing fruit acid up to 14% concentration, which can be used as a home product with cream, mask, steam method, can be made), body massage, use of various body care and slimming devices, make-up, and permanent make-up.

Procedures that aestheticians should definitely not do (1,3);

All treatments with injection methods (such as Botox, filler, PRP, intralesional injections, etc.), laser treatment methods (treatment of melasma, tattoo removal, skin rejuvenation and anti-aging treatments, vascular treatments, epilation, etc.), radiofrequency treatment methods (skin tightening, etc.), chemical peeling treatments (only doctors can use acids with a concentration higher than 14%).

An aesthetician's scope of practice should specifically exclude (that require a medical license) medical diagnoses, medical prescriptions, medical treatments. The dermatologist must be absolutely certain that an aesthetician working in her/his practice is not providing a medical diagnosis or treatment (4).

One of the most important points in aesthetician employment; they cannot do laser hair removal (5), laser epilation can be performed by a doctor or a nurse (or aesthetician) under the supervision of a doctor (is the same in current laws).

What are the ethical aspects of aesthetician employment?

Referring the patient to his/her aesthetician and leaving some procedures or suggestions to the aesthetician can also bring about going out of the patient-physician relationship. For the physician, the patient and ethical principles should always prevail and patient-physician trust should not be damaged. For the aesthetician, the buyer is the customer or client, and the ethical values are not mandatory as in the patient-physician relationship (6).

One of the most important ethical issues when referring the patient to your aesthetician is that the practices provided by the aesthetician and the cosmeceuticals that she/he may recommend may not be supported by adequate clinical studies (7,8). For example, there is no clear consensus regarding the beneficial anti-aging effects of a facial massage frequently performed by aestheticians (9).

So what are the advantages of employing the aesthetician?

Sustains and ensures current patient records detailing treatment procedures, products, and medications. Monitors equipment for correct operation, including cleaning as suggested by the manufacturer. Assists with orientation and

training of new office personnel. Accountable for coordination of any correspondence/brochures to patients regarding their skincare treatment, product usage, and home care instructions. Keeps stock system for professional and retail products and tracking of sales tax. Orders and stores medical supplies and products as needed for maintaining treatment room and retail shelves (10).

Employment of aestheticians in dermatology offices, is it a good or bad idea, beneficial or harmful? is this ethical? Physicians differ in two different views.

Proponents of the practice; Aestheticians can help meet patients' expectations (while allowing dermatologists to focus their practice on the medical needs of patients).

Opponents of the practice; The employment of fee-for-service aesthetic technicians compromises our ethical duties to our patients. This can reduce the stature of dermatology as a profession.

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SLEEP LINES TREATMENTS IN AESTHETIC DERMATOLOGY

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Wrinkles are one of the essential cosmetic problems in modern decades. These are skin folds that increase with aging mainly due to a decline of the skin's elastic properties. Wrinkles can become permanent with time and repetition. They are often located on the face and subsequently on the hands. Several individual and environmental factors, including hormonal changes, sun exposure, and smoking, influence the rate of wrinkle formation (1). Sleeping is another issue with essential effects on wrinkles but has received less attention. People sleep for one-third of their life, and sleeping in certain positions leads to the formation of wrinkles. These wrinkles associated with sleep position have been termed '*sleep lines*,' '*sleep wrinkles*,' or '*sleep creases*.' Expression wrinkles and sleep wrinkles differ in etiology, location, and anatomical pattern. While several age-related wrinkles, including frown lines and crow's feet, develop due to permanent small muscle and habitual facial expressions, sleep lines are only caused by sleeping position. Resting the face on a pillow in the same fashion can increase or aggravate specific wrinkle formations (2,3).

Sleeping lines were first described on the face by Dr. Stegman in 1987. Stegman reported that these lines could be seen in the lateral orbital, mandibular, and nasal regions as well as the forehead. However, these lines may affect anywhere of the body. Anatomical studies have shown that these lines were related to the superficial musculoaponeurotic system (3). Compression, shear, and stress forces during facial distortion in lateral side or stomach sleeping positions cause a mechanical pressure of our face on the pillow while we sleep. A pillow or hand test, in which manual pressure is applied laterally to the sleep line, simulating sleep position, can accentuate the visibility and suggest the formation mechanism of these creases, which tend to assume a vertical orientation. Although the primary way to avoid sleep lines is to be supine position, this does not seem practical. While our initial sleep position is a choice, people change their sleeping positions with an average of 20 position shifts per night (4). A person is not expected to spend all night in a single sleep position. Moreover, the supine position may aggravate sleep apnea, gastroesophageal reflux, and snoring (4,5).

Treatment options for sleep lines are more limited than expression wrinkles. First, we should discuss the general principles of successful aging, including particular lifestyle and habits, such as stopping smoking, increased consumption of antioxidants, regular sunscreens, optimal skincare, etc. While back sleeping would solve this problem, it is not practical, comfortable, or ergonomically all night. However, specially designed pillows to minimize facial deformation during sleep between the pillow and the face are commercially available and should be recommended (6). Skin tightening procedures, including CO2 laser resurfacing, a facelift that decreases the amount of skin available to buckle and possibly alter skin attachments, might be beneficial (4,5). However, botulinum toxin should not improve true sleep lines since they are not caused by muscle contraction; neurotoxin injections have been reported to reduce the visibility of these lines (7). Fillers can also temporarily improve wrinkles of any type (5).

In conclusion, in etiology, location, and treatment, sleep lines differ from classical expression lines. The most crucial point in the treatment is to avoid the formation of sleep lines with a safe sleeping position. In addition, specially designed pillows, various resurfacing methods, botulinum toxin, and filler applications might be recommended or combined according to the patient's requirements.

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PRF IN AESTHETIC DERMATOLOGY

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Medicine practice has recently witnessed a proliferation in the number of platelet concentrate products containing supra-physiological quantities of platelets and growth factors to stimulate tissue repair and skin rejuvenation(1-4).

PRP is the first one and widely used across a range of medical and oral specialties, as a tool for tissue regeneration. Despite the widespread use of PRP, there are some limitations about the use of it. The first limitation is the presence of thrombin and anticoagulants within PRP that can impair wound healing by inhibiting the coagulation process. The other limitation is the sudden release of growth factors following activation with calcium chloride or bovine thrombin. These limitations led to the development of the second generation of platelet concentrates without anticoagulant.

PRF is a second generation of platelet concentrates used in many fields of medicine including dentistry, plastic surgery and also dermatology (3-5). PRF has been developed by removing the anti-coagulants and modifying centrifugation protocols. It is obtained using a one-step centrifugation process without the use of anticoagulants (5). Depending on the blood collection tube and centrifugation protocol used, solid gel such as L-PRF and A-PRF and liquid forms of PRF can be developed(1,4). Solid PRF, produced using glass tubes has been successfully used in oral and maxillofacial surgery, with beneficial effects on bone and soft tissue regeneration. It has also been used for ulcer or for wound healing(2). Liquid PRF which termed as injectable-PRF (i-PRF)can be prepared by further reducing the centrifugal force and the time duration of spin , and by using plastic tubes(1,6). This small centrifugation time allows separation to occur before clot formation and preparation remains liquid. i-PRF has a higher concentration of platelets and WBC than L-PRF and A-PRF and has a significantly greater ability to induce collagen matrix synthesis when compared to PRP (7). It remains a liquid for 15–20 min before it coagulates to form a clot which makes it a suitable injectable material for facial rejuvenation. Use of this injectable form of PRF has been reported for the treatment of acne scars, periorbital rejuvenation, blemishes, androgenetic alopecia, wound healing, nonhealing ulcers of varying etiologies and as temporary filler material in dermatology practice. (1,3,7,8).

Adverse effects with intradermal injection of PRF in the skin are less frequently reported. Transient edema, pain, stinging at the time of injection, bleeding, swelling and bruising are the most commonly reported adverse effects (1). One of serious adverse effects reported after facial or periorbital injection of PRP is permanent blindness. (9) To prevent vision loss, slow administration, low volume injection, use of large-bore cannulas, applying occlusive pressure on the supraorbital notch, injecting intradermally and not subdermally are the strategies advised by the Aesthetic Interventional Induced Visual Loss Consensus group (9).

Platelet dysfunction syndrome, critical thrombocytopenia, hemodynamic instability and septicemia are the absolute contraindications for PRF.Relative contraindications include heavy smokers, drug or alcohol users, patients with cancer or chronic liver pathology, severe metabolic or systemic disorders,

patients having low hemoglobin or platelet count, patients having a history of recent fever or other illnesses and patients on regular use of NSAIDS, prednisolone more than 20 mg per day and anticoagulant therapy.

If used with caution; intradermal injection of i-PRF is a safe intervention that is associated with favorable outcome in aesthetic dermatology. However multicenter, controlled, and randomized studies with larger sample sizes are required to fully investigate the short- and long-term effects of i-PRF in relation to facial rejuvenation and aesthetic regeneration.

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PSYCHOLOGICAL SIDE EFFECTS FOR: ISOTRETIONIN

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Acne vulgaris is the most common cutaneous disorder affecting adolescents and young adults. Scars can be disfiguring and lifelong. Facial scarring, may be an 'at risk' factor for suicide, emphasizes the importance of early treatment. In 2018 in JEADV, Chernysoc et al. metaanlysed 186 papers with Health-related Quality of Life assessment, 37 included and they found best positive influence in quality of life is isotretionin. But researchs about psyhological side effects and isotretionin not completly enlightened still. Biby et al analyzed 30 496 cohort and found significant association between isotretinoin and depression. Later Huang et al did a metaanalyse and reported isotretinoin treatment for acne does not appear to be associated with an increased risk for depression. Moreover, the treatment of acne appears to ameliorate depressive symptoms. In 2017, Data were extracted from the French National PharmacoVigilance Database for systemic acne treatments, systemic retinoids and drugs used as comparators and found highest proportion of mild/moderate psychiatric adverse events was reported with isotretinoin.

So psychiatric adverse effects must be sought in each follow up visits.Caution is advised when prescribing retinoids in patients at risk. Some authors recommend use baseline depression screening: Patient Health Questionnaire-2 (PHQ-2).

ADVERSE CHILDHOOD EXPERIENCES IN DERMATOLOGY

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Subsequent reports found that a higher burden of Adverse Childhood Experiences (ACEs) were associated with a higher risk of many adverse health, behavioral, psychological, and social outcomes, including smoking, heavy alcohol consumption, substance use, high-risk sexual behavior, mental health problems (depression, anxiety, suicidality, hallucinations), and chronic diseases (ischemic heart disease, cancer, lung disease, diabetes, chronic headaches, HIV, liver disease, and autoimmune disease). The ACEs study defines childhood maltreatment as emotional abuse, physical abuse, sexual abuse, physical neglect, and emotional neglect. Comorbidities related by ACEs in the process from childhood to adulthood can be explained by toxic stress and allostatic load (1). On the other hand, ACEs can lead to a vulnerability in mental functioning, resulting in affect dysregulation, difficulty in coping with stress, increase in perceived stress, and impairment in psychological resilience (2).

The skin and the central nervous system are embryologically related because the epidermis and the neural plate both derive from the embryonic ectoderm. Further, the skin and the central nervous system share several hormones, neurotransmitters and receptors. Psychological stress profoundly disrupt neurocutaneous physiology via HPA dysfunction and resulted in sympathic system activation, alteration of immun system functioning and impairment of skin barrier system (3). It is well known that psychological stress has long been linked with the exacerbation/onset of dermatological disease. Besides, it is known that comorbidity of depression, anxiety disorders and alexithymia traits are shown high in psychosomatic diseases. However, the mechanisms underlying the interplay between stress and psychosomatic disorder are not fully understood. On the other hand, it has been argued that biological changes occurring as a result of childhood stress may be long lasting, may create biological vulnerability to the effects of stress later in life and may result in psychosomatic diseases (4). It can be said that childhood traumas are observed at a high rate in psychodermatological diseases, especially early emotional neglect (5-, though little study has been done to address stressors (such as childhood trauma) in these disorders.

As a result, early neglect may cause some physiological and behavioral changes in the child, leading to the onset or exacerbation of psychodermatological diseases through the inability to cope with stress, affect dysregulation, and susceptibility to depression in the later stages of life. Psychological trauma can be observed with multiple symptoms triggered by stress, resistance to treatment, self-neglect and denial of the disease in psychodermatological patients. Therefore, knowing and working on the trauma history in these patients may be effective in treatment and protect against flare-ups.

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BODY DYSMORPHIC DISORDER IN COSMETIC PROCEDURS

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Body dysmorphic disorder (BDD) is an underdiagnosed and underreported chronic psychiatric condition with the main symptom being an impairing preoccupation with a nonexistent or slight defect in appearance. Defect is not noticeable to other people or minimal, but grossly exaggerated in the mind of patient and becomes the cause of much anxiety and distress. It is relatively common in dermatologic and cosmetic surgery settings. Several studies have suggested that psychiatric disorders are more common among people undergoing cosmetic procedures than the general population. BDD is among of the most important psychological disorders in patients undergoing dermatologic and/or cosmetic surgery. Treating patients with this syndrome may even worsen symptoms.Therefore, for some individuals whose concerns are irrational or exaggerated, cosmetic procedures are, in fact, inconvenient. Historically, BDD has been cited by literature as a clear contrindication as well. Satisfaction with dermatologic and cosmetic procedurs is commonly low and often leads to desire to undergo even more interventions. Additionally, dissatisfied patients may seek revenge against the surgeon or dermatologist whom they believe has worsened their defect.These attempts may be resulted in lawsuits, physical assaults ,even murder. Hence, it is crucial to distinguish between BDD and normal appearance concerns which are common in the adolescent years.

BDD goes undiagnosed due to multiple reasons. Patients may experience shame and embarrassment about their symptoms, or they demand nonmental health treatment such as cosmetic surgery instead of psychological treatment. Thus, they attend dermatological or cosmetic surgery settings in an attempt to “fix” their imagined defect and receive physical treatments and often expect the cosmetic procedure to be the solution to problems. Furthermore, comorbid psychopathologies such as major depression, social anxiety disorder, OCD, etc., can mask BDD and lead to misdiagnosis. Unfortunately, even nondelusional patients with BDD show impaired judgment regarding the psychiatric origin of their symptoms and rarely spontaneously seek for appropriate psychiatric treatment.

Dermatologists should be trained not only to diagnose BDD, but also to identify subclinical cases by directly inquiring about appearance symptoms that might be indicators of BDD. These professionals are in a strategic position to identify BDD symptoms and to refer these patients for appropriate treatment, because of the dramatic increase in cosmetic medical procedures and they are first physicians to attend. Prevalence of BDD in cosmetic dermatology clinics ranged from 2.9% to 15.2%, with one study stating a much higher prevalence of BDD among women (14.7%) than men (7.1%).

In the DSM-V, published in 2013, BDD was added to the obsessive-compulsive and related disorders spectrum, and the following four criteria were provided to support a diagnosis: (1) preoccupation with one or more perceived defects or flaws in physical appearance that are not observable or appear slight to others; (2) repetitive behaviors (i.e., mirror checking, excessive grooming, skin picking, reassurance seeking) or mental acts (i.e., compare own appearance with that of others) in response to concerns with appearance; (3) preoccupation causing clinically significant distress or impairment in social, occupational, or other important areas of functioning; and (4) preoccupation with appearance is not better explained by concerns with body fat or weight in an individual whose symptoms meet the diagnostic criteria for an eating disorder. It is crucial to be aware that , patients with BDD do not disclose concerns about their appearance unless specifically questioned.

It is important to screen patients for BDD and correctly diagnose the disorder, and then to colloborate with mental health providers. Dermatologists or surgeons can explain that the disorder is known and treatable body image problem called “BDD”, and the desired procedures usually appear to be unsuccessful. They can dissuade patients from obtaining cosmetic treatment and to instead accept psychiatric care, which is more likely to be effective. The most effective psychiatric treatments are serotonin reuptake blockers , cognitive behavioral treatment or a combination of them.

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PSYCHOPHARMACOTHERAPY OF PSYCHOGENIC PRURITUS

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Pruritus is one of the most common symptoms encountered in dermatology practice. Pruritus is defined as an unpleasant urge or sensation to scratch. Multiple causes of pruritus, both local and systemic, are recognized. Psychogenic pruritus is defined as when all local and systemic causes are ruled out and patient continues to present with itch. When a patient presents with pruritus, regardless of the presumed cause, the standard work-up should include a thorough history, dermatologic examination, and laboratory examinations or biopsies as needed. Treatment of psychogenic pruritus is very challenging. Best results are obtained when local treatment is combined with psychopharmacotherapy. Antidepressants, antipsychotics, opioid receptor modulators, GABAergic agents, antihistamines, NKR-1 receptor, and acetylcholine blockers have been used to treat psychogenic pruritus. Holistic approach and multidisciplinary clinics prove beneficial in the management of these patients with psychogenic pruritus.

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HAIR DYES, SUNSCREENS, AND CARCINOGENESIS

Dr. Özgür GÜNDÜZ

Hair Dyes

Hair coloring (or hair dyeing)- the practice of changing the hair color has been an integral part of social life since ancient times. (1)Even in ancient Egypt, hair dyeing was in demand. Various translated hieroglyphs revealed that covering up gray hairs by tinting was one of the foremost duties of an ancient Egyptian hairstylist, among washing and scenting the hair, curing the head lice, and making an adversary's hair fall out. The existence of some hair dye recipes based on juniper berries has also been documented. Hair coloring was also quite popular among Romans, and they even had stranger recipes. For example, a mixture of leeches and vinegar was known to be used to darken the hair. (2), The first modern hair dyes were created in 1907 by Eugène Schueller and are increasing in numbers every day since then. (3) As of today, more than one-third of women over age 18 and about 10% of men over age 40 in the United States and Europe are estimated to use some hair dye. (4)

There are three main groups of modern hair dyes; permanent (or oxidative), semipermanent, and temporary. Permanent hair dyes, 80% of current products, contain colorless dye "intermediates" (aromatic amines) and dye "couplers." With the help of hydrogen peroxide, the intermediates and couplers start a reaction to form pigment molecules. Semipermanent and temporary hair dyes do not take part in oxidative reactions and contain colored compounds that stain hair directly. (5)

More than 5000 chemicals can be found in modern dyes, some of which have been shown to have carcinogenic effects on animals. (6-8). The carcinogenicity of hair dyes in humans is a neverending hot topic of debate. Various epidemiologic studies revealed that there is an increased risk of bladder carcinoma in hairdressers. (9) International Agency for Research on Cancer (IARC) reported that some of the chemicals are probably carcinogenic to humans. (10) There are also studies investigating the relationship between hair dyes and leukemias and Non-Hodkin lymphomas with conflicting results. (5)

Sunscreens

With the recent announcement from Valisure, an online pharmacy known to test all the products it sells, the topic "carcinogenic potential of sunscreens" became popular again.

Valisure petitioned the FDA to recall 40 batches of sunscreens and after-sun products they say tested for high levels of the chemical benzene, a compound known to be carcinogenic in humans. The company tested 294 batches from 69 companies and found benzene in 27%. (11) This announcement rekindled the debate about the safety of sunscreens in an unexpected way and can undermine the efforts to improve public awareness about sun protection.

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TRETINOIN, LACTIC ACID AND SALICYLIC ACID PEELINGS

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Tretinoin peel(Retinoic acid); Tretinoin activates three nuclear retinoic acid receptors (RAR-alpha, RAR-beta and RAR-gamma).Tretinoin may exert its clinical effects, at least in part, through activation of retinoid receptors. Topical tretinoin application before ultraviolet irradiation has been shown to prevent matrix metalloproteinase production and collagen degradation. Histologically, increased collagen types I, III and VII (dermal-epidermal anchoring fibrils) production can be seen, as well as reorganization of the dermal collagen into new woven bundles(1). Tretinoin peels are useful in melasma, where in 5%–10% tretinoin is applied as a slow release peel and helps to eliminate epidermal pigment, reduces photodamage, and improve skin texture. in Indian patients where tretinoin peel at 1% strength is applied for 4 h once a week for 12 weeks and found to be of equal efficacy. Some authors have found good results in melasma after peeling with retinol(2).

Lactic acid peel; Hydroxy acids (HAs) represent a class of compounds which have been widely used in a number of cosmetic and therapeutic formulations in order to achieve a variety of beneficial effects for the skin (3). Alpha-HAs (AHAs) are carboxylic acids with one hydroxyl group attached to the α-position of the carboxyl group. Lactic acid, with optimal biologic activity in its L-form, is also used in various topical formulations to exfoliate the skin and also to provide antiaging properties (3,4). The cosmetic and dermatologic use of AHAs, i. e. the indication for the treatment with the acids and their salts, depends mainly on concentration, pH, formulation and application time. The higher the concentration and the lower the pH of the product, the greater is the exfoliative, toxic, and corrosive action (3,5). Lower concentrations with 5 % up to 20 % of AHAs are formulated in creams or gels for use prior to peelings and for long-term application in acne as well as in hyperkeratotic or aged skin (6). Solutions containing free AHAs at concentrations of 20 % up to 70 %, partially neutralized AHA-solutions (30 % to 70 %) as well as gels at 70 % are used for peelings carried out professionally by a dermatologist (3).

Salicylic acid(SA); β-Hydroxy acids (βHAs) are carboxylic acids having one hydroxyl group attached to the β-position of the carboxyl group. The most common βHA is β-hydroxybutanoic acid. A lipid soluble βHA is tropic acid (2-phenyl-3-hydroxypropanoic acid). In the cosmetic and dermatologic literature, salicylic acid SA is often described as a βHA, but that classification is incorrect. In SA, both the hydroxyl and the carboxyl groups are directly attached to an aromatic benzene ring and both exhibit acidic properties. In contrast, the hydroxy groups in αHAs, and βHAs are neutral under the conditions used in clinical and cosmetic settings. On the basis of knowledge to date, SA does not function physiologically or therapeutically as a βHA. SA is used in cosmetic formulations for a variety of applications, more specifically, it is fat soluble, which makes it useful in subjects with oily skin (3). SA peels in 20%–30% strength help in the elimination of epidermal pigment in well-primed patients of melasma. By its lipid solubility, it has a better keratolytic action and a smoother post peel texture(7).

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TCA, GLYCOLIC AND CROTON PEELINGS IN DERMATOLOGY

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TCA peeling

Trichloracetic acid (TCA) is a non-toxic chemical that coagulates proteins and modifies their tridimensional structures, thus altering their functioning (1). Upon exposure of the skin to TCA, the damage of all membrane proteins leads to keratinocyte death along with the coagulation of intracellular proteins. TCA is a versatile peeling agent that can be adjusted according to the indication. The practitioner can target several levels of the skin, such as the intraepidermis, the basal layer, Grenz zone and the papillary dermis with different TCA application regimens. Despite several peeling agents can be used for intraepidermal peeling, TCA is regarded the best choice for targeting the basal layer and Grenz zone (1). The practitioner should track the depth of TCA peeling clinically instead of following preset recipes. The clinical signs of different depth levels of TCA peeling are depicted in table-1 (1).

Table 1- Clinical signs to track the depth of TCA applications

Depth of TCA peeling	Clinical sign
Intraepidermal	Visible erythema is apparent without white pinpoints.
Basal layer	Little white pinpoints (frosting points) are visible.
Grenz zone	A diffuse erythema accompanies frosting clouds.
Papillary dermis	Frosting clouds progressively or uniformly evolve to pink-white uniform frosting that will eventually turn into a pure white frosting.

In contrast to alpha hydroxy acid peelings, no neutralization can reverse the coagulation of proteins. Thus, the total amount of TCA applied to the skin must be perfectly calculated considering the skin permeability.

The major problems encountered during TCA applications can be summarized to 3 subheadings.

1. Especially during applications targeting the basal layer, a vicious cycle of inflammation is generated related to free radical liberation. Melanocytes are likely to react to these alterations with an oveproduction of melanin. Thus, the peeling application should be balanced to confine the skin damage to the targeted zone and this self-stimulation of inflammation should be counteracted by post-peeling care to avoid post-inflammatory hyperpigmentation.

2. The application technique should be regularly designed to prevent uneven penetration.

3. In acne cases, infectious rebounds can be encountered. Pre-peel skin conditioning is strongly recommended for this subgroup to prevent post-peel inflammatory reactions.

Glycolic Acid Peeling

Alpha hydroxy acids (AHAs) occur naturally in several fruits and glycolic acid is the shortest alpha hydroxy acid. This small molecular size provides the fastest penetration among the AHAs (2). The original glycolic acid had been extracted from sugar cane; however, the current formulations are synthesized chemically (3).

Glycolic acid is extremely hydrophilic and the direct target of glycolic acid peeling is corneodesmosomes. Glycolic acid does not coagulate proteins. Thus, as a typical finding, glycolic acid peeling does not produce whitening on the skin (2).

In addition to their principal activity on the epidermis, glycolic acid peeling can have an indirect effect on the papillary dermis and the pilosebaceous units but not to the same extent as phenol or TCA peeling (4). Thus, the indications of glycolic acid are generally restricted to sun-damaged skin or acne vulgaris. An important advantage of GA peeling is the lack of downtime which is a major drawback of phenol and TCA peeling (2).

Unlike TCA or phenol, glycolic acid does not bind with proteins and so is not neutralized by them. The action of glycolic

acid peeling is related to the concentration, the pH of the solution, the contact time with the skin before neutralization with a base solution such as a saturated solution of sodium bicarbonate (3).

As glycolic acid peeling weaken the barrier function of stratum corneum, the penetration of topical drugs will be potentiated after glycolic acid peeling.

Croton Peeling

Croton oil is a phytochemical extracted from the seeds of Croton tiglium of the Euphorbiaceae family (5). It is a powerful toxin and oral intake of around 20 drops of croton oil can lead to fatal hemorrhagic gastroenteritis (1).

Rubbing the skin with a tiny amount of croton oil such as 2-10 drops will cause an intense burning sensation within 5 minutes and these symptoms will subside within several hours. Erythema will be followed by widespread blister formation that will evolve to pustules. These pustules will fall of within a few days without leaving any scars. Historically, the clinicians implemented croton oil in relieving limb edema of hearth failure patients related to the aforementioned vesicant properties.

Furthermore, croton oil has been used in cancer research to increase the penetration of carcinogens, thus considered a co-carcinogen (1).

In cosmetic dermatology, croton oil is commonly used as an adjuvant to phenol peeling (6). Croton oil enables better dermal penetration and epidermal protein coagulation to allow lower concentrations of phenol.

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KLIGMAN, JESSNER AND OTHER IMPORTANT FORMULATIONS IN DERMATOLOGY

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Compound drugs prepared with magistral formulas are drug forms prepared in pharmacies by the pharmacist according to the formula prescribed by the physician. These are treatments that have proven their usefulness in dermatology from the earliest times. As new and modern products were developed by the pharmaceutical industry, they were less preferred and forgotten. As the volume of scientific information given in medical faculties and training clinics increased, the time and request to learn these treatments decreased. Over time, doubts have developed about their safety, stability, and effectiveness, and they have been accused. However, they continue to be an important component of dermatological treatments, continuing their existence as a long traditional method.

It is an indisputable fact that the drugs produced by the pharmaceutical industry through R&D activities for better drug treatments make medical treatments more consistent. However, these products are not suitable for the individual characteristics of the patients. Moreover, with its standard pharmaceutical form, dosages, excipients, it is far from meeting the needs of each patient on a personal level. Moreover, it is not always available. However, drugs to be prepared with magistral formulas have the opportunities to be adapted according to the characteristics of each individual and the severity of the disease. It is an indispensable part of pharmacy education and practices, with well-defined standards. Despite many modern products that have been approved in dermatology for thousands of diseases, there are many gaps in the fields of treatment that can only be filled by making magistral drugs. For this reason, magistral formulas have always preserved their dermatological importance. Although it has some disadvantages, its place in today's routine dermatology is very important due to the possibility of personalized treatment and many other reasons.

The aims of the use of magistral formulas in treatment include eliminating therapeutic deficiencies, creating commercially unavailable pharmaceutical doses and forms (oral or topical), providing off-label treatment, curing rare diseases, avoiding toxic and adverse effects, and the need for products that are out of stock or withdrawn from the market. administering a treatment, eliminating unnecessary or problematic excipients, or replacing one active ingredient with another, tailoring the composition to the patient, reducing adverse reactions, simplifying treatment, and increasing compliance. The needs of hospitalized patients can also be met. Moreover, it can provide low-cost medication for patients without social security or dealing with the additional payment of the drug.

However, they have various problems that may arise during or after preparation, such as consistency and presentation variability, lack of data on efficacy, unknown interactions, lack of safety data, and usage information, the uncertainty of expiration date, and price difference among pharmacies.

More effective new vehicles for formulas have been developed in recent years. Thus, the preparation of the products, the type of application, the method, and the effectiveness or safety of the treatment were increased. For example, new carbohydrate-like emulsifiers that make it possible to formulate oil-in-water (W/O) and O/W emulsions containing less than 50% oil have been developed. Other new carriers include polishes, oils, and pastes that facilitate application on nails, scalp, and mucous membranes.

Magistral formulas in psoriasis: 70% of patients have mild to moderate disease and are suitable for treatment with magistral formulas. The best carrier is the one the patient is most likely to use. Based on this principle, the drug formula should be suitable for the patient's body area. However, 40% of patients are non-compliant with topical treatment. The products to be prepared with magistral formulas can be prepared according to the type of the disease and the affected skin areas, in the amount and forms needed. This makes it possible for patients to administer the treatment on their own. If it is supported with a moisturizing and emollient effect, compliance with the treatment becomes easier. Even if the formulas contain the same active ingredients as commercial products, they can expand the treatment options with their special forms and different concentrations.

Ammonium lactate, together with urea as a humectant, attenuates the TKS atrophy. Vitamin B12 is effective on exacerbations at a concentration of 0.07% in plaque psoriasis. Tacrolimus can be used at a concentration of 0.1-0.3% in carbohydrate-based emulsions on sensitive skin and concentrations of 0.3-0.5% in other areas. These concentrations are more effective but not available as commercial products. It can also be combined with tacrolimus and Tazarotene Corticosteroids. Methotrexate is more effective and safer than a 1% placebo and is an option that can only be prepared with magistral formulas.

If the NAPSI score is less than 10, nail involvement is mild to moderate and may respond to topical therapy. In this indication, clobetasol propionate 8% can be combined with tacalcitol as nail polish. Vitamin D derivatives are effective only in nail bed involvement.

Shampoos, oils, and semi-liquid gel products, which are easier to use, should be used for psoriasis's scalp involvement. Products with salicylic acid combined with a potent corticosteroid are the leading agents. However, systemic salicylate toxicity should be kept in mind.

Magistral formulas can also solve the problem of orphan drugs in psoriasis. It can bring dithranol and tar products (which are still effective) withdrawn from the market because they are unprofitable, back to the treatment area.

Narrowband UVB therapy has come to the fore in the treatment of psoriasis phototherapy today. In plaque psoriasis, in which an oleic acid 5% O/W emulsion was applied before, a lower dose of narrowband UV-B is needed and this product is not commercially available.

Magistral Formulas in Acne: Acne is one of the most common reasons for referral to a dermatologist. It is obvious that the magistral formulas have been used in treatment since ancient times and provide benefits. Despite a large number of ready-made products in the market, the use of magistral formulas in the treatment of acne maintains its importance. With these formulations, it is possible to prepare topical retinoids in higher or lower concentrations than ready-to-use products on the market. Moreover, thanks to different carriers, their tolerance can be increased, and their compatibility and effectiveness can be increased by combining active agents. Azelaic acid + Erythromycin, Adapelen + Clindamycin, Tazarotene + Clindamycin can be combined. Tazarotene has a strong depigmenting effect with less irritation on the PID seen with some forms of acne.

Acne in women is often associated with other skin conditions such as melasma, rosacea, seborrheic dermatitis, hirsutism, or atopic dermatitis. In such cases, treatment with appropriate active agents is required and can be combined with a single carrier. Antibiotic and retinoid, glycolic acid and benzoyl peroxide can be combined. Benzoyl peroxide is more effective when combined with adapalene and antibiotics, while azelaic acid is more effective when combined with erythromycin.

Formulas in rosacea: Due to the limited number of active substances and commercial products, magistral formulas are another suitable area of use for patients with rosacea. Moreover, it can give better results than ready-made commercial products. Combining antibiotics such as metronidazole, clindamycin, erythromycin, and a venotonic agent provides an advantage to the treatment. When rosacea and seborrheic dermatitis coexist, it is very useful to be able to combine the metronidazole with hydrocortisone; the antibiotics with imidazole and ketoconazole; tacrolimus with ciclopirox olamine. In case of demodicosis, it can be given alone or metronidazole + permethrin. Isotretinoin, doxycycline, and minocycline can be prepared in oral capsules at appropriate doses. Metronidazole was found to be effective when used as an eye ointment at a concentration of 0.5% or 0.75%.

Formulas in pigment disorders: Retinoic acid, local corticosteroids, and hydroquinone have depigmenting activity. The combination of these three agents is known as the Kligman formula. Kojic acid and Azelaic acid with depigmentation effects are preferred in summer and mild cases. These can be used alone or in combination.

It is possible to prepare the color of the remaining skin areas in diffuse vitiligo disease with magistral formula as mequinol 10% or hydroquinone 20%, which are not available in the market. Tacrolimus can be used in different concentrations than commercial products in localized, large-area vitiligo patches.

Formulas in oral mucosal diseases: Paste or gel carriers that adhere to the oral mucosa, oral lotions, sprays, oral dissolving tablets, and carriers prepared in the form of medical lollipops can be used in diseases of these anatomical regions.

Aphthae: Treatment is symptomatic. Among the agents used, antihistamines (diphenhydramine, chlorpheniramine), local antiseptics (chlorhexidine), tetracyclines, corticosteroids (triamcinolone acetonide), and anesthetics should be lipid or water-soluble (betamethasone). Mucous protectors (sucralfate and carbenoxolone), hyaluronic acid (anti-irritation) can be used. The choice of carrier depends on the extent of the lesions, the active agent itself, and the preference of the patient.

Black hairy tongue: Priorities, triggering factors should be eliminated. Brushing with keratolytic agents (retinoic acid 0.1%, urea), and preparation of antifungal (nystatin, clotrimazole) agent as a solution or gel in the presence of candida

is a good option.

Oral lichen Planus: It usually has a chronic course. Only those with hyperkeratotic and ulcerated lesions are treated. In the first step, strong or very strong steroids such as Clobetasol propionate 0.05-0.025%; the second step includes topical retinoids (retinoic acid =.01 and isotretinoin 0.1%) and calcineurin inhibitors (tacrolimus).

Formulas in aesthetic procedures: Jessner composition provides a superficial chemical peeling that destroys part or all of the epidermis with keratolytic activity. It is prepared with resorcinol, salicylic acid and lactic acid in 95% ethanol. It is mainly involved in the treatment of photoaging (fine lines, actinic keratosis, sunspots), pigment disorders (melasma, post-inflammatory) and acne. It can be used on all skin types, sedation is not required, complications are very rare and peeling is generally well tolerated.

As a result, magistral formulas provide dermatologists with the ability to use treatments best suited to their patients' individual needs. However, limitations of use should be kept in mind, including the lack of data on efficacy and safety.

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TREATMENT APPROACH TO PEDIATRIC PSORIASIS

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Pediatric psoriasis is a chronic inflammatory systemic disease associated with considerable burden both to the patients and to their families. Additionally, pediatric psoriasis has been associated with certain comorbidities, making early diagnosis and appropriate management important.

Therapy of psoriasis in the pediatric population is more challenging when compared to adult psoriasis: it presents with age-specific clinical characteristics and requires accurate compliance to a specific treatment regimen.

As guidelines are lacking and most systemic treatments are not approved for use in children, treatment of pediatric psoriasis is mainly based on published case reports, guidelines for adult psoriasis, and experience with these drugs in other pediatric disorders. Consequently, the severity of psoriasis determines the approach to treatment.

Topical treatment is considered the first-line treatment for psoriasis in the pediatric population. However, most topical medications are not approved for pediatric use, requiring off-label prescribing, and, moreover, treatment adherence is difficult, especially in this age group. Emollients, moisturizers, keratolytics, corticosteroids, calcineurin inhibitors (especially for sensitive areas such as face, flexures and genitals), vitamin D analogs, and retinoids are topical medications widely prescribed.

Phototherapy is considered a useful option in case of diffuse psoriasis involving more than 15–20% of the body surface area, debilitating palmoplantar psoriasis, refractory plaque, guttate and pustular psoriasis, especially for children who cannot receive systemic drugs for their moderate to severe psoriasis.

Systemic therapy should be reserved for children with moderate to severe psoriasis in whom intermittent therapy has failed to control the disease. Methotrexate has been commonly used systemic medication in children, especially for extensive, recalcitrant or disabling psoriasis, and erythrodermic or generalized pustular psoriasis.

Acitretin, a second-generation synthetic retinoid, is considered as a first-line therapy for generalized pustular psoriasis but can be also used as a maintenance treatment for severe guttate and plaque psoriasis, palmoplantar psoriasis or erythrodermic psoriasis.

Other systemic drugs such as cyclosporine and fumaric acid esters have been used rarely and safety data are available mainly from by case series studies.

None of these systemic treatments are not approved to use in children and are used off label.

In contrast, three biologic drugs, adalimumab, etanercept, and ustekinumab, have been approved for psoriasis vulgaris in children and adolescents.

The use of biologics has expanded in recent decades due to their convenient dosing regimens, low frequency of laboratory monitoring, and because they target only certain parts of the immune system, these drugs are safer and more effective than nonspecific immunosuppressants. However, their high cost restricts their use globally, and in addition, their long-term safety profile remains to be determined.

Multiple clinical trials are underway for the treatment of children with psoriasis, and, hopefully, coming years will provide more assurance for safe and efficacious therapeutic options.

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BIOLOGIC DRESSINGS AND 3D PRINTING IN DERMATOLOGY

Cahit Yavuz

Both biologic dressing and 3D bioprinting terms are the subgroups of tissue engineering. Nowadays in the light of technology there are several developments and approaches in tissue engineering.

Biologic Dressings

The use of biologic dressing and choosing the product is determined by; type, size and depth of the wound, comorbidities and patient preferences. Biologic dressings have been demonstrated in the setting of burns, diabetic ulcers, chronic stasis ulcers, chronic pressure ulcers and blistering dermatologic conditions like epidermolysis bullosa and toxic epidermal necrolysis. Biologic dressings have advantages over to conventional autografts. Conventional autografts have limitations like pain, scarring and infection on donor site. There are three types of biologic dressings; composite grafts with epidermal and dermal components, dermal replacements and epidermal grafts.

In general, the majority of studies in the area of acute surgical wounds have been done on Apligraf, a composite graft, which seems to demonstrate good results, with the specific benefits of analgesia of the grafted site, avoidance of creating a donor site, and ease of wound care. Integra, a dermal graft, has shown promise in inhibiting wound contraction and scar formation and has been used in the repair of scars and keloids. It has also been shown to have a role in the repair of defects where soft tissue bulk is needed for coverage and contour, such as with large scalp defects after excision of cutaneous malignancy. AlloDerm, an acellular dermal matrix, appears to have a particular niche role in filling soft tissue defects, including successful use in cases where soft tissue augmentation is needed for reconstruction, and in preventing Frey's syndrome after parotidectomy.

Desired features of ideal biologic dressing are; it must be elastic, non-toxic, non-antigenic, resistant to scratch or shear, compatible with underlying structures and resistant to microorganisms. From the patients perspective, it must reduce the pain, reduce the healing time and must have good long term aesthteic results. And it should be inexpensive and have a long shelf life.

3D Printing

Organ transplantation could be a lifesaving treatment choice but few people are available as donors. According to Organdonor.gov, 18 people die in the US everyday due to appropriate organ transplant. Therefore, this emerging 3D bioprinting technology could be an option for organ transplantations.

Bioprinting (3D printing) is a collection of additive manufacturing (AM) technlogies. It aims to produce materials for imitating of real tissue or organs by combining both living and non-living materials. There are various applications of 3D printing in regenerative medicine like tissue engineering, reconstructive surgery, drug discovery, pharmacokinetics, medical and basic cell-biology research. Soluble plastic materials are used for traditinal 3D printing, instead of it a specific medium is used for bioprinting called bioink. There are challenges in bioprinting like detoriation of living cells while forming the tissue or organ. During the last decade various Technologies and novel methods are developed for bioprinting in medicine for personalized medicine. Bioink contains living cells in layer and they need to additive second layer for vertical stability. It's called dissolvable materials. There are increasing number of studies about bioprinting in years.

With the technological advancement in the printing technique and development of efficient and cost-effective printing methods, it becomes necessary to regulate the quality control standard before transplantation in each step during the process, such as while designing a model, selection of bioink, printing validation, maturation of post-printing and assessment of product quality. FDA has issued a guidance document for production of medical devices, "Technical considerations for Additive Manufactured Devices" that provides guidelines for the additive manufacturing including 3D printing.

As conclusion 3D bioprinting techniques offer viable and high-throughput tissue printing with better spatial control and precise patterning of cells when compared to manual methods of tissue culture.

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ROSACEA TREATMENT: WHAT IS NEW?

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Rosacea is a chronic inflammatory disease of the skin, predominantly affecting the centrofacial region of the face (cheeks, chin, nose, and forehead). It is characterized by recurrent episodes of flushing or transient erythema, persistent erythema, papules, pustules, and telangiectasia. Phymatous changes are infrequent, occurring primarily at the nose (rhinophyma) and more frequently in men. In addition to the skin manifestations, some individuals with rosacea have ocular signs, including dryness, photophobia, conjunctivitis, foreign body sensation. These symptoms may occur separately or in combination. Subjectively patients can feel burning and stinging sensations in areas of affected skin.

Rosacea is most frequently observed in fair-skinned individuals but has been increasingly diagnosed in darker phototypes. A recent analysis of worldwide epidemiologic data estimated that rosacea might affect 5.5% of the global population, and the prevalence between women and man is equal. (1)

Rosacea symptoms are visible and affect patients' quality of life, leading to decreased self-esteem, anxiety, depression, feelings of shame, and stigmatization.

The pathophysiology of rosacea is multifactorial and has yet to be fully determined; several potential pathways are under investigation, like alterations in innate and adaptive immune response, genetic susceptibility, neurovascular dysregulation, vascular dysfunction, oxidative stress, neurogenic inflammation, and skin microbiome. (2)

Currently, two classifications of rosacea are in use, the older one, which refers to subtypes (erythematotelangiectatic, papulopustular, phymatous, and ocular), and the newer one, which refers to the phenotypic manifestation of the disease. (3)

In most patients, the symptoms are intertwined, and the same patient may have symptoms of different subtypes of the disease. At the same time, in recent years, therapy has focused on phenotypic characteristics, i.e., manifested symptoms of the disease. Due to the overlap of symptoms, adjusting the treatment to each patient is necessary to achieve optimal results.

General measures in these patients include education about the course of the disease, advice on skin care, protection from UV radiation, and avoidance of well-known triggers of rosacea. In addition, many therapeutic options can be used to treat and keep the disease under control. Therapy can be topical, systemic, and physical.

Topical therapy is used in almost all patients with rosacea, either as monotherapy or in combination with systemic and/or physical therapy. Some preparations are officially approved in most countries, but there are also local preparations that are widely used outside of these recommendations. (4)

Topical treatments for rosacea approved by most countries include ivermectin 1%, metronidazole 0,75%, and 1%, and azelaic acid 15% for inflammatory lesions, and brimonidine gel 0.33% and oxymetazoline cream 1% for erythema. (4,5).. There are also numerous off-label topical agents which can be used, including benzyl benzoate, permethrin, topical antibiotics, and topical retinoids, as well as immunomodulatory agents (calcineurin inhibitors tacrolimus/pimecrolimus).

In patients with a more severe clinical picture, when disease control cannot be achieved with local therapy, systemic therapy is indicated. Of the systemic treatments, the most effective is oral antibiotics, especially those of the tetracycline group. (6). But due to the chronic nature of the disease, the therapy must be long-lasting, so various side effects of antibiotics may occur, as well as bacterial resistance. Since inflammation is now known to play a significant role in the etiopathogenesis of rosacea, the efficacy of tetracycline is related to its anti-inflammatory properties rather than antimicrobial. Concerning these findings, doxycycline was produced in anti-inflammatory, and sub-antimicrobial doses

of 40 mg, when harmful side effects were minimized and the possibility of bacterial resistance was reduced. (5,6). There are also systemic drugs that are sometimes used that are not officially approved, such as isotretinoin, beta-blocker carvedilol, and the antibiotic azithromycin

Current treatment options are not always satisfactory, so many clinical studies are trying to find a better solution with drugs able to target one or more pathogenetic factors of rosacea. There are also different topical agents which are used for other skin conditions and tested in rosacea as a new potential indication like microencapsulated benzoyl peroxide (BPO) 5%, tretinoin 0.05% cream, dapsone 5% gel, and the fixed combination clindamycin phosphate 1.2%/tretinoin 0.025% gel. (7).

The main limitation in therapy is that there is no universally effective drug for all types and clinical manifestations of rosacea, that there is no preventive therapy, and that new medicines require long-term research.

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ACNE AND ISOTRETINOIN

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Acne is an inflammatory disease of the skin, caused by changes in the pilosebaceous unit. They are manifested by non-inflammatory comedones, and inflammatory papules, pustules, and nodules.

There are several classifications of acne. The division into mild, mild to moderate, and moderate to severe is the most common. Moderate to severe - acne nodulocystic is the most severe form and the use of isotretinoin is necessary for their treatment.

Isotretinoin is the cis isomer of tretinoin. Isotretinoin is first synthesized in 1955. year. In 1979, Peck and the authors published a clinical trial on the effects of isotretinoin on acne.

The mechanism of action of Isotretinoin is based on the stimulation of the proliferation of normal epidermal cells, reducing sebum secretion and reducing the bacterial flora of the skin. It has an anti-inflammatory effect and, in small doses, an immunostimulatory effect.

Before using isotretinoin you should carefully evaluate the expected improvements and risks that may arise. Make a complete blood count. Check liver function and serum lipid levels. Make a pregnancy test before therapy, monthly during therapy, and 5 weeks after therapy.

Age does not matter when prescribing the drug. Doses of isotretinoin vary from 0.5 - 1.0 mg / kg /day. Total cumulative dose of 100-150 mg / kg. Later doses should be adjusted based on plasma drug concentrations and their efficacy and tolerability.You can take the dose once or twice a day. Recommended during a meal containing fatty foods, to improve the bioavailability of the drug. It appears in the blood 30 minutes after ingestion. The maximum concentration of isotretinoin is reached after 3 hours, and It is rapidly distributed throughout the body, with a half-life of 10 to 20 hours.

Worsening in the form of inflammation can occur in the first month of therapy, about which the patient should be informed. Inflammatory lesions may recur in the coming months with increasing daily doses. Inflammatory attack in the second and third months, sudden, acne fulminans, often associated with arthralgias, muscle aches, fever of 38o C, and worsening general health. There is hyperleukocytosis, increased sedimentation rate, or elevated CRP levels.

Relapses are more common when daily doses are less than 0.5 mg/kg. After a full cumulative dose, there is no complete one remission in 15% of cases. Even when the instructions are followed within the limits of the ideal dose, there is a relapse in about 20-40% of cases.

Repetition is allowed, but not necessary

Isotretinoin has been used successfully in the treatment of acne for more than 40 years.

Isotretinoin is the first therapeutic option for treating severe forms of acne. Prolonged remission is achieved with proper dosing. The therapeutic effect continues for several months after cessation of treatment. Complete remission is achieved in 70-80% of treated.

Positive effect in almost 100% of those treated

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DEXPANTHENOL, CENTELLA ASIATICA, ARNICA MONTANA, ALLANTOIN FOR SKIN AND HAIR HEALTH

Büşra Altun Deniz

Dexpanthenol also known as vitamin B-5, improves skin hydration and help manage rejuvenates the skin by promoting cell stemness. It keeps to long term moisturization of hair and prevents hair damage (1).

Centella asiatica known as Gotu Kola stimulates fibroblast proliferation and collagen synthesis, inhibits the inflammatory phase of hypertrophic scars and keloids so that used in wound healing, treatment of burns and hypertrophic scars (2).

Arnica montana is frequently used as a medication for the treatment of various inflammatory conditions in postoperative settings such as pain. It has been reported that plant extracts have antibacterial, antitumor, antioxidant, anti-inflammatory and immunomodulatory activities (3).

Allantoin is a metabolic intermediate of a lot of organisms. Allantoin is a skin active ingredient that promotes epidermal cell regeneration and accelerates the healing of wounds. It has keratolytic, moisturizing, soothing, anti-irritant properties (4).

All of them are effective and safe products that have been used frequently in hair and skin health in recent years.

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FUTURE OF DERMATOLOGY AND APPLIED COSMETOLOGY

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Skin ageing is an irreversible process during which ultrastructural and physiologic alterations happen. Dermatology has focused a lot of attention on the reversal of signs of ageing and photodamage, with the purposes of achieving cosmetic benefits and preventing photocancerogenesis. Recent advances in skin biology have clarified the mechanisms by which photoageing occurs and have given rise to new treatments to prevent and reverse this process. The understanding of the role of key receptors involved in the complex pathomechanism of skin ageing probably will lead to the development of the new therapeutic agents in the near future.

ALOPECIA: WHAT'S NEW

Roxanna Sadoughifar

There are some ways to treat alopecia that is going to be discussed in this presentation:

1)Topical Steroids 2)Intralesional Steroids 3)Systemic Steroids 4)Topical Immunotherapy 5)Anthralin(Dithranol) 6) Phototherapy 7)Laser Therapy 8)JAC Inhibitors 9)Other Treatments

Our focus will be on the future treatments of Alopecia Areata; JAC Inhibitors.

Janus Kinase (JAK) inhibitors, seem to be the future for AA treatment.

Tofacitinib, Ruxolitinib, and Baricitinib have already been evaluated for adults and adolescents, with promising results. They are very expensive drugs.JAK inhibitors interfere with the JAK pathway, reducing the production of IL-15, an inflammatory cytokine increased in AA.The side effects related to these drugs may limit their systemic use.

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OP-24	A rare case of granulomatous rosacea: from dermoscopic clues to succesful treatment	*Ece Gokyayla*
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OP-44	The Use of Combined Fractional Carbon Dioxide Laser and Fractional Microneedle Radiofrequency in the Treatment of Facial Skin Aging	*Gökçe Işıl Kurmuş*
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OP-46	Clinicoepidemiologic profile of Discoid Lupus Erythematosus and Its Relationship with Systemic Diseases	*Hülya Cenk*

OP-01 [Angiology, Haemangiomas, Vascular Malformations, Vasculitis]

A Rare Case of Reactive Angioendotheliomatosis

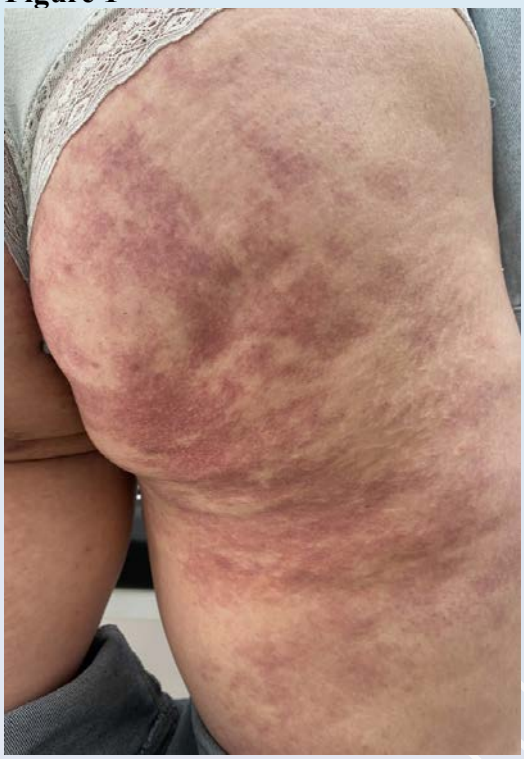
Içim Kömürcügil, Esra Kıratlı Nalbant, Nermin Karaosmanoğlu, Meral Ekşioğlu
Department of Dermatology, Ankara Training and Research Hospital, Ankara, Turkey

CASE: An 18-year-old female patient came to our outpatient clinic with the complaint of gradually enlarging rash in the gluteal region. The patient reported that rash appeared 2 years ago with no accompanying pain or itching. Her personal history of illness and family history was unremarkable. Dermatological examination revealed erythematous, reticular macules in the right gluteal region and on the right posterior thigh.(Figure 1) Complete blood count, erythrocyte sedimentation rate, serum protein electrophoresis, serum immunoglobulins, antiphospholipid antibodies and cryoglobulins were within normal range. A 4-mm punch biopsy was performed considering Kaposi's sarcoma, hemangioma, reactive angioendotheliomatosis (RAE), Pseudo-Kaposi Sarcoma and angiosarcoma as the possible diagnosis. In the biopsy sample, "vascular proliferation, vascular congestion and thrombus" were detected. No cellular atypia was present; thus, preliminary diagnoses of angiosarcoma and Kaposi's sarcoma were excluded. As a result, the patient was diagnosed with RAE and was referred to a private clinic for laser treatment.

DISCUSSION: Angioendotheliomatosis is classified into 2 types as benign RAE and malignant, intravascular angiotropic lymphoma.(1) Men and women are equally affected by both forms of angioendotheliomatosis. The reactive form has been described in all age groups, from infancy to old age; however, it is most common in adulthood, as in our case. The clinical features of RAE reported in both sexes and all age groups are non-specific; it presents with polymorphous erythematous purple macules, purpuric plaques or ulcerations. RAE is thought to occur as a result of luminal obstruction. (2) Although the factor causing proliferation of endothelial cells is not fully known; infectious and autoimmune diseases, inflammatory vasculopathies and lymphoproliferative disorders are shown as possible causes. These factors can lead to vascular occlusion, hypoxemia and subsequently endothelial cell proliferation. In the case reports published so far, concomitant pathologies such as systemic infections, cow's milk protein allergy, arthritis, cryoproteinemias, monoclonal gammopathies, antiphospholipid syndrome (3) or venous insufficiency (4) have also been reported. Interestingly, our case did not have any associated disease and the blood tests were completely normal unlike other cases in the literature. Fortunately, RAE has a good prognosis and usually regresses when the underlying disease is successfully treated. The disease sometimes regresses spontaneously. The patient is under follow-up by our clinic in order to note the course of the lesion.Our aim here is to enable clinicians to keep RAE in mind in the differential diagnosis of vascular lesions and to emphasize any underlying pathology/disease in some cases.

Keywords: angioendotheliomatosis, endothelial proliferation, vascular lesions

Figure 1



erythematous, reticular macules in the right gluteal region and on the right posterior thigh

OP-02 [Hair Disorders/Diseases]

Characteristics of hospitalized dermatomyositis 13 patients: retrospective study

Dua Cebeci[1], Şirin Yaşar[2], Zeynep Diri[2]
[1]famagusta state hospital dermatology and venerology department
[2]haydarpaşa training and research hospital dermatology and venerology depatment

OBJECTIVE: Dermatomyositis (DM) is a rare inflammatory disease manifested by muscle weakness and a pronounced skin rash. The cause of dermatomyositis is not fully known, but the disease has a lot in common with autoimmune disorders in which your immune system mistakenly attacks your body tissues. Genetic and environmental factors can also play a role. Dermatomyositis in adults has an increased likelihood of developing cancer, especially ovarian cancer in women. The cancer risk gradually decreases approximately three years after the diagnosis of dermatomyositis.

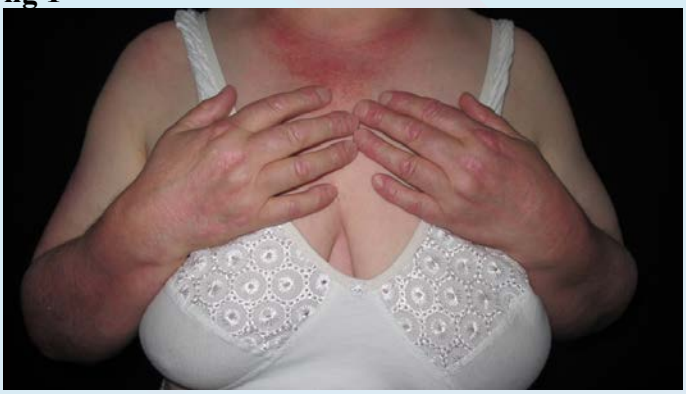
The AIM: The aim of the study was to investigate the initial laboratory data, clinical manifestations, complications, and clinical outcomes of patients with the diagnosis of DM

METHODS: A retrospective study of patients with DM admitted in Dermatology and venerology department of Haydarpaşa training and research hospital between 2011 and 2018. Cases of DM associated with malignancy were retained.

Results. During 7 years, 13 cases of DM were diagnosed. 11 were female 2 were male. For the whole group, at presentation, the mean age of patients was 51.5 years (range 23-80 yr). Two cases of DM associated with malignancy were noted.In DM patients, only one patient was known to have breast cancer and the myositis revealed after the diagnosis and treament of the cancer. One patient (12.%) was rediagnosed as chronic cutaneous lupus erythematosus (CCLE). Treatment consisted of corticosteroids associated with methotrexate in 2 cases and hydroxychloroquine 3 cases. Three cases died (19.4%), due to the other underlying sistemic disease. Swallowing disorders related to DM were responsible in 2 cases. Conclusion Population-based studies are needed on the epidemiology and optimal management of DM patients, including efforts to identify risk factors associated with potentially fatal outcomes such as late onset muscle weakness, interstitial lung disease, and malignancy.

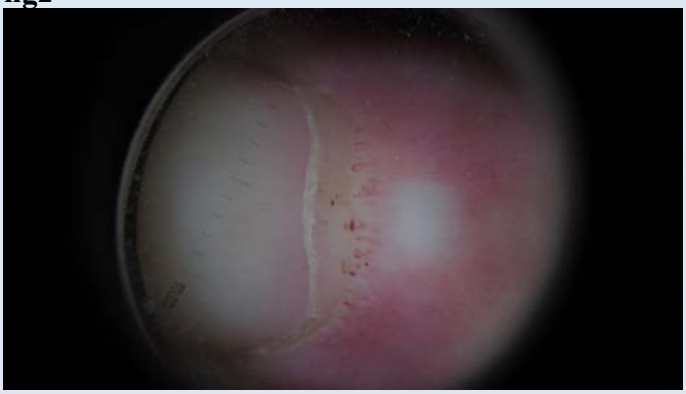
Keywords: connective tissue disease, malignancy, medical dermatology

fig 1



wiew of dermatomyositis patient: gottron's papules on the hands, Gottron's papules, Heliotrope rash, upper chest erythema.

fig2



Irregular, enlarged loops, occasional bleeding foci in nail capillaroscopy

OP-03 [Dermatopathology]

Immunohistochemical Evaluation of TNF-α, IL-1, IL-12, IL-17, and IL-23 Expression in Patients with Discoid Lupus Erythematosus

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AIM: There is no marker that can predict whether there is resistance to biological treatment in patients with psoriasis. In this study, we investigated the relationship between the staining rates of TNF-α, IL-1, IL-12, IL-17, IL-23, IL-36 markers immunohistochemically from cutaneous biopsy and the treatment success.

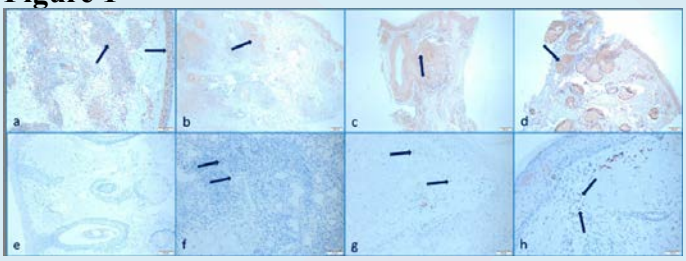
METHODS: The patients who were followed up in the dermatology clinic with the diagnosis of plaque-type psoriasis vulgaris and received biological treatment and previously had cutaneous biopsy were included in the study. The cutaneous biopsies of the cases that met the conditions were re-sectioned and subjected to immunohistochemical examination for TNF-α, IL-1, IL-12, IL-17, IL-23, IL-36 (Figure 1 and Figure 2).

RESULTS: Comparing the staining scores with psoriasis area severity index (PASI); A statistically significant positive correlation was found between PASI and TNF-α staining score (p=0.034). A statistically significant positive correlation was found between PASI and IL-17 staining score (p=0.004). When the staining scores and PASI response rates of psoriasis treatment were evaluated in terms of correlation; there was a positive correlation with TNF-α, IL-17, and IL-23 immunohistochemical staining rates and PASI response rates (Figure 3 and Figure 4).

CONCLUSIONS: In line with the data obtained from our study, we think that making immunohistochemical scoring before the biological treatment decision in psoriasis patients will be beneficial in treatment selection. In this respect, our study may open a new era in the selection of biological treatment for psoriasis.

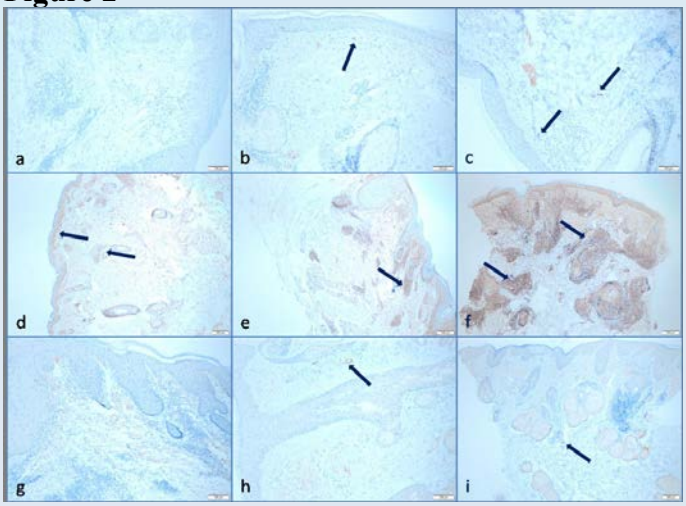
Keywords: Psoriasis, immunology, biological agents, immunohistochemistry, targeted therapy, TNF-α

Figure 1



a,b,c,d: Immunohistochemical TNF. (Epidermis cells, endothelial cells and lymphocytes showing positive expression in different density and distribution.a and b: (2+), c and d: (3+). e,f,g,h: Immunohistochemical IL-17. (e: negative expression; f,g and h: lymphocytes with positive expression in different density and distribution (1, 2 and 3 + expression, respectively).

Figure 2



a,b,c: Immunohistochemical IL-1 (a: Negative expression; b and c: Lymphocytes with positive expression in different density and distribution (2 and 3 +, respectively). d,e,f: Immunohistochemical IL-12 (Epidermis cells, endothelial cells and lymphocytes showing positive expression in different densities and distribution (1, 2 and 3 +, respectively)). g,h,i: Immunohistochemical IL-23 (g: Negative expression; b: Positive expression in endothelium (2+), Positive expression in lymphocytes(1+))

Figure 3

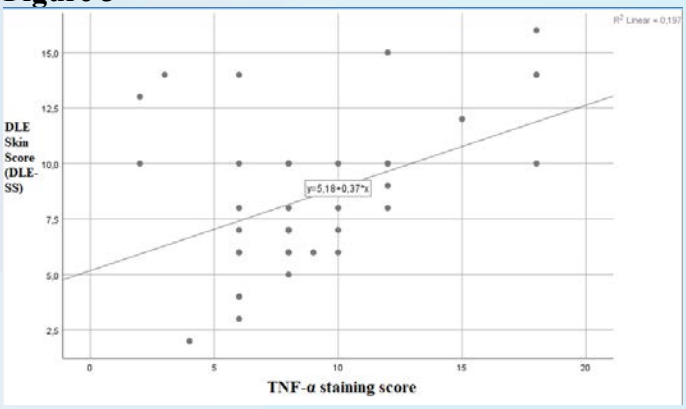
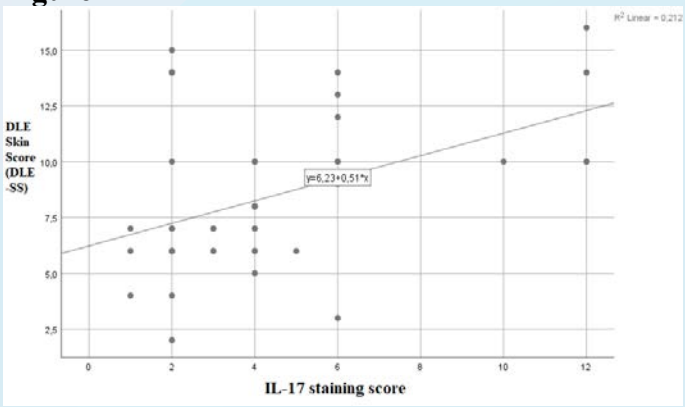


Figure 4



OP-04 [Inflammatory Skin Diseases]

Serum zinc-alfa-2 glycoprotein (ZAG) and insulin levels in rosacea patients and correlation with metabolic syndrome

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İNTRODUCTİON: Rosacea is a chronic inflammatory skin disease involving the central part of the face, characterized by erythema, telangiectasia, papules, pustules, and phymatous changes. Especially in recent studies, it has been suggested that systemic inflammation is involved in the pathogenesis of rosacea, and accordingly, rosacea may be associated with various systemic diseases. Metabolic syndrome and insulin resistance are systemic diseases that can be seen together with rosacea. Zinc-α-2 Glycoprotein (ZAG), on the other hand, is an adipokine involved in lipid, glucose, and insulin metabolism, which is thought to be associated with metabolic syndrome and insulin resistance. Various publications emphasize that it can be a marker in metabolic syndrome, insulin resistance, and related diseases. In our study, we investigated the presence of metabolic syndrome, insulin resistance, and serum ZAG levels in patients with rosacea. MATERİAL-METHOD: 79 volunteer patients diagnosed with rosacea and 80 age and gender-matched volunteers were included in the study. Patients with pregnancy, malignancy, infection, trauma and surgery in the last 1 month, having any systemic treatment in the last 3 months, a chronic inflammatory disease that may accompany metabolic syndrome and affect serum ZAG, and insulin values were not included in the study. Anthropometric, demographic, history, family history, and clinical data of the patient and control groups were recorded. Metabolic syndrome, insulin resistance, and dyslipidemia were evaluated in both groups. Fasting blood glucose (FGL), lipid panel, C-reactive protein (CRP), sedimentation (ESH), insulin, and serum ZAG levels were measured. RESULTS: The presence of metabolic syndrome, systolic, diastolic blood pressure, and CRP levels were found to be significantly higher in the rosacea patient group than in the control group ($p=0.000$, $p<0.001$, $p<0.001$, $p=0.001$, respectively). There was no significant difference between the groups in terms of the presence of dyslipidemia and insulin resistance (respectively; $p=0.175$, $p=0.694$. The mean serum ZAG level was found to be lower in patients with rosacea compared to the control group ($p=0.168$). In rosacea patients with metabolic syndrome, serum ZAG levels were significantly lower ($p=0.043$), while insulin and HOMA-IR values were significantly higher ($p=0.013$ and $p=0.001$, respectively). DİSCUSSİON: Serum ZAG level, which is thought to be a marker for metabolic syndrome and insülin resistance; can be a parameter in detecting metabolic syndrome and metabolic syndrome-related diseases that may accompany rosacea.

Keywords: Rosacea, Zinc-α-2 Glycoprotein, serum ZAG level, systemic inflammation, metabolic syndrome,

OP-05 [Lasers]

Lips smile between HA filler injection and LippLase

Mohammed Abdul Qader Almalmi
Be you Plus clinic dubai

Background Lips augmentation with HA filler injection appeared since years ago.Recently LipLase is alternative Objective The Objective of the study is a comparisone between HA filler injection and LippLase Pateints and Methods Adults womens presented to the clinic for Lips augmentation.

Results The clinical data revealed adult females want Lips augmentation

Keywords: Hyaluronic acid, Injection,LipLase

OP-06 [Corrective, Aesthetic and Cosmetic Dermatology]

Cutaneous complications associate with different aesthetic medicine procedures in patients attendees

Mohammed Abdul Qader Almalmi
Be you Plus clinic dubai

BACKGROUND: - Aesthetic medicine procedures are lasers, dermapin, injection botox, hyaluronic acid, mesotherapy injections, peeling and hairs transplantation.

All used in the temporary beutyation.

OBJECTIVE: - The objective of the study is to identify the pattern of aesthetic medicine procedures side effects and avoid them.

Patients and Methods: Different adult ages males and females presented to the be you clinic Alrashidiah branch dubai uae. They had different cutaneous complications due to aesthetic medicine procedures.

Results;-,The clinical data and the investigations showed the patients had many cutaneous complications

CONCLUSION: - Complications of different aesthetic medicine procedures are common in the human body used.

Keywords: Cutaneous, complications, aesthetic medicine

OP-07 [Infectious Diseases, Parasitic Diseases, Infestations]

Lieshmania cutis diffusa pseudolepromatous leprosa case report

Mohammed Abdul Qader Almalmi
Be you Plus clinic dubai

Background Leishmaniasis is a parasitic disease that is found in parts of the tropics, subtropics, and southern Europe. It is classified as a neglected tropical disease (NTD). Leishmaniasis is caused by infection with Leishmania parasites, which are spread by the bite of phlebotomine sand flies. Objective To identify parasitic skin disease. Patient and methods 60 years Yemeni male patient presented with multiple non itchy erythematous nudulopapular skin eruptions in the face upper shoulders. Skin slite and scraping and staining with Gemsa showed leishmania donovani bodies. Blood sugar is high and he is diabetic. The skin biopsy and hstopatholobical findidngs showed cutaneous granuloma. patient treated with penstostam intramuscular and intralesional injection Results The clinical data and the investigations showed the patient has cutaneous lieshmaniasis. Conclusion Cutaneous lieshmaniasis is common parasitic skin disease in republic of Yemen. But this case of diffuse cutaneous lieshmaniasis is rare.

Keywords: Lieshmania, cutis, diffusa

OP-08 [Paediatric Dermatology]

Accropustulosis in Yemeni infants and childrens

Mohammed Abdul Qader Almalmi
Be you Plus clinic dubai

BACKGROUND: -Infantile acropustulosis is a recurrent, self-limited, pruritic, vesicopustular eruption of the palms and the soles occurring in young children during the first 2-3 years of life. Newly described in 1979, it is probably much more common than the scarcity of reports would imply

OBJECTIVE: - The objective of the study was to identify the pattern of pruritic vesicopustular skin eruptions in Yemeni infants.

Patients and METHODS: - Twenty five male and females Yemeni infants patients 1 to 3 years old presented with pruritic erythematous macules or papules that progress into vesicles and then pustules in the palms, the soles, and the lateral surfaces. Lesions may occur on the dorsal aspects of the hands and the feet as well as the trunk, the scalp, and the face. The intensity and the duration of attacks diminish with each recurrence. No other organ systems are involved. They treated with topical Betamethasone cream or ointment and systemic antihistamine. The skin biopsy followed by histopathological examination was not specific. RESULTS: - The clinical data and the investigations showed that the 25 Yemeni infants had acropustulosis. CONCLUSION: - Acropustulosis of infancy in Yemeni infants is very common skin disorder. The bad hygiene may play an important role in the etiology or allergic substances. It is not recurrence.

Keywords: Accropustulosis, infants, Yemen

OP-09 [Psychodermatology]

Emotion regulation difficulties and executive functions in adolescents with Skin Picking Disorder

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INTRODUCTION: This study aimed to investigate emotion regulation difficulties and executive functions of adolescent outpatients with skin picking disorder (SPD).

METHOD: Ninety six adolescents with SPD and ninety healthy controls (HC) were included in the study. All patients were diagnosed with SPD as per the diagnostic criteria of DSM-5. The Brief Rating Inventory of Executive Function (BRIEF) and the Difficulties In Emotion Regulation Scale (DERS) were implemented to evaluate emotional regulation strategies (i.e. acceptance,), as well as associations between those strategies and executive functions, and clinical variables (anxiety, depressive symptoms, impulsivity and illness charactheristics).

RESULTS: The SPD group had significantly higher scores in some domains of BRIEF; inhibition (t=2.982, p=0.030), emotional control (t=2.461, p=0.016), and planning-organization (t=2.139, p=0.038) Multiple linear regression model explained a considerable amount of variance of executive functions in the patient group (Adjusted R2=66.4%). In the patient group, age at illness-onset and the severity of inhibiton were significantly associated with the disruptions in emotional control functions (For age at illness-onset, β= -0.45, t=-3.0, p=0.012 and for BRIEF Inhibition scores, β=0.31, t=2.8, p=0.008).

CONCLUSION: The results of this study suggest that those with SPD have more emotion regulation problems and poorer executive function skills compared to those without SPD. Deficits in emotional control were associated with inhibition process and age-onset of the illness.

Keywords: Skin picking disorder, emotion regulation, impulsivity, executive functions, adolescent.

OP-10 [Dermatopathology]

A case of cutaneous leishmaniasis and the role of CD1a staining

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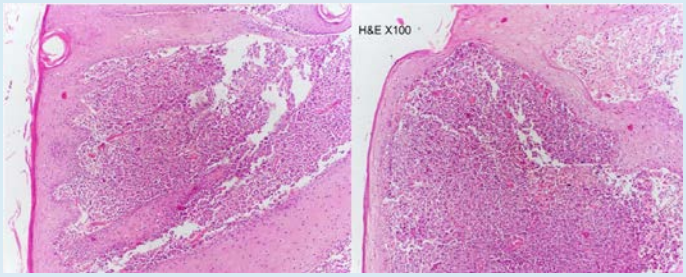
A 42-year-old male patient was admitted to the dermatology outpatient clinic with a rash located at the back of his right ear. According to the history given by the patient, this rash has persisted for over a year. The patient stated that he had been prescribed topical steroids before which aggravated the rash. Physical examination findings included crusted papules on an erythematous base at the posterior region of the right ear, both legs, and left arm. Preliminary diagnoses were lupus vulgaris, psoriasis, and contact dermatitis. A biopsy was performed. Histopathologic features showed a biopsy sample with an atrophic epidermis. That had dense, histiocyte rich inflammatory cell infiltration; which was accompanied by occasional lymphoid cells, plasma cells, and also eosinophil leukocytes in a fashion that affects the whole dermal tissue represented by the biopsy material (Figure 1). Donovan bodies that filled large interstitial areas and histiocyte cytoplasms were found (Figure 2). Sparse multinucleated giant cells were observed. Donovan bodies were evaluated with tissue Giemsa stain. The immunohistochemistry study showed positive staining with CD1a of Donovan bodies (Figure 3). According to the microscopical examination of the biopsy sample and immunohistochemistry study, a Cutaneous Leishmaniasis diagnosis was established. Cutaneous Leishmaniasis is a parasitic disease caused by a flagellated protozoan. The parasite gets transmitted by phlebotomine sandflies. Histopathological clues supporting cutaneous leishmaniasis are epidermal hyperplasia, dense inflammatory cell infiltration consisting of lymphocytes, macrophages, and plasma cells in the dermis, and the presence of granulomas, which may also include multinuclear giant cells. Additionally observing varying numbers of amastigotes suggests cutaneous leishmaniasis. Especially in acute lesions presence of multiple amastigotes within macrophages makes the diagnosis easier. Lesions with suspicion of leishmaniasis in histopathological evaluation but in which amastigotes are not detected are challenging. CD1a immunohistochemistry staining may be useful in these lesions. One of the most interesting recent findings regarding the immunophenotype of leishmaniasis is that the amastigotes express CD1a. Two main hypotheses have been proposed in a recent study: that the amastigotes acquired the CD1a upon exiting dendritic cells expressing the marker by the process of exocytosis or that the Leishmania amastigotes' surface shows cross-reactivity with the CD1a epitope. In a small number of studies conducted in recent years, it has been observed that the use of CD1a antibody contributes to the diagnosis, especially in cases without obvious Donovan bodies.

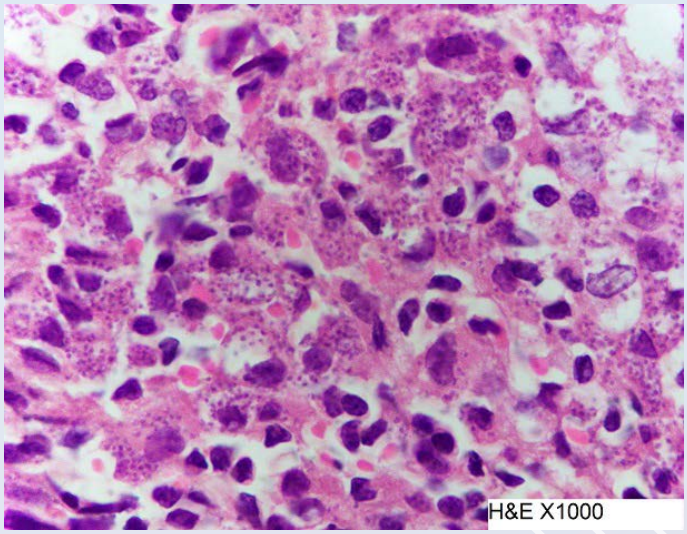
Keywords: cutaneous leishmaniasis, cd1a immunostain, parasitic infection, rash

1



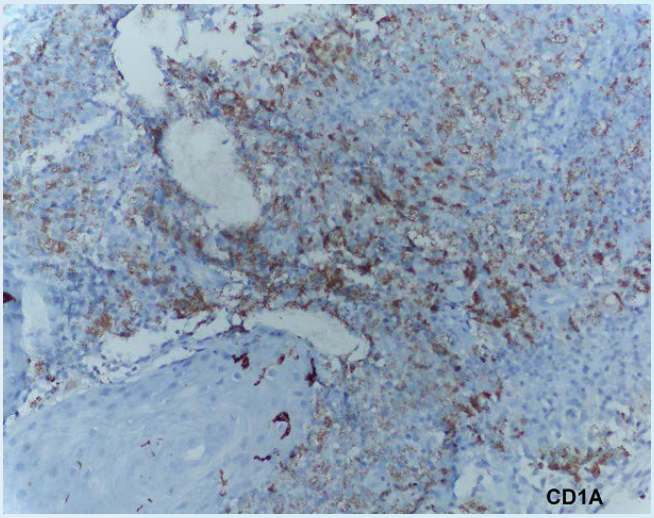
Atrophic epidermis and dense, histiocyte rich inflammatory cell infiltration

2



Leishman Donovan bodies within macrophages

3



Positive staining with CD1a of Donovan bodies

OP-11 [Urticaria, Angioedema]

Urticaria vasculitis case report

Heba Atta Allah Hussein
Be you Plus clinic dubai

Background: Urticarial vasculitis is a variant cutaneous small vessel vasculitis. It is characterised by inflamed and reddened patches or weals on the skin that appears to resemble urticaria, but when the skin is examined closely under a microscope, a vasculitis is found (inflamed blood vessels)

Objective. To identify itchy vascular skin disorder Patients and methods. 32 years old Egyptian female vitiligo patient presented with an urticarial eruption (these are characterised by weals) that is often painful or has a burning sensation, The weals are itchy. The lesions are red patches or plaques that may have a white centre, and petechiae may appear. Unlike urticaria, urticarial vasculitis lesions usually last for more than 24 hours in a fixed location, after which they will slowly resolve spontaneously. Ecchymoses or hyperpigmentation may occurs in the healing process of urticarial vasculitis.. It occured after sun exposure in the sea beach.. Skin biopsy was not taken but clinically diagnose through teledermatogy whatsapp. No other investigations done for the patient The patient was treated with oral steriod.

Results. The clinical data and the investigations showed the patient has Urticarial vasculitis due to photosensitivity reaction.

Conclusion Urticarial vasculitis was less common in top of vitiligo patients

Keywords: Urticaria, vasculitis, case report

OP-12 [Acne and Related Disorders, Hidradenitis Suppurativa]

Risk Factors of Adult Female Acne: A Prospective, Cross Sectional, Case Controlled Study

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Introduction and Objectives: Adult female acne is a frequently encountered and hard to treat complaint in the everyday dermatology outpatient clinics. The aim of this study is to determine the relationship of acne occurrence and severity to family history, body mass index (BMI), menstrual cycles and dietary habits in adult female patients.

Patients and Method: In this cross sectional, case control study a total of one hundred adult female were included: 50 adult acne patients and 50 controls. Upon clinical evaluation age, family history, BMI and dietary habits of the cases and controls were documented. Acne severity was evaluated according to the Global Evaluation of Acne Scale (GEA). According to GEA, grade 1 acne was considered as mild, grade 2 and 3 as moderate acne, and grade 4 and 5 as severe acne in this study. Patients with hypertrichosis, androgenic alopecia, history of hormonal disorders, and menstrual irregularities were excluded from this study. SPSS version 22 was used

for the statistical analyses.

Results: The mean age of the cases was 29,5±4,17; that of controls was 30,3±4,03. There was no significant difference between the cases and controls in terms of age (p=0.356). Family history was present in 54% of the cases and in 44% of the controls; the difference was insignificant (p= 0.317). The mean BMI of cases was 26,0±3,87 and of controls was 25,9±4,83; again the difference was insignificant (p=0.891). In terms of dietary habits, there was no significant difference between the cases and controls for diary products (p=0.418), chocolate (p=0.410), vegetables (p=0.313), fish (p=0.629) and red meat (p=0.689). No significant relationship was found between acne severity and family history (p=0.401), BMI (p=0.347), menstruation (p=0.675), consumption of chocolate (p=0.218), consumption of vegetables (p=0.307), consumption of fish (p=0.385), consumption of fruits (p=0.194), consumption of red meat (p=0.841), consumption of starch (p=0.685), consumption of sugar (p=0.841), alcohol consumption (p=0.829) and cigarette use (p=0.317). The severity of acne was significantly related to the consumption of diary products (p=0.035).

Conclusion: Adult female acne occurrence and severity is independent of the age, family history, BMI, menstrual cycles, cigarette and alcohol consumption. The only dietary risk factor for adult female acne severity is the consumption of diary products.

Keywords: Acne, Adult, Dairy products, Diet, Female

OP-13 [Cutaneous Oncology]

Carcinoma en Cuirasse: A Rare Manifestation of Breast Cancer

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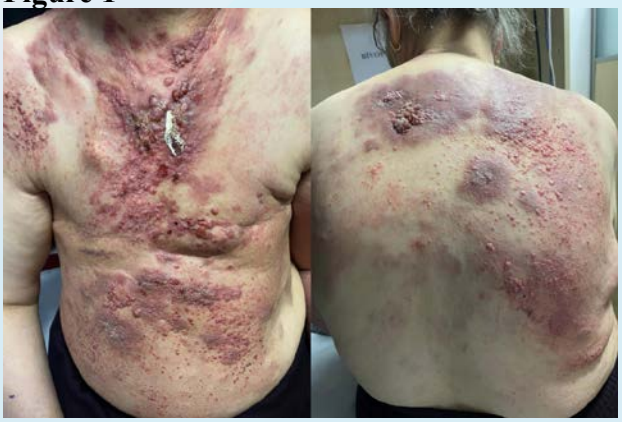
Carcinoma en cuirasse (CeC) is an uncommon form of cutaneous breast cancer metastasis, characterised by sclerodermoid infiltration of the skin and subcutaneous tissue. The lesions evolve from firm papules and nodules to an indurated sclerodermoid plaque. In most cases, chest, abdomen and the mammary regions are affected. Typically, CeC develops after the treatment of primary tumours, as local recurrence at the mastectomy side. However, it may also be an initial manifestation of an aggressive primary breast cancer. Herein, a 65-year-old female patient diagnosed with invasive intraductal carcinoma and CeC is presented. The patient presented to our dermatology clinic with the complaint of generalised papules, nodules and plaques. Her lesions were present for 3 years and were pruritic but not painful. Her personal history of illness included chronic hepatitis B infection for which she was using lamivudine. She stated that she was diagnosed with invasive ductal carcinoma in 2014, had undergone bilateral mastectomy and axillary lymph node resection. Between 2015 and 2021, she was given chemotherapy, including trastuzumab for 4 months, lapatinib for 12 months, kapesitabin for 11 months and anastrozole for 3 months. Dermatological examination revealed generalised, multiple, purple papules, nodules coalescing into indurated plaques, on her anterior & posterior chest and abdomen. (Figure 1) Some of the nodules on the anterior chest were eroded, secondary to the patient's itching. Two separate 4 mm punch biopsies were performed. The first one was performed from the papular lesion and the second one was taken from the plaque-like lesion. The initial diagnosis for the first biopsy included cutaneous metastasis, lymphangioma circumscriptum, lymphangiosarcoma while cutaneous metastasis, Sweet Syndrome, neutrophilic eccrine hidradenitis were considered as initial diagnosis for the second biopsy. In the biopsy specimens, intraductal breast carcinoma cells were detected. Tumoural infiltration in the dermis consisted of atypical epithelial cells, in the form of solid islands, some of which were tubular structures. These atypical epithelial cells had hyperchromatic or vesicular nuclei with prominent nucleoli. (Figure 2) Tumour cells were positive for mammoglobin, E-Cadherin and negative for estrogen receptor (ER) and progesterone receptor (PR). (Figure 3) As a result, our patient was diagnosed with cutaneous metastasis of invasive intraductal carcinoma. Our patient is still taking chemotherapy and under follow-up by oncology department.

CeC is a very rare presentation of breast cancer and is associated with poor prognosis and decreased quality of life. It can occur as the initial finding of an unknown internal malignancy or may be a clue for recurrence. Therefore, dermatologists should be aware of the clinical presentation of CeC for early diagnosis and treatment of internal malignancies.

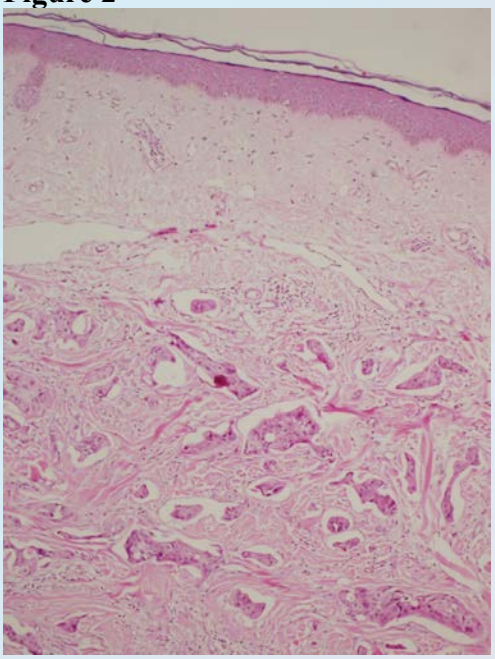
Keywords: Breast cancer, carcinoma en cuirasse, cutaneous metastasis

Figure 1



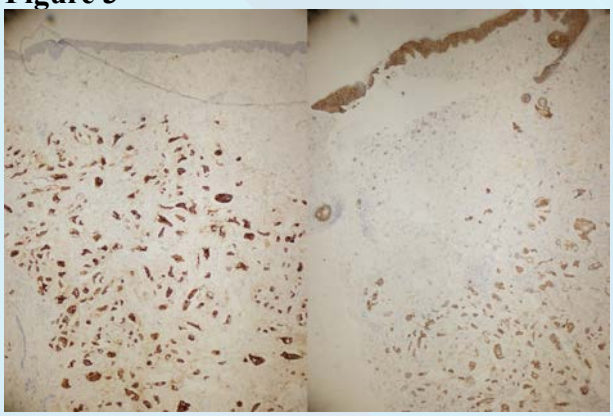
Dermatological examination revealed generalised, multiple, purple papules, nodules coalescing into indurated plaques, on her anterior & posterior chest and abdomen.

Figure 2



Atypical epithelial cells with hyperchromatic or vesicular nuclei with prominent nucleoli. Note that some tumoral cells formed solid islands while some were arranged as tubular structures.

Figure 3



Tumour cells were positive for mammoglobin and E-Cadherin, respectively.

OP-14 [Acne and Related Disorders, Hidradenitis Suppurativa]

The relation of cosmetic product usage, facial hair removal habits, and oral contraceptive usage to acne formation among female medical students

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Introduction & OBJECTIVES: Acne vulgaris is a common skin disease. Various external factors, including cosmetics trigger acne. It is crucial to use cosmetics consciously for skin health. Hair removal practices, obesity, hormonal problems, and discontinuation of oral contraceptives (OCs) also can induce acne. Our aim is to examine the habits of cosmetic product use in female medical students, and to evaluate the relationship between the use of cosmetic products, the method of hair removal and the usage OCs with acne.

Materials & METHODS: A cross-sectional descriptive study was conducted on 43 female medical faculty students. The data was obtained through a self-administered questionnaire containing 21 questions including age, the skin type, the current skin problems, the previous or current acne treatment,

daily use of any cosmetics, use of tinted/colored products, the place where they purchase the cosmetic products from, the status of doing facial hair removal and methods, the presence of hormonal problems, the use of OCs, the participant's own-opinion on the triggering of acne by the beginning or quitting OCs/ by use of tinted/colored products and by hair removal.

RESULTS: Forty-three students responded questionnaire. The mean age was 20.4 years. The skin types were as follows; combination (n=32), dry (n=5), oily (n=6). Seventeen students had received acne treatment. Seven students were on acne treatment. Thirty-one participants used more than one cosmetic product daily. Of 26 students who had acne and/or comedones, 17 used cosmetics for acne-prone skin. Thirty-eight students had combination and oily skin, and 22 of them used cosmetic products suitable for acne skin. Thirty-four participants thought that tinted/ colored products trigger acne, and 25 of them used those products. Six of the 8 students without skin problems used tinted/colored products. Interestingly, 25 students used tinted/colored products despite they thought those products trigger acne, and 12 of them did not use products for acne skin. Of the 27 students with acne and acne-related problems, 14 students purchase products from the personal care stores and/or online shop. Twenty-four students performed facial hair removal, and 8 of them thought hair removal triggers acne. Of these 8 students, 6 of them did waxing. Eight students had PCOS, ovarian cyst, menstrual irregularities, and insulin resistance, which are known to trigger acne. Seven of them thought that tinted/colored products trigger acne, and interestingly, 4 of them used those products. Seven students used OCs in the past, 5 of them thought OCs do not trigger acne.

CONCLUSIONS: The use of cosmetics in late adolescent girls, especially the use of tinted/colored products, is quite common. Many of them do not use products suitable for their skin type, and most of them purchase cosmetic products from personal care stores rather than a pharmacy. Facial hair removal by waxing seems to trigger acne.

Keywords: acne, cosmetics, late adolescents, tinted/ colored products, hair removal, hormonal problems

OP-15 [Quality of Life]

Quality of life in acne vulgaris patients who are treated with systemic isotretinoin

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[2]Ankara University, Faculty of Medicine, Department of Dermatology

Introduction: Acne vulgaris is common chronic disorder of pilosebaceus units (1). It effects 80% of people between 11-30 ages (2). Acne vulgaris patients have many psycho-social problems because of lesion localization and seconder problems.. To assess the quality of life in acne vulgaris patients who are treatening with isotretinoin is the aim of this study.

Material: 983 patients with acne vulgaris were evaluated in our outpatient clinic. Clinical severity, treatment anamnesis and expectation of patients were assessed. 63 of 983 patients were suitable for systemic isotretinoin treatment. Systemic isotretinoin treatment was planned with 120 mg/kg cumulative dose calculated for all patients, Global Acne Grading Scale (GAGS) (3), Visual Analog Scale (VAS) and Dermatology Quality of Life Index (DLQI) (4) were assessed for all patients three times in the treatment period; before, middle and at the end of treatment.

Results: 41 patients,12 male (29,3%) and 29 female (70,7%) were enrolled in the study. In general f/m ratio was 2,4. The mean age were 22 (14-32). There were no statisticially significant difference between gender, ages and GAGS, VAS and DLQI. The differences between acne severity score and visual analog score was found statistically significant between pre-treatment and the sixth month of the treatment but it was not found statistically significant between pre-treatment and third month of the treatment. DLQI in patients were changing between pre-treatment and the third month of the treatment ($p<0,05$) also; between pre-treatment and the sixth month of the treatment ($p<0,05$) was found statistically significant but there was not any relationship between the third month and the sixth month of the treatment ($p<0,05$). In terms of GAGS, VAS and DLQI scores, it was determined that

there was a positive relationship between pre-treatment and the sixth month of the treatment (Table-1). Table-1. Changes in GAGS, VAS and DLQI with isotretinoin treatment.

Before treatment 3rd month 6th month p value Median Mean Median Mean Median Mean GAGS 3 2.58±0.63 1 1.41±0.54 0 0.51±0.55 p<0.05 VAS 7 6.83±1.74 4 4.31±1.85 1 1.51±1.79 p<0.05 DLQI 7 8.44±4.92 3 4.49±3.84 3 4.49±3.58 p<0.05

Discussion: In our study; acne vulgaris patients treated with isotretinoin were researched in terms of quality of life index and these patients were generally had severe acnes. DLQI was found statistically significant in patients before and 6th months of treatment. Moderate and/or severe acne patients were included in our study. Systemic isotretinoin is the most suitable treatment for this group of patients. Bagatin et al. also recommend that isotretinoin should be the first line treatment for this group if there is no absolute contraindication (5). Lasek et al. reported that acne vulgaris affects quality of life for middle aged and older peeople rather than youngs (6). Our study conducted with relatively roung people, mean age was 22(14-32). Salek et al. reported that negative effects of acne vulgaris are age independent conversely (7). We found that male patients have greater DLQI scores than females at the beginning of treatment. At the end of the treatment DLQI was closely same in both genders. Female gender is more prone than male gender for acne effects. GAGS scores of patients were compatible with VAS scores in our study. We found similar VAS and GAGS scores in patients at the beginnng and at the end also.

Conclusion: Treatment alternatives should be determined by severity of lesions and personal response. Considered that the patients with acne vulgaris should be evaluated by quality of life indexes. Isotretinoin is good choice and it cause significant improvement in quality of life for patients.

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Keywords: Acne Vulgaris, Isotretinoin, Quality of life

Table-1. Changes in GAGS, VAS and DLQI with isotretinoin treatment.

	Before treatment	3rd month	6th month	p value
	Median Mean	Median Mean	Median Mean	
GAGS	3 2.58±0.63	1 1.41±0.54	0 0.51±0.55	p<0.05
VAS	7 6.83±1.74	4 4.31±1.85	1 1.51±1.79	p<0.05
DLQI	7 8.44±4.92	3 4.49±3.84	3 4.49±3.58	p<0.05

OP-16 [Autoimmune Bullous Diseases]

Omalizumab therapy in patients with bullous pemphigoid: A retrospective study of 13 patients

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BACKGROUND: Bullous pemphigoid (BP) is an autoimmune blistering disease which commonly seen in elderly patients. BP generally requires treatment with corticosteroids and immunosuppressive medications. There is still a need for effective and safe treatment options.Omalizumab is an anti-IgE antibody treatment which is not licenced in the treatment of BP; however there are case reports showed favorable results with omalizumab therapy.

OBJECTIVE: Our study aimed to evaluate the clinical outcomes of patients with BP treated with omalizumab therapy at a single tertiary center in Istanbul.

METHODS: A retrospective cohort study was performed on 13 patients who has been injected at least once with 300 mg omalizumab therapy between January 2017 and 2022.

RESULTS: Within our cohort, there was one patient experienced possible anaphylactoid reaction immediately after first injection and we did not continue for omalizumab treatment. Twelve patients treated with omalizumab an average 4 cycles. Three of 12 patients had mild-moderate renal insuffiency and 5 of 12 had insülin dependent diabetes mellitus. None of patients had elevated IgE levels. Eight of 12 (66.66%) patients achieved complete remission with omalizumab as monotherapy or adjuvant therapy. Two of 12 achieved partial remission with omalizumab as adjuvant therapy and 2 of 12 did not show improvement with omalizumab injections.

LIMITATIONS: This study was limited by its retrospective nature, results of a single center, and small sample size.

CONCLUSION: Despite off-label usage of omalizumab in the treatment of BP. It seems to be effective treatment option with very favorable safety profile particularly in patients with contrendications to corticosteroids and/or immunsuppressives.

Keywords: autoimmune blistering disease, bullous pemphigoid, omalizumab, anti-IgE antibody

OP-17 [Corrective, Aesthetic and Cosmetic Dermatology]

Evaluation of the change in the interest in nose filling in Turkey in the last ten years according to the years, via google trends

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With the increasing use of technology, more and more searches are made on health-related topics through search engines. Google Trends (GT) provides customizable analytics for terms people searched for on Google's search engine. These analyzes can give direction to the cosmetological dermatology market and the trends of physicians interested in cosmetological dermatology, by providing information on which cosmetic procedures or products people search for more frequently through the search engine. Nasal filling has gained popularity in dermatology practice, especially in recent years. Mild deformities can be eliminated with dermal filler injection applied to the nose. Since it is a more non-invasive procedure compared to rhinoplasty, the interest in nasal filling is increasing every year. Google Trends can provide useful information to inform dermatologists about national and global population interest in non-surgical cosmetic procedures and to identify their trends in these procedures. Therefore, in this study, we aimed to comprehensively evaluate the search volume for nasal filling in Turkey in a 10-year period in order to

evaluate the change in the interest in nasal fillings in our country over the years.

Method: A 10-year search volume was obtained by using the search word "nose filler" between 01.01.2011 and 01.01.2021 in Turkey via Google Trend. Region and language settings are limited to users in Turkey only, and their preferred language when using search results is set to "Turkish". Obtained data were analyzed with One-way ANOVA test.

Results: The average number of calls was 1.33±2.605 in 2011, 2.25±3.019 in 2012, 4.33±3.962 in 2013, 7±3.742 in 2014, 7.92±4.252 in 2015, 18.33±7.866 in 2016, 31±9.105 in 2017, 45.42±12.325 in 2018., 75.58±13,708 in 2019 and 73.08±16,654 in 2020. In the comparison of the groups, we observed that the Google trend searches increased gradually, especially from 2016 to the last years ($p<0.001$), but there was no difference between 2019 and 2020 ($p=1$).

Conclusion: Our study shows that nasal filling is being researched by more and more users on the internet every year in our country. This is an indirect indication of the increasing interest and demand for nasal filling in our country as well as all over the world. The lack of a significant difference between the number of searches in 2019-2020 suggests that people move away from cosmetic interventions and focus on basic health needs due to the COVID-19 pandemic.

Keywords: nose filling, google trends, cosmetology

OP-18 [Acne and Related Disorders, Hidradenitis Suppurativa]

Acne Vulgaris Patients' Use of Skin Care Products and Their Impact on Disease Severity

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INTRODUCTION & OBJECTIVES: Mechanisms in the pathophysiology of acne vulgaris, as well as side effects of topical or oral agents used to treat acne vulgaris, can alter the skin epidermal barrier. Cleaning, moisturizing, and protecting the skin from the sun are essential for mending the damaged skin barrier, decreasing drug side effects, and promoting patient compliance with prescribed therapies. However, there is limited data on acne patients' use of skin care products and the sources from which they obtain skin care information. The purpose of this study was to investigate the use of skin care products in acne patients and see how they affected the severity of the disease.

MATERIALS-METHODS: The study comprised 450 acne vulgaris patients, 337 women and 113 males, ranging in age from 11 to 58 years. The patients' sociodemographic information as well as the therapies they received were documented. The patients were asked if they knew about using skin care products (cleanser, moisturizer, and sunscreen), and if so, where did they get this information and what items they were using. The dermatologists used the global acne score system to determine the severity of acne vulgaris.

RESULTS: A total of 299 patients (50.8 %) had knowledge to use skin care products, with 250 women and 49 men. The knowledge about using skin care products rose significantly ($p=0.003$) as the level of education increased. When patients with and without knowledge of using skin care products were evaluated, a significant difference in acne severity ($p=0.039$) was discovered. The severity of the disease was milder in the group with knowledge. The ratio of patients with mild disease was higher in those who used sunscreen, cleansing gel, or moisturizer than in those who did not, and the ratio of patients with severe disease was much lower (p:0.001, p:0.033, p:0.018, respectively). When the patients who received acne treatment were compared with the patients who did not receive any treatment (91.7% vs. 49.4%), it was observed that the treated patients had more knowledge of using skin care products and the rate of learning this information from their doctor in the treated group (76.5% vs. 28.6%) was found to be significantly higher ($p<0.001$, $p<0.001$). As the treatment step progressed patients' knowledge of using skin care products and the percentage of learning this information from the

doctor increased significantly (p:0.001, p<0.001).

CONCLUSION: In our study, we observed that patients who used skin care products had milder acne, that their usage of skin care products increased with their level of education, and that the majority of patients who used these products got their information from dermatologists. These findings demonstrate that following correct skincare recommendations necessitates a high level of education and consultation with a dermatologist, and that skin cleansing, moisturizing, and sun protection are all important components of the treatment process.

Keywords: acne vulgaris, skin care, cleansing, moisturizing, sun protection

OP-19 [Biologics, Immunotherapy, Molecularly Targeted Therapy]

Certolizumab-Induced Purpura Annularis Telangiectodes of Majocchi: A case report

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Introduction & OBJECTIVES: Tumour necrosis factor α (TNFα) inhibitors are now widely used to treat immune□mediated inflammatory diseases. Although they have a good safety profile, they are also associated with adverse cutaneous events. Purpura annularis telangiectodes of Majocchi (PATM) is a rare subtype of pigmented purpuric dermatosis (PPD). The cause of PPD is unknown, but drugs are implicated in a minority of cases. Herein, we would like to report a case of certolizumab-induced PATM.

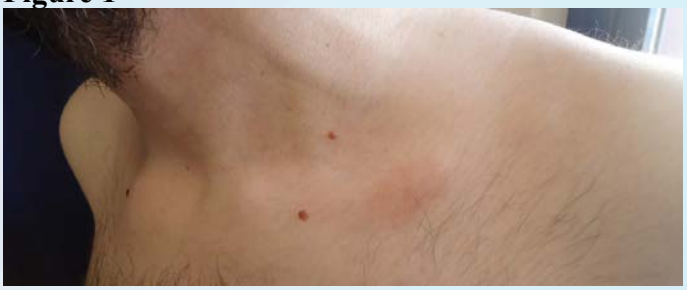
METHODS: This is a case report of PATM induced by certolizumab.

RESULTS: A 39-year-old male patient was started on certolizumab for the treatment of psoriatic arthritis. One week after the second injection (given as two subcutaneous injections of 200 mg at weeks 0 and 2) purpuric eruptions developed on his body and he was consulted to the dermatology clinic. At dermatologic examination, the patient had orange-brown macules with nonblanching petechiae on his trunk, which were clinically consistent with PPD (figure 1). Laboratory results were normal, including complete blood cell count and results of a basic metabolic panel. A biopsy sample was taken from a representative lesion and showed a superficial perivascular lymphocytic infiltrate with extravasated erythrocytes. Certolizumab was discontinued. The patient presented for a follow-up visit 3 weeks later with no new lesions and the old lesions were rapidly fading (figure 2).

CONCLUSIONS: PATM is a form of the PPDs, which manifests as annular macules that are symmetrical, reddish-brown, and generally asymptomatic. Lesions may vary from few to innumerable. The ethology of pigmented purpuric dermatoses is not yet fully elucidated and most of the cases are idiopathic. An association with comorbidities such as diabetes mellitus, viral hepatitis, peripheral venous insufficiency, and use of medications has been reported (1). Although PPD cases induced by other TNFα inhibitors including infliximab and adalimumab have been reported, to the best of our knowledge, it is the first case of PPD induced by certolizumab (2,3). Capillary dilation and fragility have been attributed a possible pathogenic role in PPD. It has been hypothesized that T cells are activated by an antigenic stimulus and bind to endothelial cells, fibroblasts, and keratinocytes through the expression of adhesion molecules. Cytokines produced by leukocytes including TNFa can trigger the expression of these adhesion molecules (4). TNFα inhibitor therapies are effective and safe. However, most of these agents are immunogenic and consequent anti-drug antibodies formation can impact on both treatment efficacy and safety. Immunogenicity of TNFa inhibitors has been linked to many adverse events including autoimmune reactions and paradoxical inflammatory diseases (5). The existence of studies suggesting that the cell-mediated immune response plays a role in the pathogenesis of PPD made us think that the immunogenicity of TNFa inhibitors may induce the disease.

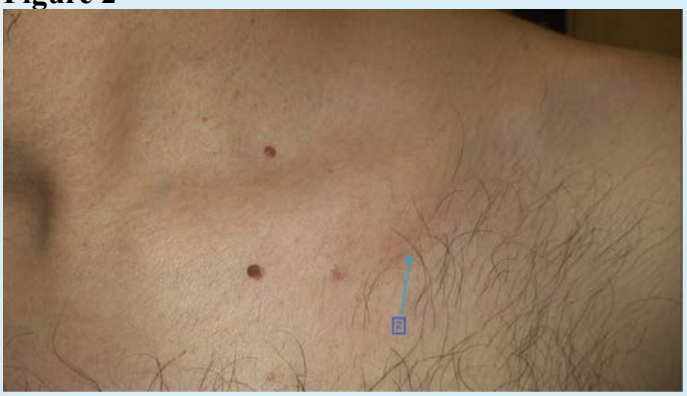
Keywords: Certolizumab, Purpura Annularis Telangiectodes of Majocchi, a cutaneous side effect of biologics

Figure 1



Purpura annularis telangiectodes of Majocchi with reddish brown, annular, nonscaly patches on the trunk and nonblanching petechiae within the patches.

Figure 2



Fading of purpura annularis telangiectodes of Majocchi lesions after discontinuation of certolizumab

OP-20 [Hair Disorders/Diseases]

A Comperative Evaluation of "Light-pull" Tests, Automated Digital Phototrichograms,and Hb, Ferritin, Zinc Serum Levels in "Telogen Effluvium" Patients

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Background: This is a descriptive cross-sectional study performed on the patients diagnosed with telogen effluvium between the years 2015-2018 at the Department of Dermatology and Venereology of Kırıkkale University Faculty of Medicine. The aim of our study was to investigate the status of vitamin and mineral deficiency in patients diagnosed with telogen effluvium and to investigate its relationship with hair pull test and automated digital phototrichogram results.

Material and Methods: Nine hundred seventy-three patients were included in the study. The parameters which may be related to telogen effluvium such as ferritin, vitamin B12, and folic acid level, hemoglobin value, and their relationship with hair pull test and automated digital phototrichogram results were evaluated.

Results: In this study, it was found that the frequency of hair pull test positivity was significantly higher in patients with low ferritin and iron levels. There was a positive correlation between hemoglobin levels and anagen/telogen ratios. There was no significant difference in hair pull test positivity in patients with or without vitamin B12 deficiency. Similarly, there was no significant difference in hair pull test positivity in patients with or without folic acid deficiency. There was no significant difference between the two groups regarding the hair pull test. There was no significant difference between the two groups in terms of hair tensile test and automated digital phototrichogram test results in patients with or without zinc deficiency.

Conclusion: The frequency of hair pull test positivity was found to be significantly higher in patients with low ferritin and iron levels. There was a positive correlation between hemoglobin levels and anagen / telogen scalp hair ratios.

Keywords: Telogen effluvium, Automated Digital Phototrichogram, Light-pull test

OP-21 [Inflammatory Skin Diseases]

Variable Clinical and Trichoscopic Features of Temporal Triangular Alopecia

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Introduction & AIM: Temporal triangular alopecia (TTA) is a permanent, asymptomatic noncicatricial alopecia, usually localized at frontotemporal region1. In this study, we aim to report a new possible association with TTA and nevus sebaceous (NS) and describe the clinical and trichoscopic features of our TTA patients.

Case-1: A 30-year-old man applied our clinic with hair loss. He had a 3x1,5 cm triangular alopecic patch and a verrucous plaque, on his temporal and parieta-occipital area, respectively. Both lesions were present since birth. On the alopecic area, diameter diversity of pigmented vellus hairs that are surrounded by terminal hairs were observed, trichoscopically. On the verrucous plaque, transparent yellowish fingerlike projections were observed and histopathologically it was compatible with NS.

Case-2: A 39-year-old woman admitted to our clinic with 3x2 cm-sized, triangular alopecic patches, extending to the anterior scalp line, on both temporal areas, since infancy. Trichoscopically, on a pinkish background, empty follicules, yellow dots, white hairs, pigmented vellus hairs with length and diameter diversity, surrounded by terminal hairs were detected.

Case-3: A 14-year-old male patient applied to our clinic with a lancet shaped, 4x1 cm-sized alopecic patch on the left frontotemporal region, since infancy. On trichoscopic evaluation pigmented vellus hairs of different lenght and epidermal scale on a pinkish background were detected.

DISCUSSION: Temporal triangular alopecia is usually localised on the frontotemporal region2. NS is a kind of hamartoma that is classically localized on face or scalp3. Their co-occurrence on the scalp region may be coincidental. Through the cases to be reported in the future, this association may be revealed. White hairs, white dots, vellus hairs surrounded by terminal hairs, empty follicles and diameter diversity are described as common trichoscopic features of TTA1,4. Additionally, we observed a pinkish background (cases 2-3). In the literature, an arboriform vascular pattern1 and arborizing red lines4 were reported. In our opinion, the pinkish color can be associated with vascular structures that we could not observe because of their deeply localization or insufficient illumination. Temporal triangular alopecia should be differentiated from alopecia areata (AA), aplasia cutis congenita (ACC), tractional alopecia and trichotillomania1. Absence of trichoscopic features of AA is distinctive5. Trichoscopy can also differentiate ACC and TTA. Translucent appearance and absence of skin appendeges are characteristic features of ACC4. Conversely, eccrine pores are observed as white dots and numerous vellus hairs are seen in TTA4. In conclusion, trichoscopy is useful in the diagnosis of TTA and a pinkish background may take part as a trichoscopic feature. Evaluation of cases with TTA in terms of the presence of NS is useful to find out the frequency of this association.

Keywords: temporal triangular alopecia, alopecia, dermoscopy, trichoscopy, nevus sebaceus

OP-22 [Hair Disorders/Diseases]

Trichoscopic and Clinical Features of Traction Alopecia: Preliminary Results of 9 Patients

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INTRODUCTION & OBJECTIVES: Traction alopecia is a hair loss type due to repetitive traction and tension in the hair that occurs due to social, cultural, religious and occupational reasons. Trichoscopy is the non-invasive examination of the hair and scalp with various magnifications. The aim of this study is to evaluate the trichoscopic findings of patients with traction alopecia and to describe their clinical features.

MATERIAL-METHODS: In this retrospective study, patients diagnosed with traction alopecia clinically or histopathologically in our dermatology clinic in the last five years were included.The age(>18), gender, skin phototype, comorbidities, duration of disease, etiology, location of alopecia, trichoscopic features, presence of fringe sign were recorded. Data was calculated using SPSS v25 program.

RESULTS: 9 patients were evaluated in the study and all patients were female. Patient age ranged from 21 to 65 years. (mean 33,3± 9,096). 5(55,56%) patients had Fitzpatrick 3 skin type; 4(44,4%) patients had Fitzpatrick 4 skin type. The mean disease duration was 86± 69,065 months. Evaluated by localization; 5(55,56%) patients had frontal alopecia, 6(66,67%) had temporal alopecia and 2(22,22%) had parietal alopecia. Fringe sign was positive in 6(66,67%) patients. When the habits of tying hair tightly were questioned in the etiology; it was found that 6(66,67 %) patients wore turbans and 5(55,56%) patients tied their hair tightly. Histopathological examination was performed in 7 of 9 patients (77,78%) but data were lost in 1 patient. In trichoscopic examinations, the most common findings were hair diameter diversity(88,89%), vellus hairs(88,89%) and yellow dots(88,89%). Of those classified as follicular findings were detected as follows; short vellus hair in 5 (55,56%),loss of follicular openings in 3(33,3%), empty follicules in 5(55,56%), hair casts, pili torti and broken hair in 1(11,11%) patient. In interfollicular findings; epidermal scale, arborizing red lines and dirty dots were found in 1(11,11%) patient, pinkish-white area in 4(44,44%), pinpoint white dots in 2(22,22%), fibrotic white dots in 3(33,33%) patients.The other findings; circle hairs were detected in 2 patient (22,22%) and black dots were detected in 4(44,44%) patients.

CONCLUSIONS: Traction alopecia is relatively occurs common in our country and there is no large case series in the literature. Loss of follicular openings, pinkish-white areas, pili torti, fibrotic white dots are seen mostly in long-term disease. Hair diameter diversity, vellus hairs and yellow dots were the most common findings as in literature. However, these are non-spesific and not related with duration of disease. Trichoscopic examination is a non-invasive method for early diagnosis and beneficial for providing information about the duration of disease.

Keywords: Alopecia, Dermoscopy, Scalp, Hair

OP-23 [Cutaneous Oncology]

A case of micromelanoma: Possible association with hormonal therapy

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Introduction & Objectives: Micromelanomas are defined as malignant melanomas with a maximum diameter of 3-5 milimeters. Previously, pigmented lesions smaller than 5 milimeters were not considered

as malignant melanoma and screening algorithms were especially developed for pigmented lesions greater than 6 milimeters in size. However, in a study which was done by Sydney Melanoma Unit showed that approximately one-third of melanomas are under 6 milimeters in diameter and diagnostic criterias are not always adequate for them.

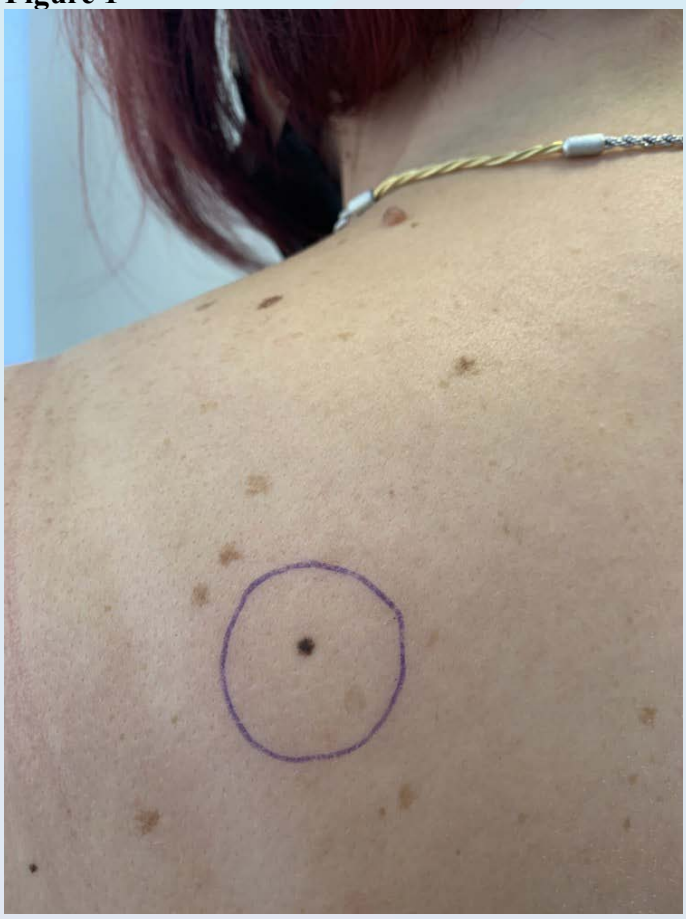
Materials & Methods: In this report, we represent a micromelanoma case with diagnostic clues and possible association with hormonal therapy. A 50-year old female patient applied with a pathology report of her excisional biopsy which was performed in another clinic. Pathological diagnosis was superficial basal cell carcinoma. In her medical history, it was found out that she was diagnosed with invasive ductal carcinoma and under anastrazole treatment. On dermoscopic examination, a pigmented macule 3 mm in size, which was located on her back (Figure 1); and had segmental streaks with structureless global pattern (Figure 2) was detected. Histopathological examination revealed an atypical melanocytic proliferation which creates nests in epidermal basal layer (Figure 3). These atypical melanocytes invaded papillary dermis as single cells or small nests in some foci (Figure 4). The patient was diagnosed with malignant melanoma with 0,4 mm of Breslow's depth.

Results: In micromelanomas, classic melanom-spesific features could not present always. In a study done by Slowinska et all., 40% of micromelanomas do not meet dermoscopic melanoma criteria. According to recetnt studies; irregular pigmented areas, atypical network and reticular/structureless global pattern are more common in micromelanomas. However, peripheral streaks should be taken seriously, especially if segmental. As in our case, it could be only indicator of melanoma. And also, even there is a positive correlation between melanoma size and invasion status; as in our case, diagnosis of micromelanoma does not exclude invasion. There is an association between breast cancer and malignant melanoma. Recent studies suggest that melanoma cells express ER-beta and show aromatase activity, and although it is uncertain, evidence suggests that its growth and metastasis are influenced by estrogen stimulation. Possible inhibitor effect of anastrazole on melanoma cells could have prevented the patient from a larger melanoma with higher Breslow's depth.

Conclusion: To sum up, small pigmented lesion should be evaluated with more than one algorithm, attention should be paid on atypical network, irregular pigmentation and peripheral streaks especially on structureless or reticular global pattern. Patients with breast cancer should be followed-up with routine dermoscopic examination for malignant melanoma for disease association and non-melanoma skin cancers for immunsupressive situation.

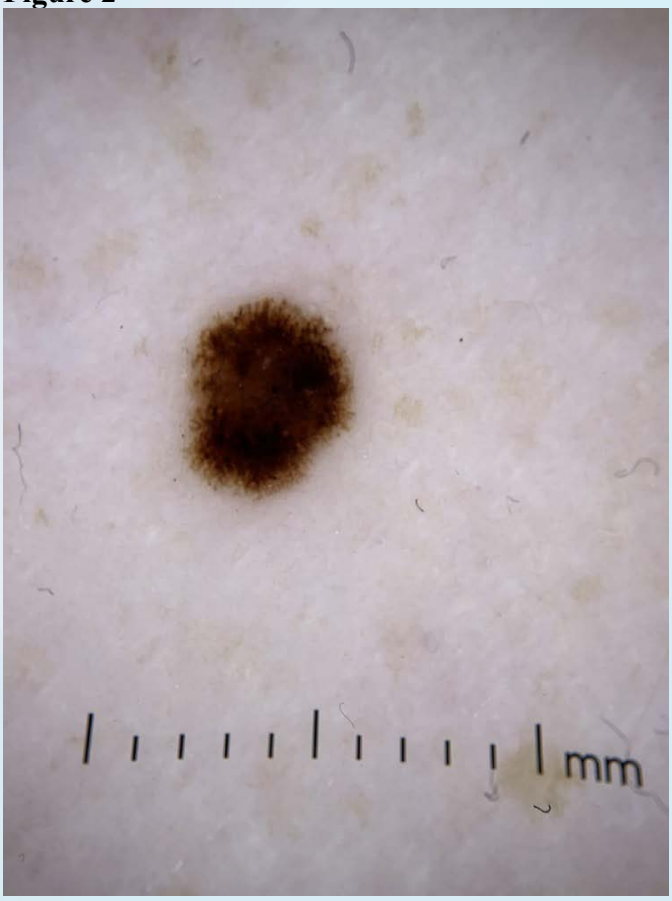
Keywords: micromelanoma, malignant melanoma, breast cancer, aromatase inhibitor

Figure 1



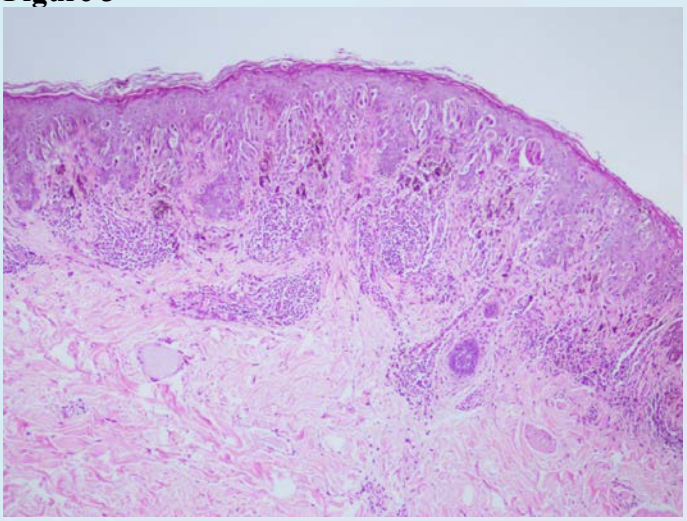
Pigmented macules on patients back

Figure 2



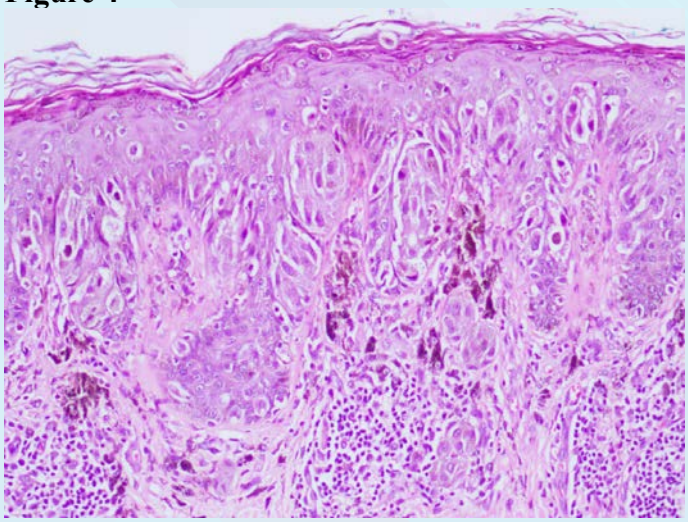
Segmental streaks with structureless global pattern

Figure 3



Atypical melanocytic proliferation which creates nests in epidermal basal layer (H&E, x40)

Figure 4



Atypical melanocytes invaded papillary dermis as single cells or small nests in some foci (H&E, x100)

OP-24 [Dermoscopy]

A rare case of granulomatous rosacea: from dermoscopic clues to succesful treatment

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Introduction & Objectives: Rosacea is a chronic skin disease which represents with erythema, flushing, telengiactasias, inflammatory papule/pustules. According to symptoms' or findings' predominancy, four different clinical subtypes are defined: erythemotelengiectatic, papulopustular, phymatous and ocular. Granulomatous rosacea (GR) was previously categorized as a seperate variant of rosacea because of its unique histopathologic findings and different clinical presentations such as asymmetrically distributed monomorphic papules on normal appearing periorificial areas; flushing, erythema or telangiectasias may be seen but are not needed.

Materials & Methods: In this report, we represent a succesfully treated granulomatous rosacea case with its dermoscopic features. 28-year old female patient applied with recurrent erythematous papules, nodules and pustules on her chin with episodic flushing and

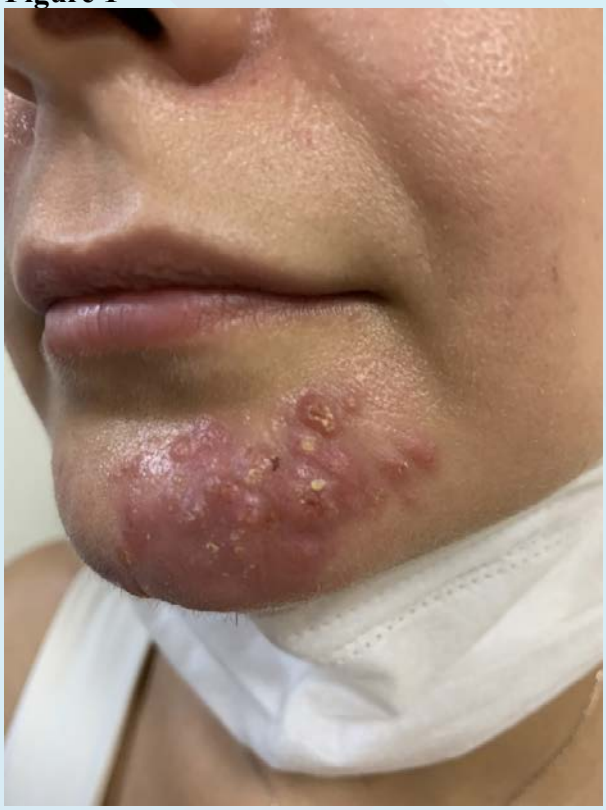
facial erythema. Her symptoms begun approximately six months ago. She had been treated with oral and topical metronizadole, oral doxycycline, topical keratolytic and antibiotic combinations since then with weak response to treatment. On dermatological physical examination, there were erythematous inflammatory papules and pustules on her chin (Figure 1). Skin scraping test from involved area was negative for Demodex spp. The patient was informed however she denied biopsy for histopathological examination. She was diagnosed with granulomatous rosacea clinically and was given 0,5 mg/kg/day oral isotretinoin and 1% pimecrolimus cream twice daily for recalcitrant disease. After 6 weeks, complete recovery was observed (Figure 3).

Results: The term of "granulomatous rosacea" is controversial. Although it does not represent morphologic patterns or combinations of rosacea, because of common etiological factors and treatment responses, GR was previously recognized by the National Rosacea Society (NRS) as a variant of rosacea. Diagnosis of GR depends on clinical examination and histopathological evidences of non-caseating epithelioid cell granulomas is seen with mixed infiltrate. However dermoscopy is a useful device for diagnosis especially if there is no question of histopathological examination. Major dermoscopic clues for GR are structureless yellow-orange areas which correspond to dermal granulomas, and polygonal vessels which correspond to erythema and telengiectasias. There is no standard treatment for GR. Topical (azelaic acid, benzoyl peroxide, metronidazole) and systemic (tetracyclines, macrolides) agents can be used. In recalcitrant disease topical pimecrolimus, oral isotretinoin and oral dapsone can be beneficial.

Conclusions: However GR was descoped in 2017 update of NRS; currently, the consensus is that GR is a histologic variant of rosacea, not a distinct clinical subtype, and may have multifactorial causes that are distinct from rosacea. Dermoscopy would be a beneficial tool for rapid and non invasive diagnosis.

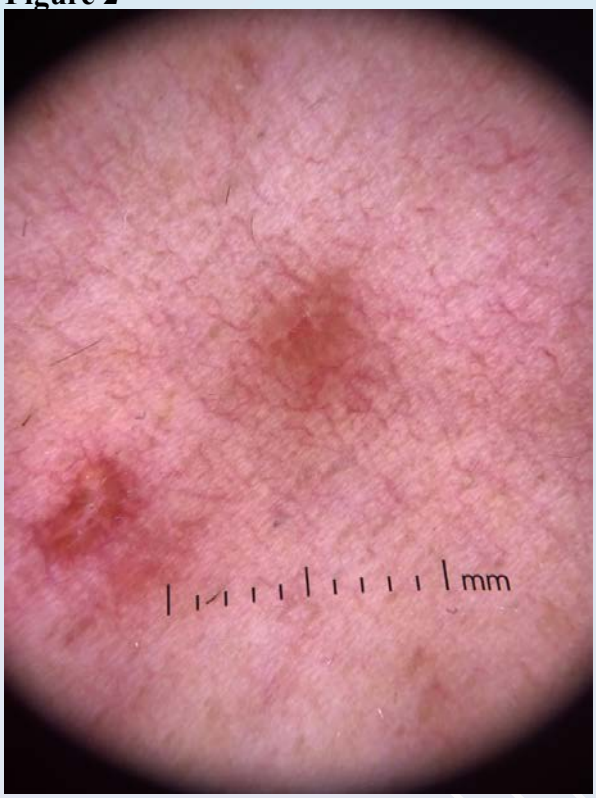
Keywords: granulomatous, rosacea, dermoscopy,

Figure 1



Erythematous inflammatory papules and pustules

Figure 2



Orangish structureless areas and polygonal vessels (x10)

Figure 3

Complete recovery at 6th week.

OP-25 [Dermatology and Internal Medicine, including Skin Manifestations of Systemic Diseases]

Primary Immunodeficiency Disease Caused By Mutation in CARMIL2 in Patient With Disseminated and Persistent Warts

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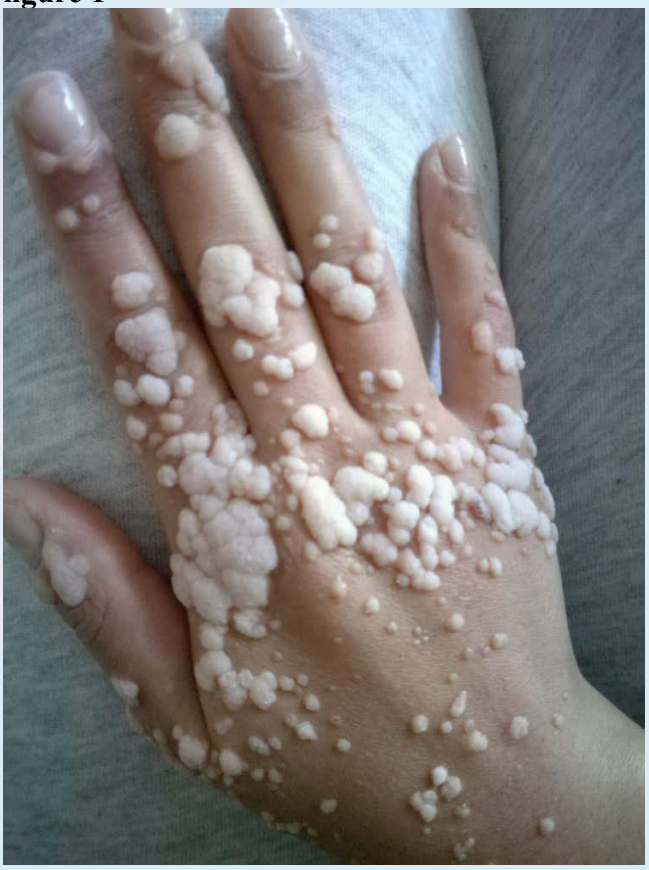
Primary immunodeficiencies (PID) are heterogeneous diseases that manifest with variable phenotypes. Patients have an increased susceptibility to severe infections, especially with rare pathogens, but also harbor an increased burden of common and clinically less severe infections. In addition to increased susceptibility to infections, patients are more prone to diseases related to allergy, inflammation, autoimmune, lymphoproliferative, and malignancy. Warts are a common manifestation of human papillomavirus (HPV) and will affect most people at some point in their life. However, when they are overwhelming, disseminated, and/or persistent, a primary immunodeficiency disease (PIDD) may be suspected. The CARMIL2, also known as RLTPR, has been reported to regulate cytoskeletal organization, endocytosis, and cell migration by controlling actin polymerization Dynamics. The gene was first identified and characterized as downregulated in affected psoriatic tissue. Liang et al. have demonstrated that CARMIL2 is essential for costimulation of T cells via CD28 and the development of regulatory T cells (Tregs). The patients manifested with variable immune-related phenotypes in early childhood characterized by bacterial, viral, and fungal infections (e.g., invasive mycobacterial diseases, mucocutaneous candidiasis, warts, molluscum contagiosum, dermatitis, and esophagitis), cutaneous and pulmonary allergy, and/or EBV-positive disseminated smooth muscle tumors. A 22-year-old female patient was admitted to our outpatient clinic with common viral warts that were more prominent on the dorsum of both hands for five years. She had folliculitis-like lesions occurring in the body in her childhood from the age of 1 year and had asthma-like symptoms in the second year of life, which continued with a severe course through childhood. She had been treated with inhaled corticosteroids and with a clinical course complicated by recurrent upper and lower respiratory infections. Her childhood asthma and infectious respiratory problems have greatly improved with age. However, she now has a chronic obstructive pulmonary disease (COPD) with radiographically verified bronchiectasis. Severe microcytic anemia was interpreted as a result of gastrointestinal iron malabsorption. At the age of 18, the EBV DNA PCR test, which was requested due to hepatosplenomegaly and lymphadenopathy, was positive. In further investigations, homozygous CARMIL2 mutation was detected. She was treated with subcutaneous IgG biweekly and azithromycin prophylaxis, leading to improvement of the recurrent infections. Her parents are known to be related. Homozygous CARMIL2 mutation in her younger sister and heterozygous CARMIL2 mutation in her older sister was found in the genetic screening performed on her parents and five siblings. In clinical follow-ups, it was observed that she was very resistant to treatment.

Keywords: warts, immune deficiency, carmil 2 deficiency

figure 1



viral warts that were more prominent on the dorsum of hands

OP-26 [Urticaria, Angioedema]

Gender related differences in Chronic Spontaneous Urticaria; analysis of 624 patients

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Introduction & objective: Chronic spontaneous urticaria (CSU) is a common female predominant skin disease with significant effects on quality of life. Few studies have evaluated the effects of gender-specific characteristics on the pathophysiological, clinical, and prognostic aspects of CSU. Our aim is to determine differences between male versus female CSU with respect to clinical characteristics, laboratory parameters, comorbidities, and response to treatment.

Methods: The study is a retrospective analysis and includes 624 CSU patients who applied to our urticaria center. The clinical and laboratory characteristics and treatment responses of the patients were evaluated. Response to treatment was determined by urticaria control test (UCT). The clinical, laboratory characteristics and treatment responses of CSU patients were compared between the female and male group.

Results: 68.1% (n:422) of the patients were female, and 31.9% were male. The mean age, disease duration, positive family history, autologous serum skin test positivity, high C-reactive protein, anti-thyroid peroxidase and anti-thyroglobulin antibody positivity were found to be similar between the males and females ($p>0.05$). The presence of concomitant atopy (28.2% vs 16.9%; $p=0.004$) and high sedimentation rate (45.9% vs 24.4%; $p=0.001$) were more common in female patients than male patients; while IgE level was found to be higher in males (median; 173 vs 129; $p=0.026$). While the mean size of the plaques and accompanying angioedema were similar in both groups, presence of trigger (51.2% vs 38.3%; $p=0.014$), accompanying systemic symptoms (30.7% vs. 13.8%; $p<0.01$), autoimmune thyroid disease (11.8% versus 5.4%; $p=0.046$), presence of psychological diseases and stress (71.4% versus 58.4%; $p<0.001$), concomitant stomach problems (41% versus 30.3%; $p=0.016$) and systemic diseases were found to be more frequent in female patients (40.5% vs. 29.1%; $p=0.009$). Responses to standard dose antihistamines (AH), 2nd line treatment (high dose or combined AH) and omalizumab were found to be similar between the two groups ($p>0.05$).

Conclusion: Female and male CSU show distinct characteristics. Autoimmune thyroid disease, presence of psychological diseases and stress seems to be more frequent in female patients. More studies are needed to better understand the impact that gender-specific characteristics may have a role on the pathophysiological, clinical, and prognostic aspects of CSU.

Keywords: chronic spontaneous urticaria, gender, laboratory characteristics

OP-27 [Adverse Drug Reactions, TEN]

Capillary leak syndrome induced by acitretin: A case series

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BACKGROUND: Capillary leak syndrome is a rare and potentially life-threatening condition caused by a shift of intravascular fluid and proteins to the interstitial space. Retinoids are widely used in dermatology. Adverse effects are frequent and require clinical and laboratory monitoring. We report 4 cases of patient with secondary capillary leak syndrome (SCLS) associated with acitretin. Our objective was to present this potentially fatal medical condition that occurs in our specialty.

Patients and METHODS: Four patients with a previously known diagnosis of psoriasis were admitted to our hospital with exacerbation of pustular psoriasis.Treatment was initiated acitretin at a dose of 25 mg/d or 50 mg/d.After acitretin treatment all patient presented with dispne, fever, pustuler activation,voluminous edema,rapid weight gain and oliguria. And also diarrhea,myalgia,hypotension was appeared in some cases.We suspected and investigated sepsis, pulmonary embolism,DIC. In all patient's laboratory tests revealed hypoalbuminaemia, elevated liver enzymes and haematocrit,leucocytosis. The chest radiograph showed pleural effusion in all case.The cardiac ultrasound showed pericardial tamponade in 2 patient. Blood,urine and throat culture excluded sepsis.Tests for haemostasis proved normal. Pulmonary embolism was excluded by pulmonary HRCT in 3 cases. Suspected interstitial pneumonia was treated with multiple antibiotics and despite this treatment achieved no improvement and dyspnea increased, 3 patient transferred to intensive care unit and one of the patient died at intensive care unit. There was no evidence of a cardiac, renal, hepatic or hormonal disease or of malabsorption.The clinical and laboratory findings were suggestive of CLS. Because of the sudden development of signs after the onset of treatment, the diagnosis of CLS induced by acitretin was made. Two patients were diagnosed retrospectively.

DISCUSSION: CLS is a rare condition.It manifests with a uniform clinical picture, comprising localized or diffuse edema, preceded by fever in 30% of cases, and hypotension causing malaise or hypovolaemic shock without loss of consciousness.Retinoic acid syndrome usually appears 2 days to 6 months after starting retinoid therapy and quickly resolves after discontinuation of these drugs and initiation of methylprednisolone. Fluid management is the most important component of therapy in patients with capillary leak.Although rare, this nondose-dependent side-effect of retinoids should be known, and should lead to withdrawal of the causal drug and its subsequent contraindication.

Keywords: acitretin, capillary leak syndrome, psoriasis

OP-28 [Cutaneous Oncology]

Ichthyosiform Mycosis Fungoides: Rarely Reported Form of Mycosis Fungoides

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INTRODUCTİON: Ichthyosiform lesions are often associated with inherited ichthyosis in childhood but acquired ichthyosiform lesions can suggest other etiologies. Mycosis fungoides is primary skin T cell lymphoma that is characterized patchy, plaques, tumors on the skin and may rarely present with ichthyosis.

CASE PRESENTATİON: A 42-year-old-female was admitted to our dermatology clinic with skin

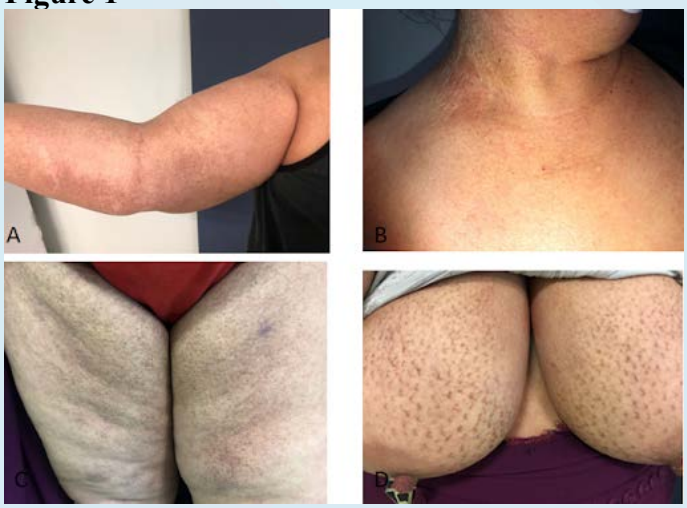
lesions that occured in her legs, chest, and abdominal area. In the dermatologic examination, lesions were both hyperpigmented and hypopigmented, also containing both atrophic and telangiectatic features. Small scale observed on the lesions (Figure 1). Incisional biopsy was performed from the left leg. Histopathologic examination revealed orthokeratosis and follicular plugging in the epidermis. Atypical lymphoid cells with hyperchromasia and irregularly contured nuclei were obtained in the superficial dermis in a lichenoid manner, and also they were detected transepidermally (Figure 2). In the immunohistochemistry, all of lymphoid cells were highlighted by CD3, CD4, and CD5 in the epidermis and dermis. On the other hand, some of the cells were stained by CD7 and CD8. CD4:CD8 ratio was 4/1(Figure 3). Negative staining with CD20 and CD30 was observed in the lymphoid cells. With these histopathologic and immunohistochemical findings, we considered mycosis fungoides patchy stage. When this case was evaluated with clinical findings, the diagnosis was ichthyosiform mycosis fungoides (IMF). Narrowband ultraviolet B phototherapy was applied for treatment.

DİSCUSSİON & CONCLUSİONS: There are average twenty cases of IMF reported in the literature(1-6). Previously published case reports with ichthyosiform mycosis fungoides usually occur in older patients except one young women patient (4, 5). Distribution of lesions was similar to our patient and ichthiyosiform changes were localized on the trunk and extremities(1-6). In the IMF cases, ichthyosis can be the only clinical manifestation of MF, but classic MF lesions can accompany ichthyosis(4). Our patient had only ichthyosiform lesions. Several case reports have shown that the most common complaint was pruritus(1,5). There was no pruritis in our case. As mentioned in the literature histopathological findings of IMF were similar to classic MF, however, Sato et al. suggested histiocytic/ dendritic-cell-rich infiltrate, or granulomatous features of infiltrate may be another characteristic feature of IMF(3). These histopathological findings were not seen in our microscopic examination. Assessment of immunohistochemical profiles in other case reports was similar with our case(1,2,3,4,6). CD4:CD8 ratio was greater than 1.

The aim of the present this case was attrack attention to ichthyosiform mycosis fungoides and document its clinical and pathological findings. It should be kept in mind for patients with ichthyosiform lesions.

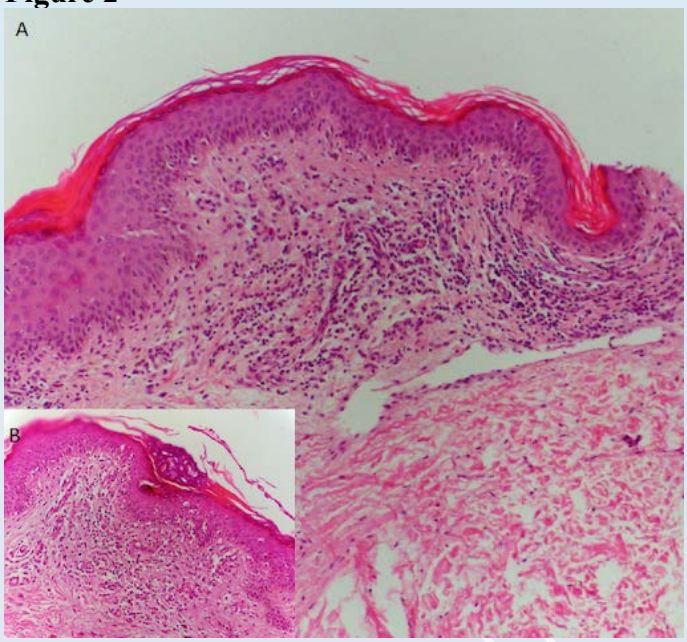
Keywords: Ichthyosiform lesion, Mycosis fungoides, T cell lymphoma

Figure 1



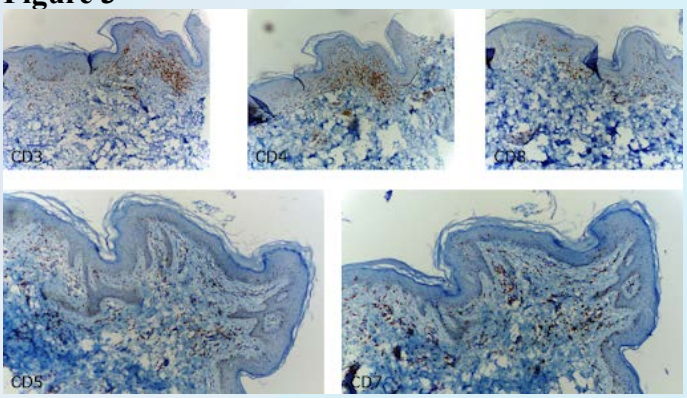
Lesions were both hyperpigmented and hypopigmented, also containing both atrophic and telangiectatic features.

Figure 2



Atypical lymphoid cells with hyperchromasia and irregularly contured nuclei were obtained in the superficial dermis in a lichenoid manner, and also they were detected transepidermally.

Figure 3



All of lymphoid cells were highlighted by CD3, CD4, and CD5 in the epidermis and dermis. Some of the cells were stained by CD7 and CD8. CD4:CD8 ratio was 4/1

OP-29 [Inflammatory Skin Diseases]

as the cause of granuloma faciale; hydroxyurea

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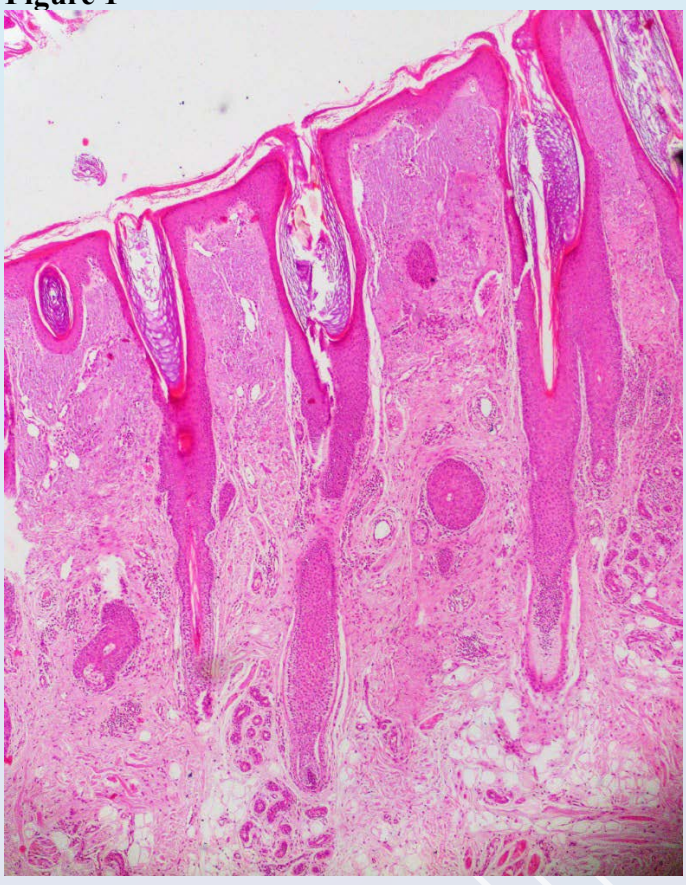
A 59-year-old male patient presented with itching in the eyes. He also described milimetric papules on the occipital region which spreading to the scalp. He had been treating with Hydroxyurea, Coraspirin, Angiotensin II receptor antagonist due to clinical diagnoses coronary artery disease, thrombocytosis. Purplish papule plaque on the skin of he right brow and atrophic punch hole scars that progress to the forehead and scalp were detected on dermatological examination. Microscopic examination revealed signifiant dermal solar elastosis and mixed type inflammatory cell infiltration with rare neutrophil leukocytes that observed around the dilated vessels and skin appendages. The diagnosis of Granuloma Faciale was considered by these histomorphological findings. Lesions regressed by stopping hydroxyurea treatment and complete healing was observed within 3 weeks. Hydroxyurea is an antimetabolite agent that interferes with the S-phase of cellular replication and inhibits DNA synthesis, with little or no effect on RNA or protein synthesis. It is used in the treatment of many myeloproliferative disorders (MD) and is particularly a first line treatment drug for intermediate to high-risk essential thrombocythemia. Although safe and very well tolerated by the patients suffering from MD, there have been numerous reports of a broad palette of cutaneous side effects associated with prolonged intake of the medication. These may include classical symptoms such as xerosis, diffuse hyperpigmentation, brown-nail discolouration, stomatitis and scaling of the face, hands, and feet or more serious side effects such as actinic keratosis lesions, leg ulcers and multiple skin carcinomas. Granuloma Faciale is a chronic, benign, cutaneous vasculitis with erythematous papules, plaques or nodules on the face. It has an unknown etiology, but possible predisposing factors include radiation, trauma, allergy. In this case we also detected an other etiologic factor, such as hydroxyurea.

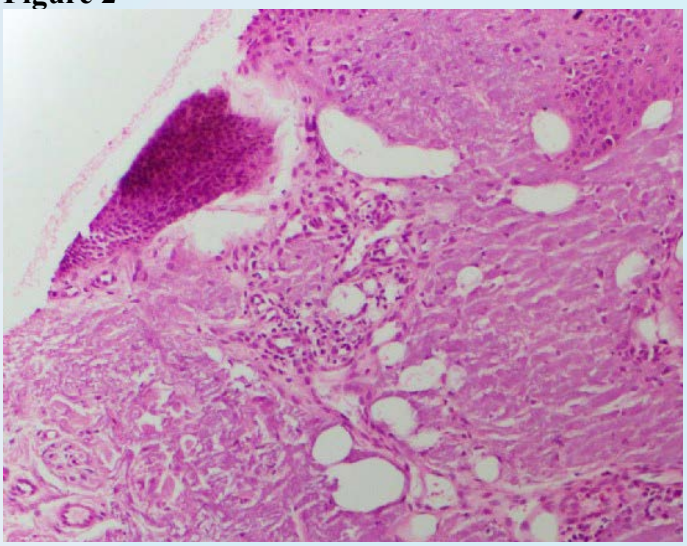
Keywords: granüloma faciale, hydroxyurea, cutaneous vasculitis, thrombocytosis

Figure 1



signifiant dermal solar elastosis

Figure 2



mixed type inflammatory cell infiltration with rare neutrophil leukocytes that observed around the dilated vessels

OP-30 [Adverse Drug Reactions, TEN]

Skin Side Effects of Systemic Chemotheraputics

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INTRODUCTION: New cancer treatments developed today have made a significant contribution to survival. However, these treatments cause significant systemic toxicity and skin side effects. Skin side effects may lead to interruption, dose reduction or even discontinuation of cancer treatment from time to time. Skin side effects associated with almost all chemotherapeutics have been reported, however, in recent years, adverse effects have been reported especially with taxanes, epidermal growth factor receptor inhibitors (EGFR inh). Itching, pigmentation disorders, xerosis, acral lesions, nail findings are the most commonly reported side effects. In this study, our aim is to reveal the skin side effects of these drugs in patients receiving systemic chemotherapy, their treatments and possible chemotherapeutics.

MATERIALS-METHODS: Between November 2018 and July 2021, 40 patients with chemotherapy-related skin side effects who applied to/ were referred to the dermatology outpatient clinic of our hospital were included in the study. The demographic data of the patients, the chemotherapy drugs they were using, the duration of treatment, skin lesions and the recommended treatments for skin lesions were recorded in detail.

RESULTS: The patient group consisted of 40 patients, 47.5% (n=19) were female and 52.5% (n=21) were male. The mean age of the group was calculated as 60.5 (±11.6). Concomitant malignancies were breast (14 patients), colorectal (9 patients), lung (5 patients), larynx (2 patients), and stomach cancer (2 patients), respectively. The most commonly used chemotherapeutics were docetaxel (n=6), panititimumab (n=6), cetuximab (n=4), paclitaxel (n=3), capecitabine (n=3), erlotinib (n=3), respectively. The most common skin findings were acneiform lesions (n=19), xerosis (n=15), pruritus (n=13), and hand-foot syndrome (n=9). In addition, one patient had lupus-like syndrome, one patient had leukocytoclastic vasculitis, and one patient had urticaria. Nail involvement was observed in 15 of the patients; 8 of them had paronychia, 6 had onycholysis, and 1 had color change. Skin lesions were severe in 4 patients and moderate in 17 patients. The most common treatments applied to the patients were topical corticosteroids (n=31), topical antibiotics (n=19), moisturizer (n=19), topical antifungals (n=7), systemic doxycycline (n=9).

CONCLUSIONS: Dermatological adverse effects are the most common side effects of systemic chemotherapeutics used in cancer treatment. Although they can be severe at a life-threatening level rarely, they negatively affect the quality of life of patients and place significant burdens on patients and their relatives. Dermatologists play an important role in their recognition, treatment and management. Large-scale case series and studies are needed to develop appropriate approaches in diagnosis and treatment.

Keywords: epidermal growth factor inhibitors, skin side effect, systemic chemotheraputics

OP-31 [Oral Mucosa and other Skin-adjacent Mucous Membranes]

Treatment of focal epithelial hyperplasia with topical imiquimod: report of five cases

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Focal epithelial hyperplasia (Heck disease) is a rare disorder caused by specific types of HPV. It mainly involves oral mucosa and children are affected more frequently. The disease is characterized by verrucous papules and nodules in the oral cavity, mostly on the lower lip, buccal mucosa, tongue, and gingiva. It may persist for years, producing a significant reduction in quality of life. Moreover, malignant transformation has been reported in long-term FEH cases associated with HPV-24. Several treatment modalities, such as surgical excision, laser ablation, cryotherapy, electrocauterization, topical, intralesional, systemic interferon, and systemic retinoic acid, have inconsistent results and many side effects. Imiquimod is a novel immune response modifier that induces the secretion of cytokines such as IFN-a, tumor necrosis factor-a, and interleukin-1, -6, -8. It is indicated for the treatment of actinic keratosis, superficial basal cell carcinoma, and external anogenital warts. Here we report five children with focal epithelial hyperplasia who were resistant to some other treatments but exhibited a full response to topical imiquimod in 4 months of treatment. No serious side effects were observed, and recurrence did not occur during follow-up. Topical imiquimod may be a safe, noninvasive, and successful alternative treatment option for pediatric patients with FEH. We believe that the painless, easy, and self-applicable treatment will help to increase patient compliance.

Keywords: FEH, focal epithelial hyperplasia, Heck disease, HPV, imiquimod

OP-32 [Infectious Diseases, Parasitic Diseases, Infestations]

The Factors Affecting Quality of Life in Men and Women Diagnosed with Genital Warts

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INTRODUCTION & OBJECTIVES: Genital warts, which are caused by infection with human papillomavirus (HPV), are one of the most common sexually transmitted diseases in the world. They consist of epithelial proliferations caused by HPV, whose transmission occurs mainly through sexual intercourse.The effect of genital warts on the patient can vary in different populations related to cultural and social factors.The objective of this study was to determine the effect of genital warts on quality of life on Turkish male and female patients, as well as to determine the relationship between patient demographic and clinical characteristics.

MATERIALS & METHODS: Data were retrospectively collected from patients' medical records who were treated in our clinic between February and July 2019 for the genital warts. A total of 25 patients'(18 males and 7 females) medical records were evaluated for the study. The demographic and clinical data of the patients were noted from the patient files retrospectively.The Dermatology Life Quality Index (DLQI) was adminestered to all patients.The obtained data were evaluated together with the clinical and demographical data by comparing the patients' groups. The statistical analysis was performed with the SPSS-21.

RESULTS: The mean age of patients included in the study was 32.08±5.7 (23-43). 72% of all patients were male (n=18) and 28% were female (n=7). The use of condom with all patients 44%, and 48% of patients had a single partner. The mean quality of life score and duration of patients with genital warts was found to be 3.36±3.68 (n=0-30) and 16.72±20 months (n=1-84). 4% of subjects assessed their life quality as bad, 12% as tolerable, 56% as good and 28% as very good.

In 16% (n=4) of patients dermatologic life quality was affected at moderately or more severely and 84% (n=21), DLQI was mildly or not affected at all. No significant correlation was determined between clinical characteristics and quality of life. In Dermatology Life Quality Index, the scores in male patients were found to be lower than in female patients (3.11±1.01 versus 4.28±2.04, p>0.05) but there was no significant difference between both sexes in terms of demographic characteristics and quality of life index.(p>0.05) In the scores obtained from the sub-categories, the highest score average was the patient's symptoms and feelings (0.67±0.48), while the lowest score average was in the leisure time and daily activities sub-category (0.10±0.30). There was no statistically significant difference between men and women for all subgroups.(p>0.05)

CONCLUSIONS: Although there was no statistically significant difference between men and women, it was determined that the quality of life of women with warts was more affected. The low impact on quality of life may well justify the delay in seeking medical treatment, favoring the spread of the disease.

Keywords: genital warts, infectious diseases, quality of life

Main demographic data of patients

Variables	Years of age,mean (SD)	Sex, n (%) Men Women	Times of disease (months), mean(SD)	Marital Status,n(%) Married Single	Number of partners, n(%) Single Multiple	Smoking Status, n(%) Current Never	Condom use, n (%) User Non-user	Categorized DLQI, n (%) No Mild Moderate Severe
N	32.08±5.7	18 7	16.72±20	10 15	12 13	15 10	11 14	7 14 3 1
%		72 28		40 60	48 52	60 40	44 56	28 56 12 4

OP-33 [Lasers]

Non-ablative skin revitalization of facial skin in vegan and omnivore patients

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Background and OBJECTIVES: The aging process depends on genetic, anatomic, chronologic and environmental factors that affect the skin. The Q-switched Nd:Yag laser (QSNYL) is a nonablative dermal remodeling technique for the treatment of wrinkles and skin texture. As the nutritional status may contribute the skin aging, the different dietary pattenrs may also influence the response to QSNYL treatment for skin revitalization.

AIM: To compare the outcome of QSNYL treatment between omnivore and vegan patients.

METHODS: 15 omnivore and 15 vegan women who treated with QSNYL therapy for comvating aging were included in the study. The clinical improvement was evaluated 3 and 6 months later ather the treatment using Observ 520 and Fitzpatrick Wrinkle Scale (FWS). Individual satisfaction was investigated in month 6 using the Patients's Global Impression of Change (PGIC).

RESULTS: At the baseline, there was no significant difference with regard to the FWS scores in the both groups. After laser treatment vegans showed slower complete re-epitelization ($p<0.05$) and prolonged erythema ($p<0.05$). The decrease in the FWS score was significantly lower in vegans after 3 and 6 months ($p<0.05$) compared with omnivores. The PGIC scores were significantly lower in vegans ($p<0.05$)

CONCLUSION: The present study suggest that restricted diet may influence the clinical outcome and patient satisfaction of QSNYL treatment.

Keywords: Revitalization, non-ablative laser, Q switch Nd:YAG, vegan

OP-34 [Autoimmune Connective Tissue Disorders]

Dermatomyositis Presenting Only With Isolated Bilateral Eyelid Involvement

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Dermatomyositis (DM) is an autoimmune inflammatory disorder characterized by cutaneous findings and muscle inflammation involving especially proximal skeletal muscles symmetrically. DM typically presents with symmetrical proximal muscle weakness and skin findings like periorbital heliotrope rash, Gottron's papules, shawl sign, facial erythema, poikiloderma, periungual telangiectasias. The diagnosis is based on clinical presentation, laboratory values, and histopathology. Antinuclear antibody positivity varies approximately between 50 and 80% and approximately 6% of DM patients have no skin involvement. Heliotrope rash, periorbital redness, and periorbital edema are common ophthalmologic findings of DM. Herein we will present a 45-year-old patient with the complaint of pruritic redness and edema on the bilateral eyelids for 1 year. At dermatologic examination, she had prominent edema and erythema in a telangiectatic background, extending minimally to the right cheek (Figure 1). Dermoscopic examination of the proximal nail folds was normal and microscopic evaluation of superficial skin biopsy from the right cheek and eyelashes were negative in terms of demodex mites. The lesions were not painful and she could move her eyes easily with no pain. She had diabetes mellitus and chronic gastritis and used metformin hydrochloride and esomeprazole for 3 years. Her laboratory findings revealed normal levels of thyroid, kidney, and liver function tests including aspartate and alanine transaminases, lactate dehydrogenase, and also creatine kinase. Complete blood count, antinuclear antibody (ANA), anti-neutrophil cytoplasmic antibodies (p-ANCA, c-ANCA), extractable nuclear antigens (ENA) including anti-Mi, anti-Jo antibodies results were normal. Erythrocyte sedimentation rate, C-reactive protein, and rheumatoid factor levels were also normal. Antitumoral blood markers were within normal limits and she didn't have any of B symptoms. In an external medical center, she had been biopsied from the eyelid and the biopsy had revealed lymphocytes in the fibrotic stroma and chronic inflammatory process, not leading to a clear diagnosis. When the old biopsy specimen was re-evaluated with the prediagnoses of dermatomyositis, lupus panniculitis, cutaneous lupus, allergic contact dermatitis, amyloidosis, atopic dermatitis, and rosacea, the result was consistent with dermatomyositis. As far as we know, this is the first case of DM in the literature, presenting only with isolated heliotrope rash. Interestingly, the patient has no additional clinic and laboratory findings suggestive of DM, except histopatological findings. The differential diagnoses are composed of a wide range of diseases like thyroid ophthalmopathy, allergic reactions, and soft tissue infections. We will discuss this rare case of DM in the light of literature.

Keywords: Dermatomyositis, bilateral ısolated heliotrope rash, eyelid myositis, ocular myositis

Figure 1

Bilateral edema and erythema on the eyelids, extending minimally to the right cheek

OP-35 [Psoriasis]

effects of guselkumab treatment in psoriasis patients

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Psoriasis is a common chronic, immune-mediated, inflammatory skin disease with systemic involvement and significant impact on patients' quality of life. In recent years, enhanced understanding of the pathogenesis of psoriasis, especially the role of T helper 17 cells, has resulted in the development of new classes of biologic drugs targeting modulators along its disease pathway.

Guselkumab is a human immunoglobulin G1 (IgG1) lambda monoclonal antibody that binds to the p19 subunit of IL-23. IL-39 also contains this p19 subunit. Guselkumab is indicated to treat moderate to severe plaque psoriasis, and psoriatic arthritis in adults. The mechanism of action in psoriasis is thought to involve inhibition of IL-23 signaling. In this presentation psoriasis patients who were treated with guselkumab in the dermatology department of Mersin University were rewieved.

Keywords: guselkumab,psoriasis,antibody,interleukin

OP-36 [Psoriasis]

experience of risankizumab treatment in dermatology department of mersin university

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Psoriasis is a common chronic skin disorder typically characterized by erythematous papules and plaques with a scale, although other presentations occur..In recent years,enhanced understanding of the pathogenesis of psoriasis,especially the role of T helper 17 cells,has resulted in the development of new classes of biologic drugs targeting modulators along its disease pathway. Risankizumab is a humanized monoclonal antibody directed against the p19 subunit of IL-23 and IL-39. In 2019, the FDA approved risankizumab for the treatment of moderate to severe plaque psoriasis in adults. In this presentation, patients who were treated with risankizumab in the dermatology department of Mersin University were reviewed.

Keywords: risankizumab, psoriasis, monoclonal antibody

OP-37 [Hair Disorders/Diseases]

Scalp Micropigmentation: An Innovative Solution For Hairloss

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Scalp Micropigmentation is a medical, non-surgical, cosmetic tattoo that gives a illusion of a close buzz cut hairstyle on a bald head or adds density to a thinning hair. The procedure can also be used to conceal scars from hair transplantation, hide the visual impact of burns or to treat hair loss through skin conditions such as Alopecia. The technique called scalp micropigmentation uses specialized techniques and conventional cosmetic tattoo instruments and pigments in a stippling pattern on the scalp. A special designed needle is used to gently inject natural pigment into the skin layer to replicate each hair follicle. To apply the treatment, the correct needle group is choosed. Then the bioresorbable

pigment color is used which will blend well with the patient's scalp or existing hair. The utility of SMP is to act as a permanent concealer in such a way that the targeted artistic effect is similar to the visual effect of a stippled painting as dots are created between the pores of a balding scalp. A scalp micropigmentation treatment requires 2 to 3 outpatient sessions that are spaced a week apart. Each session takes a couple of hours depending on the size of the treatment area. A variety of alopecias, refractory to treatment and hair transplant deformities, impact millions of men and women. Many of these deformities can be concealed with scalp micropigmentation, making the deformities minimally detectable. It is a great therapeutic option for both male and female patients with AGA, post transplant scars, posthair transplant to further augment results, and cicatricial alopecia (discoid lupus erythematosus, lichen planopilaris, folliculitis decalvans, inflammatory tinea capitis, dissecting cellulitis, central centrifugal cicatricial alopecia, acne keloidalis nuchae, keratosis follicularis spinulosa decalvans). Unlike medical devices, scalp micropigmentation offers a tattoo-based, non-medical "cover-up" that effectively hides unsightly conditions on the scalp and creates the illusion of thicker hair. Scalp micropigmentation is destined to become a standardized offering for physicians specializing in cosmetic office procedures.

Keywords: Scalp Micropigmentation, Hair Loss, Alopecia

OP-38 [Paediatric Dermatology]

Infections associated with eczema

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Eczema is a chronic skin disease with a high worldwide prevalence reaching 15-20% of the general population. Along with the non-infectious factors, infections represent an important condition leading to the formation of eczema. One of the most prevalent infectious agents is Staphylococcus aureus (SA). Skin colonization with this bacteria in some circumstances leads to the exacerbation of dermatitis. Eczema herpeticum (Herpes Simplex virus-associated Kaposi varicelliform eruption) is usually associated with Herpes Simplex Virus infection type 1 or 2. In children, molluscum contagiosum infection frequently leads to skin inflammation. From fungal infections, Candida spp. are the most frequently associated with edematous lessons. Different risk factors are associated with the clinical course of infection-associated dermatitis.

Keywords: pediatric dermatology, atopy, skin, eczema

OP-39 [Adverse Drug Reactions, TEN]

COVID-19 vaccine and subacute cutaneous lupus association

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Introduction & Objectives: Several cutaneous reactions associated with COVID-19 vaccines have been reported, and data have also indicated that COVID-19 vaccines may exacerbate autoimmune diseases which can also be presented with skin manifestations.

Materials & Methods: In this report, we present induction of subacute cutaneous lupus erythematosus (CLE) with Pfizer-BioNTech BNT162b2 vaccine in a patient with systemic lupus erythematosus (SLE). Our case is the fifth case of subacute CLE associated with COVID-19 vaccination reported so far. 34-year-old female patient applied with erythematous rash on her face and trunk for 5 months(Figure 1a-b). She declared that Pfizer-BioNTech BNT162b2 vaccine was administered a week before her symptom onset and had a flare after the second vaccination. In

her medical history, she was diagnosed with SLE and was under immunsupressive treatment. Prior labs were significant for positive anti-SSA and anti-SSB antibodies. According to Naranjo scale score (8 points), we considered COVID-19 vaccine as the "probable" trigger. Her current labs were positive for anti-histon antibodies additively. Histopathological examination revealed mild hyperkeratosis, basal vacuolisation, perivascular and periadnexal chronic inflammation in dermis (Figure 2). The evidences led to diagnosis of COVID-19 vaccine associated SCLE. She was given 0,5 mg/kg methylprednisolone, topical mometasone furoate daily and hydroxychloroquine dose was increased. Clinical response was achieved.

Results: Characteristics of 4 previous cases and current case are summarized in Table 1.All cases were associated with COVID-19 mRNA vaccines. Earliest cutaneous reaction occurred on day 4,all disease inductions and exacerbation from remission occurred after first week of vaccination. So, while examining vaccine-subacute CLE association, attention should be paid on this duration. Anti-Ro/SSA could be considered as a predictive marker and anti-histon antibodies could be considered as a verification marker in COVID-19 vaccine associated subacute CLE cases. For treatment, systemic glucocorticoids were beneficial in all administered cases.

Conclusions: All types of vaccines generate immune response against pathogens which also may lead exacerbation of autoimmune diseases. However; high stability, translational efficacy and potent immunogenicity of current messenger-RNA (mRNA) vaccines may cause more immune stimulation and higher risk for exacerbations in patients with preexisting autoimmune diseases. In addition, COVID-19 mRNA vaccines induce CD4 positive T-helper 1 type immune response which results in releasing of interferon-gamma, interleukin-2 and tumor necrosis factor-alpha which also play major role in CLE physiopathology. Although there is a potential risk of disease flare with immunization, COVID-19 vaccination is currently recommended. Predisposed individuals or patients with preexisting autoimmune disease should be under follow-up in vaccination period.

Keywords: COVID-19, vaccine, cutaneous lupus erythematosus

Figure 1a

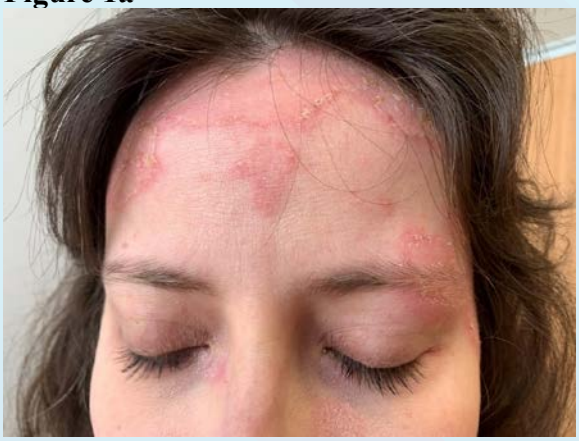


Figure 1a: Erythematous annular plaques with squams located on forehead.

Figure 1b

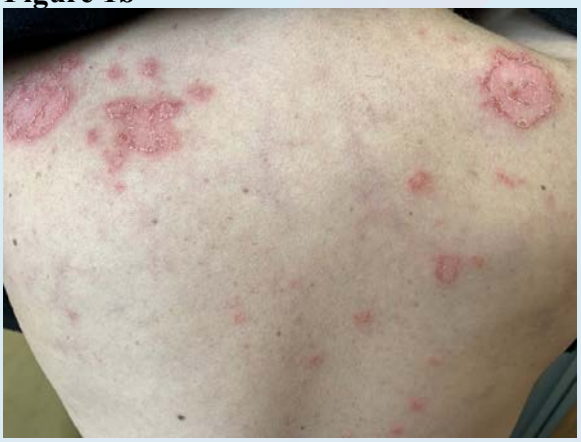
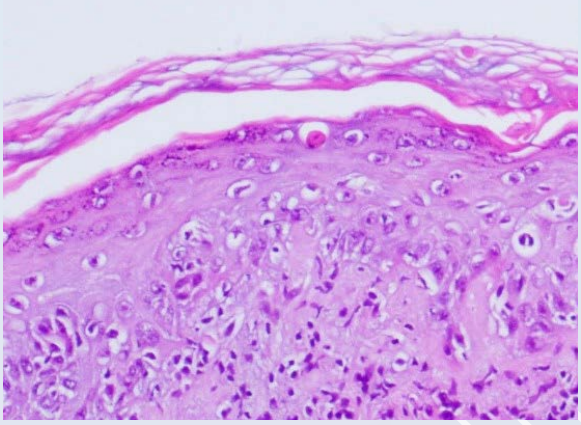


Figure 1b: Erythematous annular plaques with squams located on back.

Figure 2



Mild hyperkeratosis, basal vacuolisation, perivascular and periadnexal chronic inflammation in dermis. (H&E, x100)

Table 1

	Patient 1	Patient 2	Patient 3	Patient 4	Patient 5
Reference	(9)	(10)	(11)	(12)	
Age	73	79	54	30	34
Sex	Female	Male	Female	Female	Female
Subacute CLE subtype	Papulosquamous	Annular and papulosquamous	Annular	Papulosquamous	Annular
Histopathology	Not reported	Mild vacuolar interphase dermatitis. Dense superficial and deep dermal lymphocytic infiltrates	Not reported	Hyperkeratosis, superficial perivascular and perifollicular lymphocytic infiltration and vacuolization of basal membrane	Mild hyperkeratosis, basal vacuolization, perivascular and periadnexial chronic inflammation in dermis
Direct immunofluorescent results	Not reported	Negative	Not reported	Not reported	Negative
Anatomical location	Back and chest	Trunk and legs	Neck, trunk, extremities	Face, upper back	Face, upper back
COVID-19 vaccine	mRNA (BNT162b2)	mRNA (BNT162b2)	mRNA-1273	mRNA (BNT162b2)	mRNA (BNT162b2)
Onset of skin lesions after vaccination (days)	10	10	4	10	7
Induction or exacerbation of subacute CLE	Exacerbation (from full remission)	Induction	Exacerbation (from active disease)	Induction	Induction
Antibody profile	Anti-Ro/SSA	ANA (1:320), Anti-Ro/SSA, Anti-La/SSB	ANA (1:1280), Anti-Smith, Anti-double-stranded DNA	Anti-double-stranded DNA (increased), Anti-nucleosomes, anti-histones, Anti-Smith (increased), Anti-nRNP (increased), Anti-Ro/SSA (new positivity)	ANA, anti-double-stranded antibodies, anti-Ro/SSA, anti-La/SSB, Anti-histone (new positivity)
Other medications	Hydroxychloroquine	Pantoprazole, metoprolol, ramipril, finasteride	Hydroxychloroquine, mycophenolate mofetil	Ursodeoxycholic acid	Hydroxychloroquine, mycophenolate mofetil, methylprednisolone
Treatment of SCLE	Tapered systemic prednisolone, beginning at 60 mg/day, mometasone furoate ointment	Tapered systemic prednisolone, beginning at 150 mg/day, hydroxychloroquine 200 mg/day	Increased dose of mycophenolate mofetil (from 2000 mg/day to 300 mg/day), continuing hydroxychloroquine (200 mg/day), triamcinolone ointment	Tapered systemic prednisolone, beginning at 0,4 mg/kg/day, mometasone furoate ointment	Systemic methylprednisolone, beginning at 0,5 mg/kg/day, 250 mg/day for 3 consecutive days, tapering, increased dose of hydroxychloroquine up to 200 mg/day, mometasone furoate ointment

Characteristics of COVID-19 vaccine associated subacute CLE patients.

OP-40 [Contact and Occupational Dermatitis]

Evaluating reading time in patch testing: a retrospective, cross-sectional study from turkey covering an 8-year period

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BACKGROUND: Patch testing is the standard procedure used to diagnose contact allergy resulting from type IV hypersensitivity. Evaluating results on the third or fourth day after application is obligatory; however, assessments are ideally performed at three time points: second day, third or fourth day, and around the seventh day. Controversy still exists concerning the optimal reading time of patch testing, and the lack of analysis after day seven might result in missing late positive reactions in rare cases. We aimed to describe our experience with patch test reading and the frequency of early and late positivity, with particular attention to detecting delayed reactions.

MATERIAL-METHODS: This is a retrospective study of 791 patients who were consecutively patch tested with the extended European Baseline Series (EBS) and gold salts, between January 2004 and December 2012. Patch-tests were assessed on the second, third, fourth and seventh days as routine, and also once again in the late period (between days 7 and 21). Positivity on D2 or D3 was identified as early reaction, while D4, D7 and later positivity's were identified as late reaction.

RESULTS: Of the total 791 patch-tested patients, 773 (97.7%) had at least one positive patch test reaction of which 651 (84.2%) were classified as early (on days 2 or 3), and 122 reactions (15.8%) were classified as late (on day 4 or later). The early and late reaction groups were similar in terms of age, sex and atopy; however, metal hypersensitivity was significantly more frequent in the late reaction group. The substance with the highest number of late positive tests was nickel sulfate (16.3%). In terms of relative frequency of late positivity, the most notable substances included neomycin sulphate, gold salts, epoxy resin and polyethylene glycol.

CONCLUSIONS: The results of the present analysis support the importance of an additional late patch test reading on D7 in the presence or suspicion of allergy caused by nickel sulphate, cobalt chloride, gold salts, epoxy resin, polyethylene glycol and the topical antibiotic neomycin.

Keywords: Patch testing, allergic contact, patch test reading, late readings, nickel sulphate, neomycin

OP-41 [Paediatric Dermatology]

Paediatric lichen sclerosus et atrophicus: Clinic and demographic characteristics of 69 paediatric patients

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Introduction & OBJECTIVES: Lichen sclerosus et atrophicus (LSA) is a rare disease of unknown etiology in children. It is usually seen in girls and in the genital area. Extragenital involvement is very rare in childhood. In this study, we aimed to evaluate the demographic and clinical characteristics of pediatric patients with LSA who were diagnosed and followed up in our clinic between January 2011 and December 2021.

Materials & METHODS: A retrospective study was planned to investigate the demographic characteristics, clinical features, disease duration, accompanying diseases and therapeutic approach of LSA in paediatric patients. The study group was consisted of patients aged ≤ 18 years whom were diagnosed and

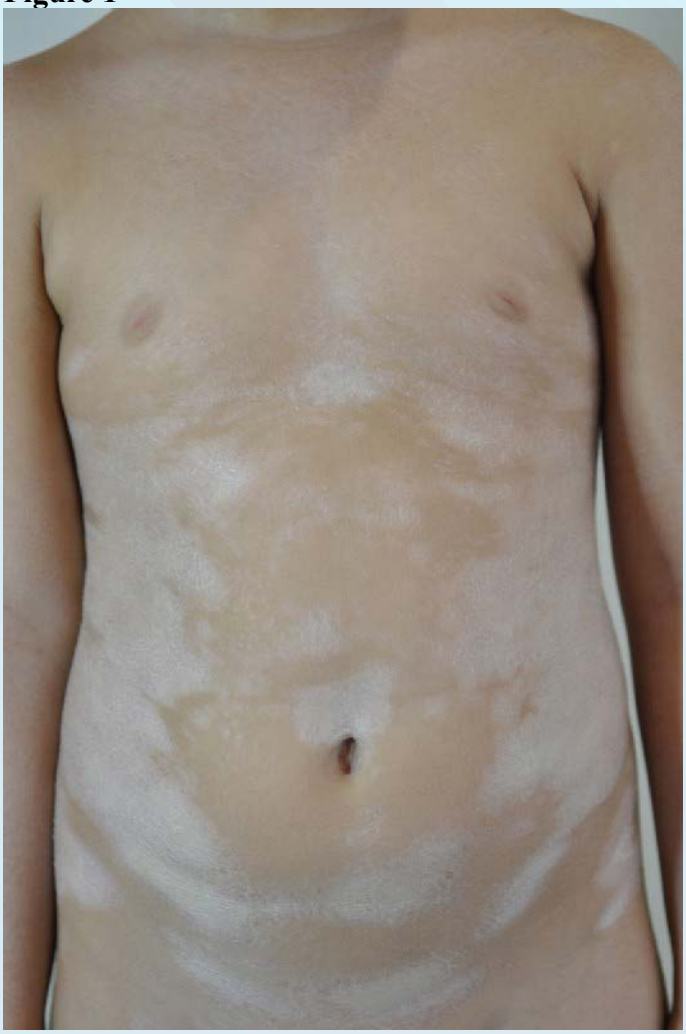
followed between the dates January 2011-December 2021 in Bakirköy Sadi Konuk Training and Research Hospital, Department of Dermatology.

RESULTS: The study included 69 patients, of whom 62 (89.9%) were girls and 7 (10.1%) were boys. The youngest patient was 17 months girl and mean age at the diagnosis of disease was 8.5 years in girls versus 10.14 years in boys. The most common involvement is genital (%66.6) and extragenital involvement was in 23 patients and from 7 boys, 6 of them had isolated extragenital involvement, only one with extragenital and genital involvement. The majority (60%) of the patients with genital involvement especially had itching. We have seen extreme rare cases such as; generalised LSA all over the body in one girl and bullous-hemorragic type of genital LSA in two girls. Accompanying diseases were atopic dermatitis (n = 5); alopecia areata (n = 1); vitiligo (n = 1); among the 30 patients whose TSH and thyroid autoantibody level was measured, elevated TSH levels was seen in 6 patients and 2 had positive results for anti TG and anti TPO. Most of the cases with genital LSA, melanocytic lesion was accompaying. The most commonly recommended treatments were topical steroid and calcineurin inhibitor ointment. In some of the patients with extragenital involvement systemic treatments (acitretin (n=4); methotrexate (n=1) and narrow band UVB (n=4) used.

CONCLUSIONS: Genital and extragenital LSA can be encountered in childhood. In particular, genital LSA cases can be missed, often confused with parasitosis and candida infections. As the diagnosis is delayed, patients may apply with secondary complications such as constipation and urinary incontinence. For this reason, it is important for pediatricians as well as dermatologists to have information about LSA cases.

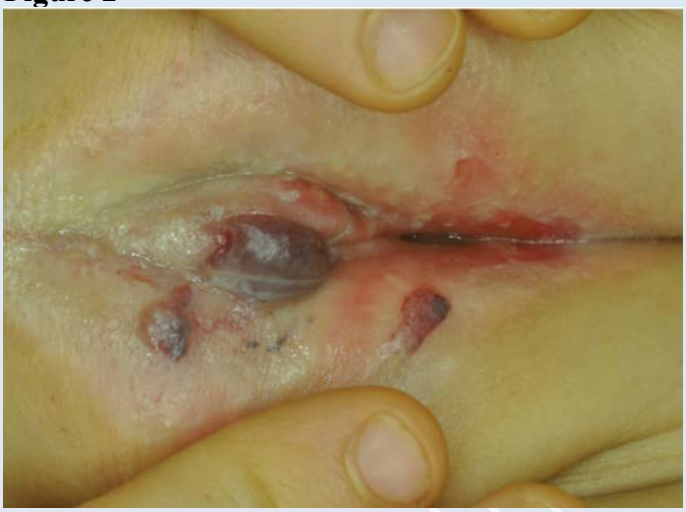
Keywords: lichen sclerosus et atrophicus, paediatric, genital, extragenital

Figure 1



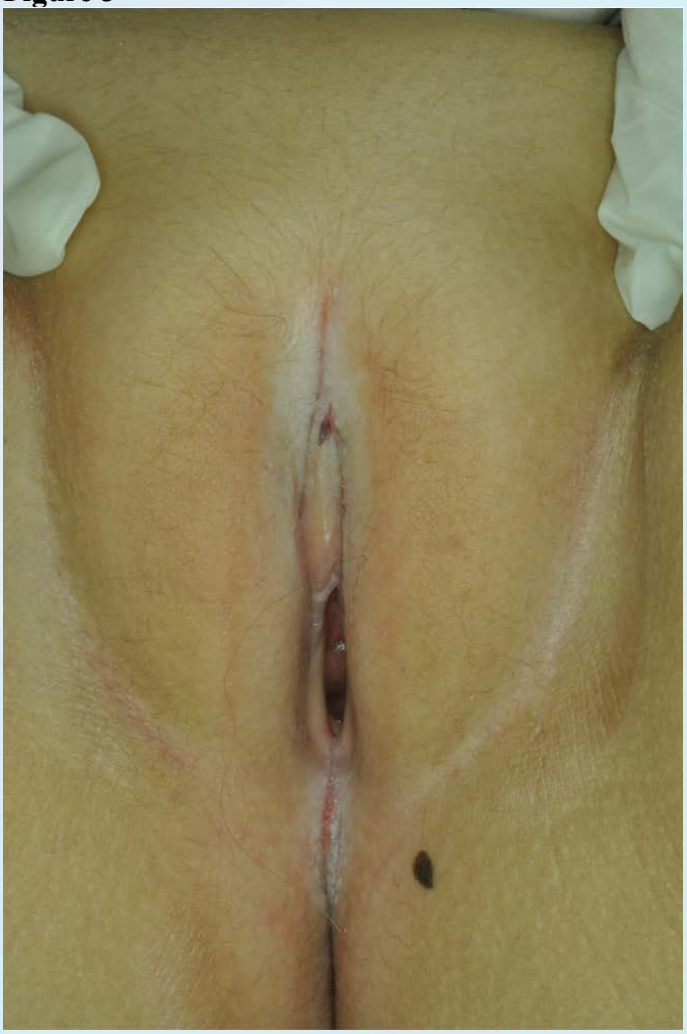
Generalised lichen sclerosus et atrophicus

Figure 2



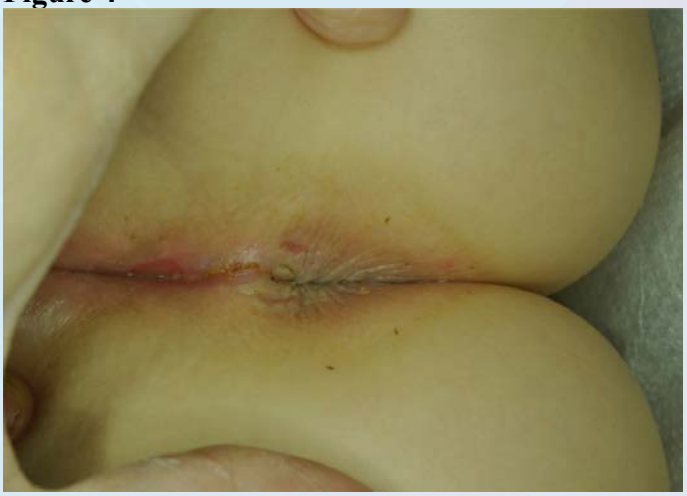
Bullous-hemorragic genital lichen sclerosus et atrophicus

Figure 3



Genital lichen sclerosus et atrophicus with melanocytic nevus

Figure 4



Perianal lichen sclerosus et atrophicus

OP-42 [Phototherapy, Photodynamic Therapy]

Factors Affecting the Compliance of Dermatology Patients to Phototherapy

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Introduction & OBJECTIVES: Phototherapy is an effective treatment for the management of a wide range of dermatoses. Compliance rates in phototherapy regimens may vary depending on the entity. We aim the identify the factors affecting compliance of phototherapy in our clinic.

Materials & METHODS: Patients treated at our phototherapy unit were asked to fill out a questionnaire. Fifty-five patients answered it. In addition to demographic data, the prepared questionnaire includes questions to evaluate the physical conditions of the phototherapy unit, collaboration with healthcare providers, the effect of the corona virus pandemic on the treatment processes, the cost of treatment, and the suitability of the treatment for the patient's lifestyle.

RESULTS: In our study, age and gender did not have a significant effect on treatment compliance. The patients had been treated for mycosis fungoides (%29.1), vitiligo (18.2%), lichen planus (18.2%), psoriasis (12.7%), pruritus (16.4%) and morphea (5.5%). Thirty-three of the patients reported that they came to the phototherapy unit because they accepted the necessity of treatment as prescribed for the treatment of the disease. Fourteen of the patients stated that treatment has become a part of their daily life, such as eating or brushing teeth. Eight of the patients were annoyed going to the hospital for phototherapy. While phototherapy did not present any difficulties for 27 patients, 28 patients thought that the treatment had difficulties. Long waiting time (21.8%) closed cabin (12.7%), poor hygiene (14.5%) and lack of attention to privacy (1.8%) are the negative aspects reported by these patients. Phototherapy is a costly treatment for 12% of the patients. The majority of patients (87.3%) reported that the attitude of the physician and nurse who responsible for the phototherapy unit affected

them positively. 92% of patients are confident with the treatment.32 patients (58.1%) reported that the Covid-19 outbreak negatively affected their willingness to continue treatment. While most of these patients continue to the phototherapy because they benefit from treatment (71%), others continue treatment because they think they have no other choice (15%) or are hopeful (14%) for treatment.

CONCLUSION: We observed that the Covid-19 pandemic stands out among the factors that negatively affect adherence to phototherapy. The most prominent positive motivation for patients' adherence to treatment is the attitude of health professionals in our unit. This suggests that continuous and regular follow-up of a specialist physician and a trained nurse in the phototherapy unit will increase the compliance of the patients. Multicenter studies with more patients are needed to determine the factors affecting adherence to phototherapy.

Keywords: Compliance, phototherapy, patient

OP-43 [Psychodermatology]

Evaluation of the Alexithymia, Depression and Anxiety Status in Acne Vulgaris Patients

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INTRODUCTION & OBJECTIVES: The skin is the main protector of the organism as an immunological and neuro-endocrinological organ but also it plays a determining role in maintaining self-image and self-confidence of the individuals. Plenty of evidence indicates an association between skin disorders and psychological morbidities. The presence of lesions in association with acne vulgaris and resultant disfiguration have a negative impact on the quality of life of the individuals and may be manifested as social phobia, low self-esteem, depression, anxiety, social anxiety, emotional stress, dysmorphic body disorder and suicidal thoughts. The purpose of our study was to assess the presence of anxiety, depression and alexithymia in patients with acne vulgaris.

MATERIALS & METHODS: Sixty-one patients referred to out-patient clinic of dermatology with acne vulgaris and 100 healthy volunteers were enrolled in patient and control groups of the study, respectively. The socio-demographic data and clinical characteristics were recorded. The severity of acne was assessed according to the Global Acne Severity Scale. Hospital Anxiety and Depression Scale (HADS) and Toronto Alexithymia Scale-20 (TAS-20) were applied to all of the participants to assess anxiety, depression and alexithymia.

RESULTS: Of the 61 patients with acne vulgaris, 39 were females (63.9%) and 22 males (36.1%) and control group consisted of 100 healthy volunteers, 61 females (61%) and 39 males (39%). The mean age of the subjects in the acne vulgaris group was 23,01±5,89 years and in the control group was 24,44±5,86 years. The mean scores of HADS-Anxiety, HADS-Depression, TAS-20 were 8.54±4.09, 6.55±3.46, 50.09±11.40 in the patient group and 8.41±4.05, 7.49±3.73, 51.01±10.02 in the control group, respectively. No significant differences were found between the two groups in terms of anxiety, depression, alexithymia and three dimensions of TAS-20. In two groups, the mean TAS-20 scores were significantly positively correlated with the mean anxiety and depression scores.

CONCLUSIONS: Acne patients had similar levels of anxiety, depression, alexithymia compared to healthy control subjects. Acne severity had no effect on anxiety, depression and alexithymia. The anxiety, depression and total alexithymia scores were positively correlated with each other in two groups. It is believed that the verification of the results by future studies and understanding the presence of anxiety, depression and alexythmia in the psychological burden associated with acne vulgaris and their relationships with each other may result in treatments tailored for patients difficult to treat, in collaboration with psychiatrists.

Keywords: Acne vulgaris, alexithymia, anxiety, depression

OP-44 [Lasers]

The Use of Combined Fractional Carbon Dioxide Laser and Fractional Microneedle Radiofrequency in the Treatment of Facial Skin Aging

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INTRODUCTION & OBJECTIVES: Facial aging is a natural biological process with symptoms like furrows, wrinkles, dyschromias, sagging tissue and loss of facial volume. The aim of this study is to evaluate the clinical effects, and safety of using the combination of fractional carbon dioxide (CO2) laser and fractional microneedle radiofrequency in the treatment of facial skin aging.

MATERIALS & METHODS: Seventeen women, aged 42-59 years, with facial aging treated with a combination of fractional CO2 laser and fractional microneedle radiofrequency between February 2020 and January 2022 in the dermatology clinic were included in this study. Demographic data, clinical history, dermatological examination findings, control data, and baseline/control photographes of the patients were obtained using the electronic database of patient file records. Patients who underwent three sessions of the combination treatment at 3 week intervals with a follow up period of 3 months after treatment were selected. Clinical improvement was evaluated using the Fitzpatrick Wrinkle Classification System (FWCS) and subjective satisfaction on a visual analog scale (VAS). In all statistical calculations, p value was accepted as <0.05 significance level.

RESULTS: The FWCS scores demonstrated significant improvement in facial skin aging treatment with the combination of fractional CO2 laser and fractional microneedle radiofrequency (p< 0,001). There is a statistically significant decrease in the sixth week, the first month and the third month FWCS scores compared to the initial FWCS score. A satisfaction VAS score of more than 5, indicating high satisfaction, was obtained from 16 of 17 patients (94%) 3 months after treatment, and the mean satisfaction VAS score (n = 17) was 7.41.

CONCLUSIONS: This retrospective analyses of treatment outcome on wrinkle severity and patient satisfaction suggests that the combination of fractional CO2 laser and fractional microneedle radiofrequency is a safe and tolerable method for successful treatment of facial skin aging.

Keywords: fractional carbon dioxide laser, facial aging, skin aging, fractional microneedle radiofrequency

OP-45 [Autoimmune Connective Tissue Disorders]

Famililal Chilblain Lupus Spreading To Two Countrıes, Affecting Three Generations With Variable Phenotypic Expressivity

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Introduction: Familial chilblain lupus (FCL) is a monogenic form of cutaneous lupus erythematosus with onset in early childhood; characterized by typical skin manifestations and acral ischemia and it is one of type I interferonopathies. Characteristic findings of FCL are painful bluish-red inflammatory cutaneous lesions in acral locations such as fingers, toes, nose, cheeks, and ears; which tend to ulcerate, precipitated by cold and wet exposure, and usually improve during summer. Some patients develop arthralgia, antinuclear antibodies, immune complexes, and lymphopenia. Here we report a family suffered FCL; some have

been spread in Turkey, and some in Syria and 23-year-old male as proband.

Cases: We describe a large, non-consanguineous family with 10 members over 3 generations affected by chilblain lupus.

The proband patient (II:6), a 23-year-old boy from non-consanguineous marriage applied us for erythema and chilblains on his hands and feet, especially in cold weather. Since the age of 10, chilblains have developed on his fingers and after one year his nails became dystrophic. This case was treated with combined therapy consisting of tofacitinib, mycophenalate mofetil and methylprednisolone, as it was resistant to hydroxydichloroquine, methotrexate and iloprost treatments. Patient I:1, 51 years old female, from non-consanguineous marriage, is the mother of the proband patient. She also suffered from chilblains between ages 10 and 40. She showed great improvement of cutaneous lesions as she grew older. Patient I:2, 40 years old female, from non-consanguineous marriage, is the aunt of the proband patient. Similar to Case I:1 she has suffered from chilblains since the age of 10 in cold weather but the lesions were released by the age. To identify the genetic etiology of the disease in this family, whole-exome sequencing (WES) was performed for the index patient. The molecular investigations of the patient have identified a heterozygous known mutation in TREX1 gene (D18N/wt) wich co-segregates within the familly with variable expressed phenotypes. Significant variant detected was subsequently validated by resequencing using Sanger sequencing in the index patient and other affected family members (II:3, II:5, II:6, II:7, III:10) and mildly affected family members (I:1, I:2, II:9).

Discussion: Kısla ekinci et al. reported two siblings with homozygote TREX1 mutation presented different phenotypes (chilblains and cerebral vasculitis) from Turkey. The family we report is the first family from Turkey affecting three generations and beyond this the first family that spread in two countries (Turkey and Syria). The TREX1, D18N mutation has already been described as the cause of familial chilblain lupus (cold-induced) and of mild Aicardi-Goutieres syndrome, with a certain degree of clinical heterogeneity. The variable clinical data of the presented family also supported this knowledge interestingly.

Keywords: lupus, chilblain, type I interferonopathies

OP-46 [Autoimmune Connective Tissue Disorders]

Clinicoepidemiologic profile of Discoid Lupus Erythematosus and Its Relationship with Systemic Diseases

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Introduction & Objectives: Lupus erythematosus is a prototype of autoimmune diseases, which has cutaneous and systemic forms. Discoid lupus erythematosus is the most common type of cutaneous lupus erythematosus. The majority of DLE lesions are localized (above the neck) on the sun-exposed areas such as cheeks, ears, and scalp, and 20-40% of the lesions are generalized (above and below the neck). The lesions may appear as single or multiple erythematous, hyperkeratotic discoid plaques with adherent scaling and/or scarring.

DLE patients may progress to systemic lupus erythematosus (SLE) with a range of 15-30%. Therefore, patients with DLE should be monitored carefully in terms of SLE findings. Antinuclear antibody (ANA) positivity, joint pain, anemia, leukopenia, and increased sedimentation level indicate a higher risk of developing SLE within the first year of the DLE diagnosis.

Materials & Methods: A total of 67 patients aged 18 years and older, diagnosed with DLE histopathologically between 2004 and 2020, have been included in the study. The study has been performed after obtaining an ethics committee approval from

Pamukkale University. A total of 2 to 18-year medical records of the patients were retrospectively examined in terms of their demographic data, accompanying diseases, blood values. Patients who already had SLE at the time of diagnosis and pregnant women were not included in the study.

Data were analyzed with SPSS 25.0 (IBM SPSS Statistics 25 software, Armonk, NY: IBM Corp.) package program. Pearson's chi-square test (and Fischer's exact test when relevant) was used for the analysis of categorical variables, and independent sample T-test for quantitative variables.

Results: The study included 23 women (34.3%) and 44 men (65.7%) with a mean age of 41.94±13.85 years (ranging between 18 and 70). Hashimoto's thyroiditis was the most common concomitant autoimmune disease. No men and four women progressed to SLE within the first 3 years. We found that antinuclear antibody (ANA) positivity (p:0.024), Anti-Ro positivity (p:0.000), and a history of autoimmune disease (p:0.001) were significantly related to SLE progression.

Conclusions: Various studies have shown that generalized lesions, antinuclear antibody (ANA) positivity, joint pain, anemia, leukopenia, and increased sedimentation levels are considered to be indicative of progression to SLE. However, among these predictive factors, we could show that only ANA positivity was significantly related to SLE progression. In addition to these factors, we have found that a history of autoimmune disease at the diagnosis and follow-up and anti-Ro positivity may also be related to progression to SLE.

DLE is a devastating disease that heals with scarring. Moreover, it has a potential for progressing to SLE, besides being a diagnostic component of SLE. We think that being aware of the predictive features for the progression to SLE will enable determining risky patients and monitoring them closely.

Keywords: DLE, discoid lupus erythematosus, systemic lupus erythematosus, ANA positivity, autoimmun diseases, anti-Ro positivity

POSTER PRESENTATIONS

PP-01	Bullous Pemfigoid developed after BNT162b2 mRNA COVID-19 vaccine	*Selami Aykut Temiz*
PP-02	Depression and anxiety may be cause or effect of attacks in hereditary angioedema	*Guzin Ozden*
PP-03	Topical doxepin treatment for severe itching due to trigeminal trophic syndrome: A case report	*Kamer Gündüz*
PP-04	Baricitinib rapidly improves skin pain resulting in improved quality of life for patients with atopic dermatitis: Analyses from BREEZE-AD1, 2, and 7	*Fatih Mehmet Bingol (non Author Presenter)*
PP-05	A Case with Foliculotrophic Mycosis Fungoides: Topical Bexarotene May Help Treatment	*Şirin Yaşar*
PP-06	Annular Elastolytic Giant Cell Granuloma: A Case Report	*Özgür Gündüz*
PP-07	Beau Lines Due to Covid-19 or Hydroxychloroquine	*Munise Daye*
PP-08	A Case of Tuberosclerosis Diagnosed in Adult Age	*Munise Daye*
PP-09	Vulvar lymphangioma circumscriptum secondary to radiotherapy	*Ayşenur Şam Sarı*
PP-10	A Case Of Acneiform Eruption Developing After Panitumumab	*Munise Daye*
PP-11	A case of nodular skabies suggestive of mastocytosis in infant	*Munise Daye*
PP-12	Use of topical imiquimod in the treatment of resistant plantar verruca in an immunocompromised child	*Munise Daye*
PP-13	A Case of Temporal Triangular Alopecia With Classical Trichoscophic Features	*Seray Külcü Çakmak*
PP-14	Evaluation of dynamic thiol/disulfide homeostasİs in patients with acne vulgaris	*Merve Velioğlu*
PP-15	Importance of a complete dermatological examination: Fungal infection or psoriasis vulgaris?	*Göknur Kalkan*
PP-16	A Crusted Scabies Case On HIV Positive Patient	*Sena Inal Aptoula*
PP-17	Widespread Tinea Corporis That Mimicking Impetigo Contagiosum	*Esra Pancar Yüksel*
PP-18	Temozolamide-induced drug eruption	*Ilyas Enes Silay*
PP-19	Sneddon Syndrome: A Case Report	*Ilyas Enes Silay*
PP-20	Skin reaction due to UVC radiation used to inactivate SARS-CoV-2 virus	*Selma Emre*
PP-21	A Case Of Prolonged Acute Radıodermatitis Developing After Repeat Coronary Angiography	*Selma Emre*
PP-22	The relationship of cold urticaria with nutrition: Case Report	*Sevgi Betül Karamehmet*
PP-23	Klippel-Trenaunay syndrome: a case report	*Gizem Filazi Kök*
PP-24	A rare report case: Autoimmune mastitis associated with Sjögren's syndrome	*Nurullah Yekta Akçam*
PP-25	A Case Of Severe Amicrobial Pustulosis Of The Folds Unresponsive To Ustekinumab Treatment	*Selma Emre*
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PP-01 [Autoimmune Bullous Diseases]

Bullous Pemfigoid developed after BNT162b2 mRNA COVID-19 vaccine

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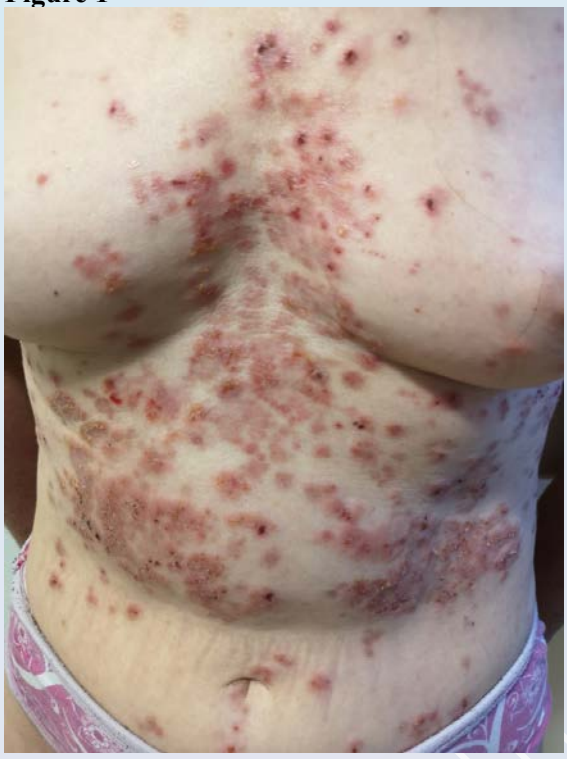
INTRODUCTION: Vaccines are the most important procedure available to us to prevent and control the Covid19 pandemic. The majority of the side effects reported after vaccination are cutaneous and allergic effects. One of the known side effects of vaccines is that they can trigger autoimmune pathways. In this report, we present our case of Bullous Pemphigoid, which is thought to be triggered after the BNT162b2 mRNA vaccine, and the relevant literature.

CASE: A 53-year-old female patient with no known additional disease was admitted to our dermatology outpatient clinic with complaints of diffuse blisters in the body and painful sores in the mouth, approximately one month after the second dose of BNT162b2 mRNA (Pfizer-BioNTech®) vaccine. Dermatological examination revealed widespread eroded plaques and Nikolsky negative intact bullae on the trunk and eroded plaques on the oral mucosa (Figure 1). As a result of the histopathological examination, subepidermal bullae (Figure 2) and inflammatory cells containing abundant eosinophils and neutrophils and linear deposition immunoglobulin G and complement C3 along the dermo-epidermal junction were observed. The case was clinically and histopathologically diagnosed as bullous pemphigoid. In the medical history obtained from the patient, no additional drug history was found except for the BNT162b2 mRNA vaccine. At the same time, there was no history of infection in the patient in the last months. In our case, it was thought that bullous pemphigoid was triggered due to the BNT162b2 mRNA vaccine.

DISUSSION: Bullous pemphigoid is an autoimmune bullous disease characterized by linear deposition of IgG and C3 at the dermo-epidermal junction (DEJ). Impairment of the T cell immune response and synthesis of IgG and IgE autoantibodies against hemidesmosome proteins in DEJ lead to neutrophil chemotaxis and consequent disruption of the basement membrane. Various vaccines have also been reported to trigger BP. It has been observed that it occurs most frequently after influenza and DTP vaccines. BP cases that developed after the BNT162b2 mRNA vaccine have also been reported, reported cases are in the range of 71-86 years, with a mean age of 81.5 years. It was observed that symptoms developed approximately 2-3 weeks after vaccination. Although the average age in our case was below the mean, the development time of the symptoms was similar. Vaccine exposure can lead to the inactivation of regulatory T cells, leading to stimulation of B cells, thereby inducing the development of autoantibodies against hemidesmosome proteins. In the literature, IgG antibodies against the SARS-CoV-2 S1-receptor-binding domain (RBD) (>150 UI) developed one month after the second dose of vaccine in cases that developed despite immunosuppressant treatment, this supports the assumption that the vaccine is the trigger. However, long-term data on the effect of post-vaccine IgG autoantibodies are needed.

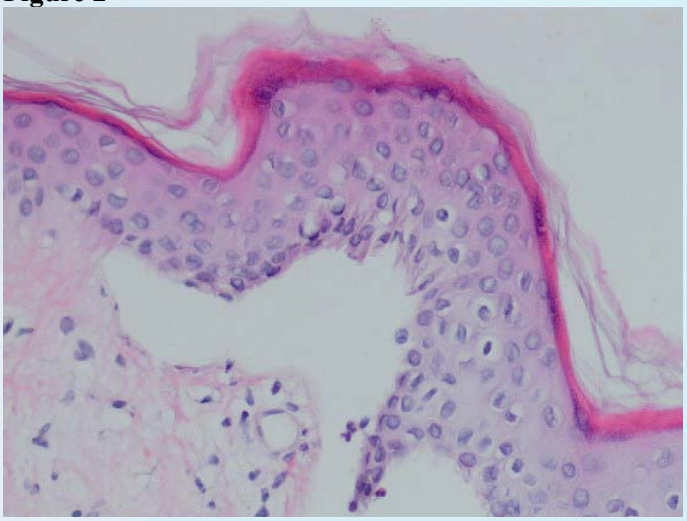
Keywords: Bullous Pemfigoid, COVID-19, BNT162b2 mRNA vaccine

Figure 1



Dermatological examination revealed widespread eroded plaques and Nikolsky negative intact bullae on the trunk

Figure 2



Histopathological examination revealed subepidermal bullae, and inflammatory cells containing abundant eosinophils and neutrophils

PP-02 [Allergology and Immunology]

Depression and anxiety may be cause or effect of attacks in hereditary angioedema

Guzin Ozden[1], Mehmet Bankir[2]
[1]Guzin Ozden
[2]Mehmet Bankir

INTRODUCTION: The study aims to determine the depression and anxiety levels of patients with hereditary angioedema using the Beck depression inventory(BDI), Beck anxiety inventory (BAI) and to compare the results with the patients' demographic characteristics, the number of attacks, attack types, and healthy controls.

MATERIAL-METHODS: 60 hereditary angioedema patients and 60 healthy controls were included in the study. The demographic characteristics of the patients, the total number of attacks/months before treatment, the number of attacks according to the localization of the attacks, and the number of attacks/month after treatment were filled in retrospectively from their hospital records. BDI and BAI were used for anxiety and depression levels.

RESULTS: Median BAI (11 vs 5; p=0.001) and BDI (11 vs 7; p=0.024) in HAE patients, the ratio of patients with moderate anxiety (21.7% vs 1.7%; p=0.001) and the ratio of patients with severe anxiety (8.3% vs. 0%; p=0.001) were compared to the control group, was high. There was no statistically significant difference between the number of attacks under treatment and the BAI and BDI scores. A positive correlation was found between the number of untreated attacks and the number of attacks under treatment and the BAI score (r=0.759; p=0.001) and BDI score (r=0.599; p=0.001) (Table 1).

CONCLUSIONS: Due to the high prevalence of depression and anxiety in HAE patients, health care providers should be attentive of this comorbidity and refer patients to mental health specialists, when needed.

Keywords: Hereditary Angioedema, Beck Depression Inventory, Beck Anxiety Inventory

BAI and BDI of HAE and control group

Variables	Control	HAE	p
BAI (Beck Anxiety Inventory)	5(0-29)	11(0-38)	0.001
Anxiety n(%)			0.001
Normal-Mild	59(98.3)	42(70.0)	
Moderate	1(1.7))	13(21.7	
Severe	-	5(8.3)	
BDI(Beck Depression Inventory)	7(0-35)	11(0-40)	0.024
<17, n(%)	52(86.7)	43(71.7)	0.071
≥17, n(%)	8(13.3)	17(28.3)	
BDI n(%)			0.120
Normal	42(70.0)	31(51.7)	
Mild	10(16.7)	12(20.0)	
Moderate	7(11.7)	12(20.0)	
Severe	1(1.7)	5(8.3)	

PP-03 [Topical Therapy]

Topical doxepin treatment for severe itching due to trigeminal trophic syndrome: A case report

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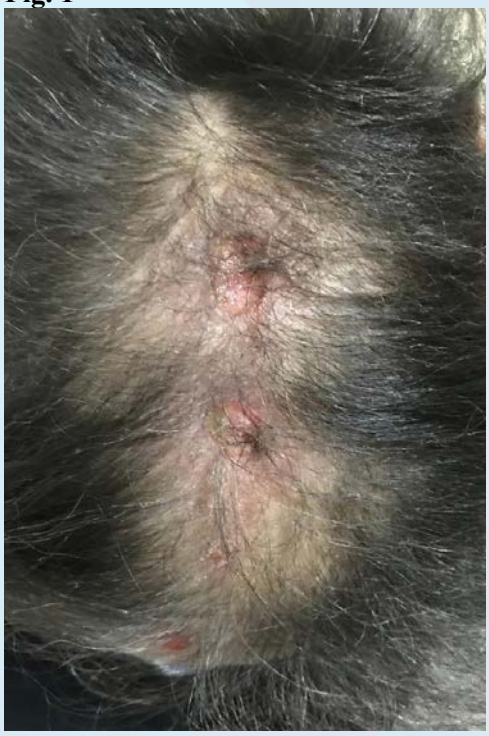
Trigeminal trophic syndrome (TTS) is a rare condition due to self-manipulation of the skin after a peripheral

or central injury to the trigeminal nerve. The causes of the injury may be TN ablation, stroke, trauma, tumor, postencephalitic sequelae, craniotomy or herpes zoster. It frequently develops after iatrogenic interventions for pain management in trigeminal neuralgia. The three major branches of the trigeminal nerve (TN) are ophthalmic, maxillary or mandibular nerves. Chronic ulcers are seen in the areas that are innervated by the affected nerve. The lesions are usually unilateral, may be deep and may involve large areas. The characteristic lesion is a crescent-shaped ulcer at the ala nasi that may extend to the cheek and the upper lip but sparing the nasal tip.

In our case, A 39-year-old female patient presented with chronic non-healing wounds on her face and scalp associated with intractable itching that were present for two months. She had the diagnosis of invasive ductal carcinoma with bone and brain metastasis. Two months ago, she was operated for trigeminal neuralgia's pain palliation. Two weeks after the operation, severe itching and wounds began to occur on the right side of the front and the scalp. Oral antihistamines were used without success. Dermatological examination revealed a small shallow ulcer just above the medial part of the right eyebrow and four ulcers varying from 1 to 3 cm in size located in the middle frontoparietal line along the distribution of the ophthalmic branch of the TN (Fig. 1). With the medical history and the clinical manifestations, the patient was diagnosed with TTS. Management of TTS is difficult, variable responses have been achieved with different pharmacological, physical and surgical approaches. Drugs like amitriptyline, olanzapine, gabapentin, pregabalin and carbamazepine, electrical stimulation, negative pressure therapy, surgical grafts and autologous epidermal cell transplantation have been used with varying degrees of success. In the neurology consultation, no systemic medication was recommended to alleviate the neuropathic pruritus in our patient, and we preferred to use topical doxepin with appropriate wound care. Doxepin is a tricyclic antidepressant with potent H1 receptor antagonistic properties. Topical doxepin in the form of 5% cream has been used with success in pruritic skin disorders like atopic dermatitis and lichen simplex chronicus. A very rapid improvement in itching sensation and recovery of ulcerations without any side effects of doxepin was observed (Fig. 2). The treatment was stopped after 20 days. No recurrence was observed in the control after 1.5 months. To our knowledge, this is the first case that the neurogenic pruritus in TTS was treated with topical doxepin.

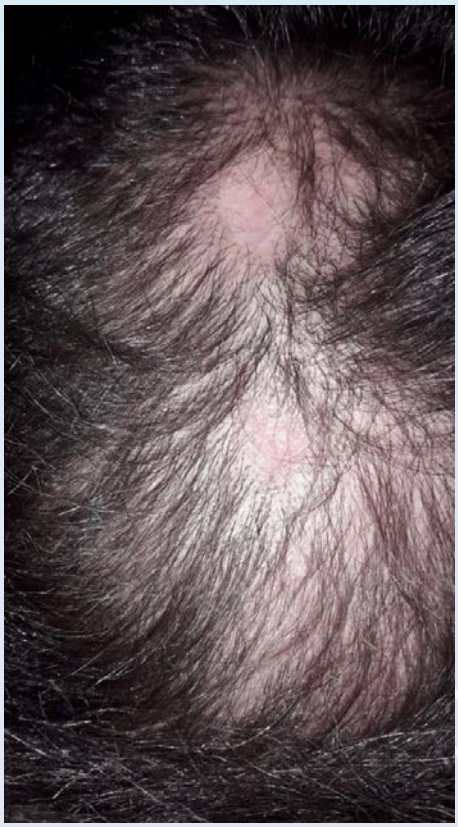
Keywords: doxepin, neuropathic itching, topical, tricyclic antidepressants, trigeminal trophic syndrome

Fig. 1



1 to 3 cm in size located in the middle frontoparietal line along the distribution of the ophthalmic branch of the TN

Fig. 2



After Treatment Healing to Ulcers

PP-04 [Atopic Dermatitis/Eczema]

Baricitinib rapidly improves skin pain resulting in improved quality of life for patients with atopic dermatitis: Analyses from BREEZE-AD1, 2, and 7

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[6]IQVIA, Morrisville, NC, USA
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[9]Eli Lilly and Company, Istanbul, Turkey

Introduction & OBJECTIVES: Skin pain (described as discomfort or soreness) is increasingly recognized as a symptom of atopic dermatitis (AD) which impacts patient quality of life. This analysis examined the effect of baricitinib (BARI) on skin pain in AD in three Phase 3 studies (BREEZE-AD1, -AD2, and -AD7).

Materials & METHODS: Patients were randomly assigned 2:1:1:1 to receive once-daily placebo, BARI 1 mg, 2 mg, or 4 mg for 16 weeks in BREEZE-AD1 (N=624) and -AD2 (N=615), and 1:1:1 to receive once-daily placebo, BARI 2 mg, or 4 mg for 16 weeks in BREEZE-AD7 (N=329). Use of topical corticosteroids was allowed in BREEZE-AD7. Patients recorded the severity of their skin pain daily using the Skin Pain Numerical Rating Scale (NRS) via an electronic diary. Percent change from baseline in Skin Pain NRS from Day 1 (first dose) to Day 7 was analysed by study as least squares mean (LSM) using mixed-model repeated-measures analysis. Analysis of responders on Dermatology Life Quality Index (DLQI) 4-point improvement by Skin Pain responders (4-point improvement) vs. non-responders was carried out using logistic regression with non-responder imputation. P-values were not adjusted for multiplicity.

RESULTS: BARI produced significant LSM percentage change from baseline compared with placebo in patient-reported skin pain severity by Day 2 in BREEZE-AD1 (BARI 4 mg LSM difference from placebo (LSMdiff) −11.9%, p<0.001; BARI 2 mg LSM diff −6.4%, p=0.016; BARI 1 mg LSM diff −6.2%, p=0.016; Figure 1A), -AD2 (BARI 4 mg LSMdiff −12.6%, p<0.001; BARI 2 mg LSM diff −5.6%, p=0.036; BARI 1 mg LSM diff −6.9%, p=0.011; Figure 1B), and -AD7 (BARI 2 mg LSMdiff −7.9%, p=0.018; BARI 4 mg LSMdiff −6.9%, p=0.04; Figure 1C). A greater number of patients treated with BARI reported ≥4-point reduction in Skin Pain NRS score at Week 16 in BREEZE-AD1 (BARI 4 mg 25.3%, p<0.001), -AD2 (BARI 4 mg 20.0%, p<0.001; BARI 2 mg 19.0%, p<0.001), and -AD7 (BARI 4 mg 48.8%, p<0.001; BARI 2 mg 45.2%, p=0.004) compared to placebo (data not shown). A significantly higher proportion of Skin Pain NRS responders also achieved ≥4-point improvement in DLQI at Week 16 when compared with Skin Pain NRS non-responders in BREEZE-AD1 (89.2%, p<0.0001; Figure 2A), -AD2 (92.5%, p<0.0001; Figure 2B), and -AD7 (88.3%, p<0.0001; Figure 2C).

CONCLUSION: BARI improved patient-reported skin pain severity as early as the first day after first dose administration i.e., Day 2. This improvement in skin pain is associated with improvement in DLQI scores. Presented at EADV 2021.

Keywords: Baricitinib, atopic dermatitis, BREEZE-AD1, BREEZE-AD2, BREEZE-AD7

Figure 1.

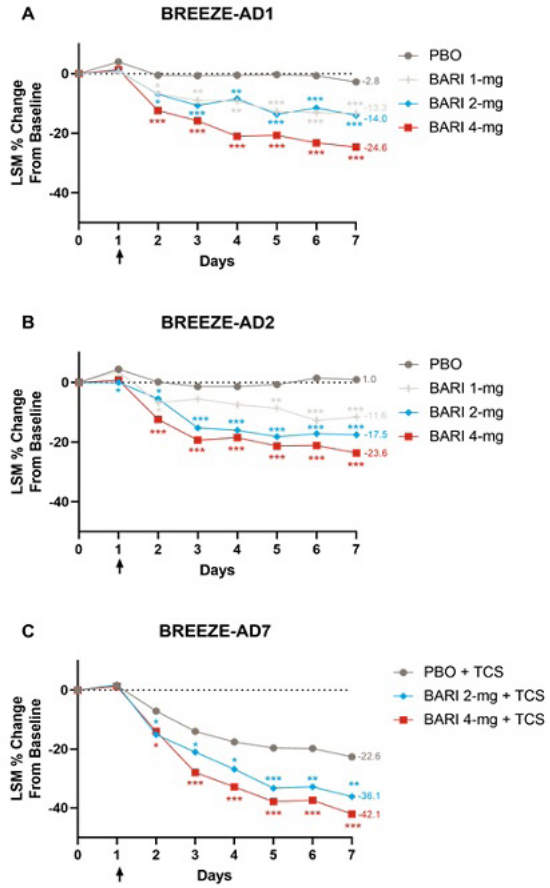

Figure 1: LSM percentage change from baseline in Skin Pain NRS during the first week of treatment in BREEZE-AD1 (A), BREEZE-AD2 (B), and BREEZE-AD7 (C). *p ≤0.05 compared with placebo; **p ≤0.01 compared with placebo; ***p <0.001 compared with placebo; arrows indicate the first day of treatment administration. Abbreviations: BARI, baricitinib; LSM, least squares mean, NRS, numerical rating scale; PBO, placebo; TCS, topical corticosteroids.

Figure 2.

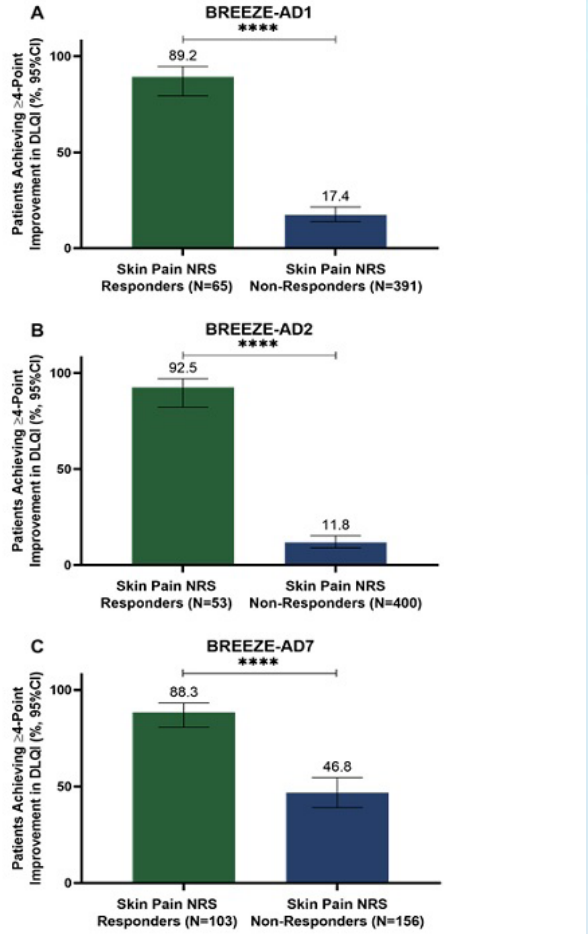

Figure 2: Patients achieving ≥4-point improvement in Dermatology Life Quality Index among Skin Pain NRS responders (≥4-point improvement in Skin Pain NRS) vs non-responders (<4-point improvement in Skin Pain NRS) at Week 16 in BREEZE-AD1 (A), BREEZE-AD2 (B), and BREEZE-AD7 (C). ****p<0.0001. Abbreviations: CI, confidence interval; DLQI, Dermatology Life Quality Index; NRS, numerical rating scale.

PP-05 [Cutaneous Oncology]

A Case with Foliculotrophic Mycosis Fungoides: Topical Bexarotene May Help Treatment

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Mycosis fungoides is the most common of the primary T-cell lymphomas of the skin and is characterized by proliferation of CD4+ cells. The stage of the disease, general condition and age of the patient are important in the treatment approach of mycosis fungoides. Treatments targeting the skin in the treatment of mycosis fungoides can be examined under 3 headings as systemic therapy (other than chemotherapy) and systemic chemotherapy. Treatments targeting the skin; local corticosteroids, local chemotherapy (nitrogen mustard, carmustine), total skin electron irradiation radiotherapy and phototherapy (PUVA, narrow band UVB, UVA-1). Apart from chemotherapy, extracorporeal photophoresis, interferons (interferon-α), retinoids (etretinate, acitretin, bexarotene), denileukin diftitox, histone deacytylase inhibitors (vorinostat, depsipeptide) and alemtuzumab can be used as systemic treatment options. In systemic chemotherapy, CHOP (cyclophosphamide, hydroxydaunorubicin, onkovin, prednisone) treatment is generally applied as 6 cycles. In this report, a 46-year-old case diagnosed with folliculotrophic Mycosis Fungoides is presented. According to TNM staging, the patient's clinic was staged as T4N0M0 and PUVA, systemic retinoid and systemic interferon treatment was started in the treatment. The patient's extensive erythrodermic, plaque and tumoral lesions with hair loss regressed with this treatment. However, topical bexarotene was started in the patient who could not receive PUVA treatment due to the COVID-19 pandemic, and tumoral and plaque lesions regressed with topical bexarotene gel. Although topical bexarotene was approved in Stages 1A and 1B, effective results were obtained with topical bexarotene treatment in stage 3A patient.

Keywords: Mycosis Fungoides, Topical bexarotene gel, advanced disease

Figure 1 a

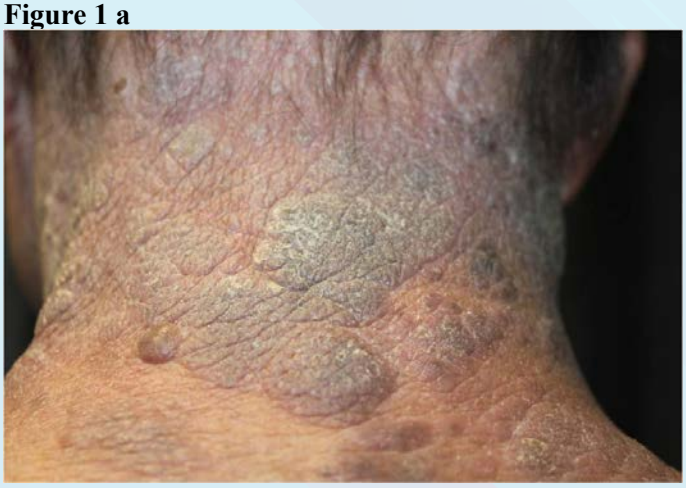
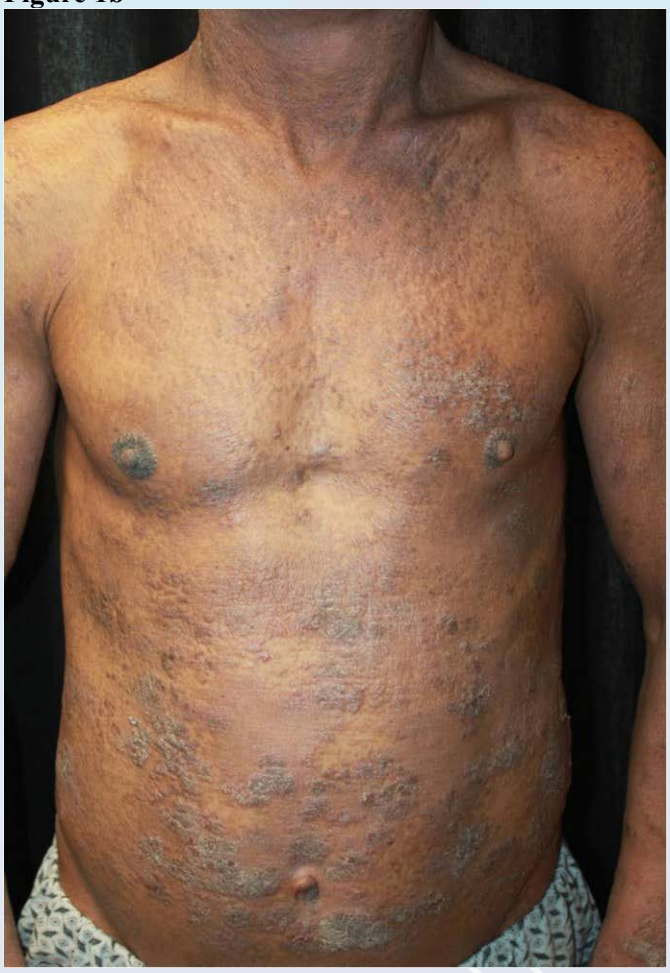


Figure 1b



PP-06 [Inflammatory Skin Diseases]

Annular Elastolytic Giant Cell Granuloma: A Case Report

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[2]Department of Pathology, İzmir Bakırçay University, İzmir, Turkey

INTRODUCTION: Annular elastolytic giant cell granuloma (AEGCG) is a rare chronic inflammatory skin disorder characterized by granulomas in the dermis and loss of dermal elastic fibers due to lytic activity multi-nucleated giant cells seen in histopathological sections. (1) The etiology of AEGCG is unknown. Here, we present a case of a 57-year-old female patient with progressive cutaneous lesions on her neck and arms who was diagnosed with AEGCG.

CASE: A 57-year-old woman presented with asymptomatic, gradually expanding plaques on her neck and arms. These lesions had appeared one month ago around her neck, followed by the new lesions on her arms. Erythematous plaques with elevated, indurated borders consisting of millimetric papules were observed surrounding her neck (Fig 1,3). The diameters of the plaques ranged from 2.0 cm to 10.0 cm. Erythematous, confluent plaques with relatively smaller diameters - about 1.0 cm- could be seen on the extensor sites of both forearms (Fig2, Fig3). A differential diagnosis including "Granuloma annulare (GA), annular lichen planus (ALP), and AEGCG" was made. Histopathological evaluation with H&E, CD68 revealed histiocytes, giant cells, basophilic degeneration/elastolysis in the dermis (Fig 4). A diagnosis of AEGCG was established based. Acitretin 25 mg/ was started daily, but this treatment regimen was stopped due to the increase of serum lipid levels. The patient currently applies topical tacrolimus twice daily.

DISCUSSION: There are several hypotheses about AEGCG's pathogenesis. O'Brien proposed that elastolysis is caused by solar damage, which triggers a CD4+ lymphocyte-mediated immune response that leads to the formation of granulomas in the dermis. (2) A later hypothesis proposes that the inflammatory destruction of elastic fibers is the first step in pathogenesis. (3) A case reported by Kiken et al. supports this hypothesis, in which the researchers failed to provoke new AEGCG lesions in a patient with preexisting lesions. (4) AEGCG should be differentiated from GA, ALP. Nonpalisading granulomas, giant cells with up to 12 nuclei, prominent elastolysis are observed in AEGCG. Palisading granulomas are typical for GA, and lichenoid infiltration helps to differentiate LP. (1) Topical/intralesional steroids, PUVA, cyclosporine, calcineurin inhibitors, dapsone, systemic retinoids are used with varying degrees of success. (1)

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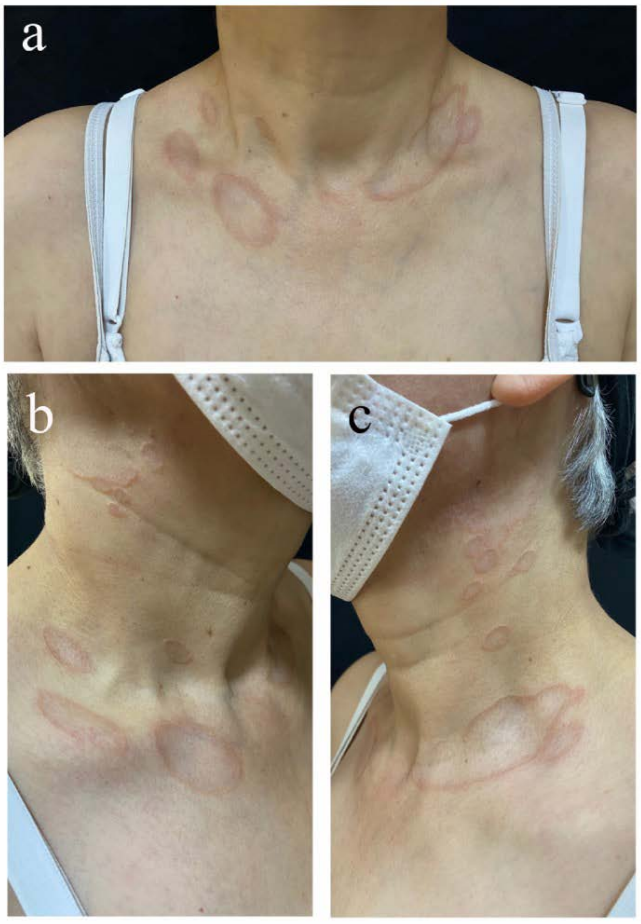
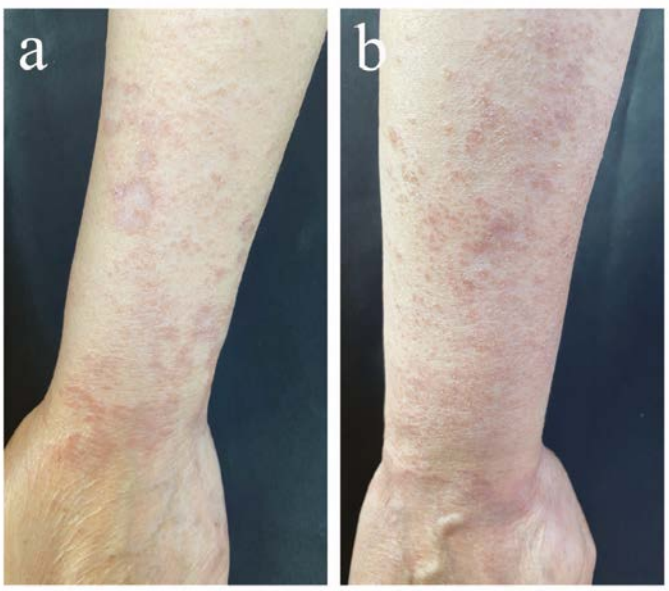
Keywords: Annular elastolytic giant cell granuloma, granulomatous inflammation, elastolysis

Fig 1 Clinical Features



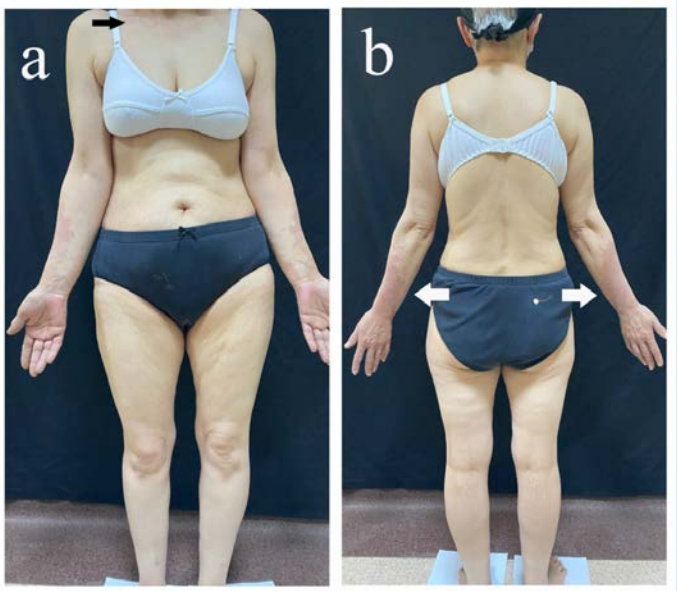
Asymptomatic, annular plaques with elevated, indurated borders located on the neck of the patient

Fig 2 Clinical Features



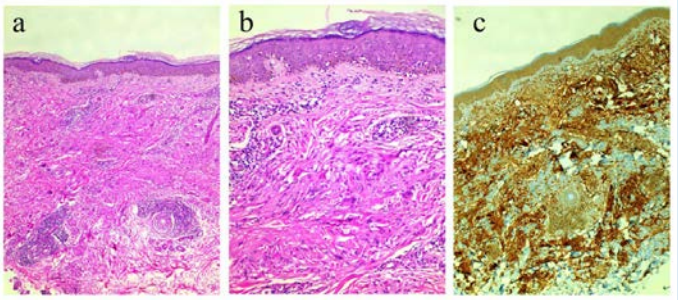
Clinical Features - Various, confluent erythematous flat papules and plaques on the dorsal surface of the both forearms

Fig 3 Clinical Features



Comparison of sun-exposed vs. non-sunexposed areas. Lesions are located prominently on sun-exposed areas (neck and below the elbow). Dorsum of the hands are spared.

Fig 4 Histopathology



Histopathological sections stained with Hematoxylin Eosin (H&E) (a.b - x40,x100 magnifications respectively) and CD68 (c, x40). (a,b) Prominent histiocytic infiltrate with giant cells and elastolysis in the dermis (c) Histiocytes and giant-cells also marked by CD68 immunohistochemical stain

PP-07 [Nail Disorders/Diseases]

Beau Lines Due to Covid-19 or Hydroxychloroquine

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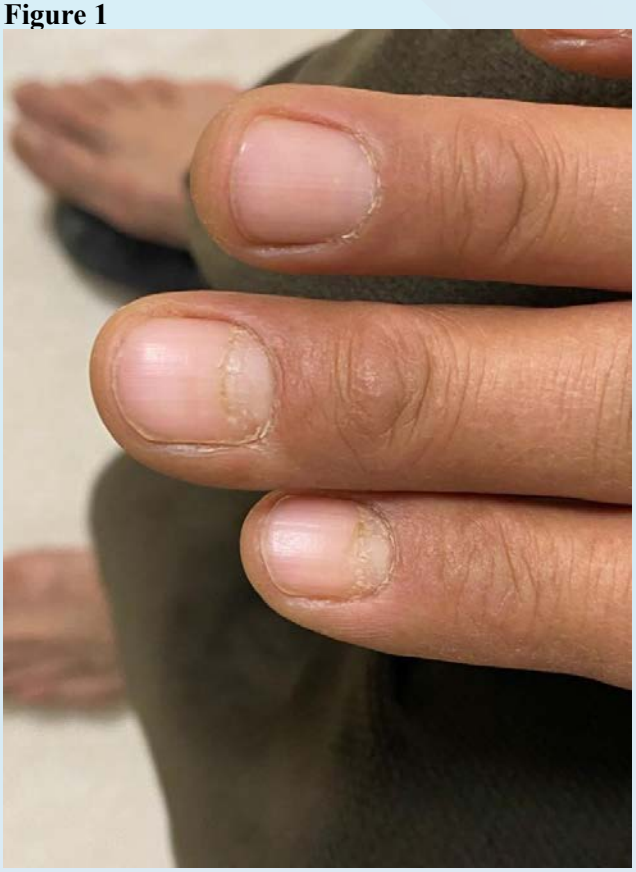
Introduction & OBJECTIVES: SARS CoV-2 infection (COVİD-19) can cause skin involvement in the form of maculopapular-vesicular-petechial/purpuric-papulosquamous cutaneous eruptions, pernio/erythema multiforme-like acral lesions, urticaria-angioedema, livedo reticularis, and necrosis. It can cause telogen effluvium. Cases related to nail involvement are very rare and can lead to changes in the form of beau lines. Beau's lines are transverse linear grooves in the nail plate caused by temporary disruption of growth of the proximal nail matrix. Its etiology includes localized trauma, Kawasaki disease, febrile diseases, chemotherapy drugs, severe malnutrition, Raynaud's disease, and pemphigus. In our case, we present beau lines that occur rarely in COVİD-19 infection.

Materials & METHODS: A forty-four-year-old male patient was admitted to our outpatient clinic because of horizontal lines on his fingernails. In his dermatological examination, the grooves were 5 mm away the proximal nail fold.(Figure 1) There was no pathology in the toenails. He has not have any additional disease and chronic drug use. Blood count, vitamin, ferritin, and thyroid hormone levels were normal in his examinations. We learned that he had high fever, severe muscle-joint pains, cough complaints 1.5 months ago, and he was diagnosed with COVİD-19 with a positive PCR test result. He had received hydroxychloroquine and paracetamol treatment for about 10 days without requiring hospitalization. He stated that the nail lesions started during the infection period. There was no active complaint of infection at the time of application to us. Following our patient without treatment, the lesions regressed completely 4 months later (Figure 2). Results, and CONCLUSIONS: Fingernails grow approximately 3.47 mm per month. In our patient, the distance between Beau's lines and the proximal nail fold was 5 mm, which corresponds with the onset of coronavirus infection. Beau's lines are also nail lesions that can occur secondary to COVİD-19 infection. There are no reported data so far that hydroxychloroquine and paracetamol can cause Beau's lines. There is no specific treatment for Beau's lines. It resolves spontaneously when the underlying cause is resolved. In a patient with Beau's lines, it should be considered that the patient may have had a COVİD-19 infection.

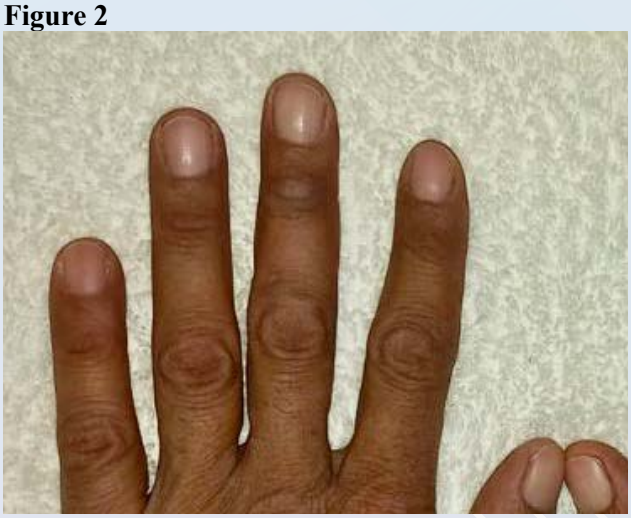
Keywords: Beau lines, Covid-19, Hydroxychloroquine

Figure 1



the grooves were 5 mm away the proximal nail fold

Figure 2



Normal fingernails after 4 month

PP-08 [Genetics]

A Case of Tuberosclerosis Diagnosed in Adult Age

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Introduction & Objectives: Tuberous sclerosis is an autosomal neurocutaneous genetic and multisystemic disease caused by a mutation in TSC1 (hamartin) or TSC2 (tuberin). Although it can occur at any age, it usually causes characteristic skin lesions, seizures and cellular overgrowth in infants and children, and hamartomas in various organs such as the heart, brain, eye, kidney, lung and liver. The diagnosis of tuberous sclerosis can be made on the basis of genetic and clinical criteria. We present a patient who was consulted to the dermatology clinic for tinea unguium from the psychiatry clinic and was diagnosed with tuberous sclerosis as a result of the dermatological examination.

Materials & Methods: A 39-year-old male patient was consulted to our outpatient clinic with a prediagnosis of tinea unguium while receiving bipolar treatment in the psychiatry clinic. In the dermatological examination, subungal and periungal fibromas (Figure1) on the toenails and fingernails, angiofibromas (Figure 2) on the face and back, shagreen patch (Figure3) observed. There was no history of seizures in our case. Tinea unguium was not considered in lesions whose appearance is typical for tuberous sclerosis. The case was consulted to the departments related to the prediagnosis of tuberous sclerosis. As a result of the consultations, no renal, ocular or cardiac pathology was detected in the case. As a result of neurology consultation, cortical tubercles were detected. The case diagnosed as tuberous sclerosis by the clinical findings.

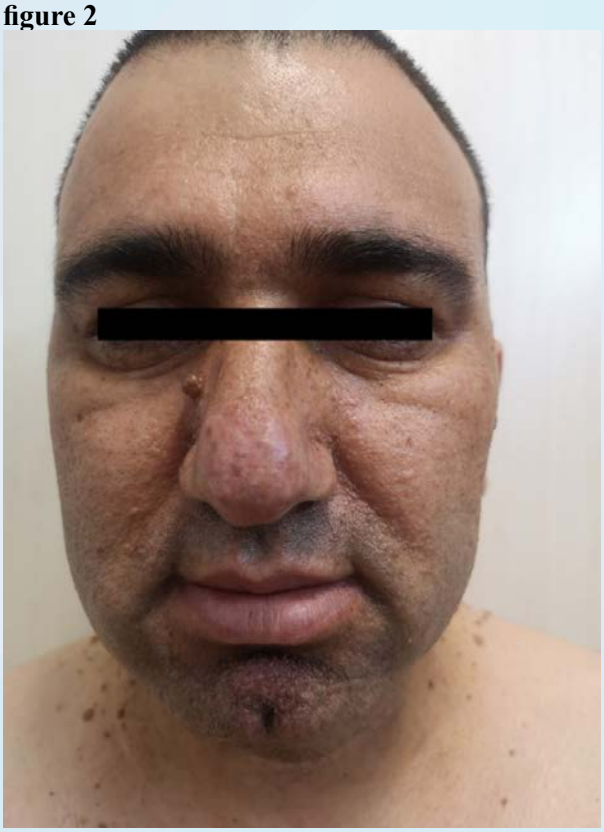
Results&Conclusion: Tuberous sclerosis is difficult to diagnose due to its many phenotypic variability and can be confused with other dermatological diseases. Tinea unguium, which is more common than tuberous sclerosis in our case, was considered in the psychiatry clinic because of subungual fibromas and tumors in the nails. After the dermatology consultation, the diagnosis of tuberous sclerosis was made with a detailed examination of the whole body due to subungual fibromas and koenen tumors observed in the patient.Tuberous sclerosis is a neurocutaneous disease that requires a multidisciplinary approach in treatment and follow-up. Therefore, in order to diagnose tuberous sclerosis cases at an early stage, we think that dermatological markers should be known by other phicians as well. We share this case, which was diagnosed at an adult age, to raise awareness.

Keywords: Tuberous sclerosis, Tinea unguium, Koenen tumors

Figure 1

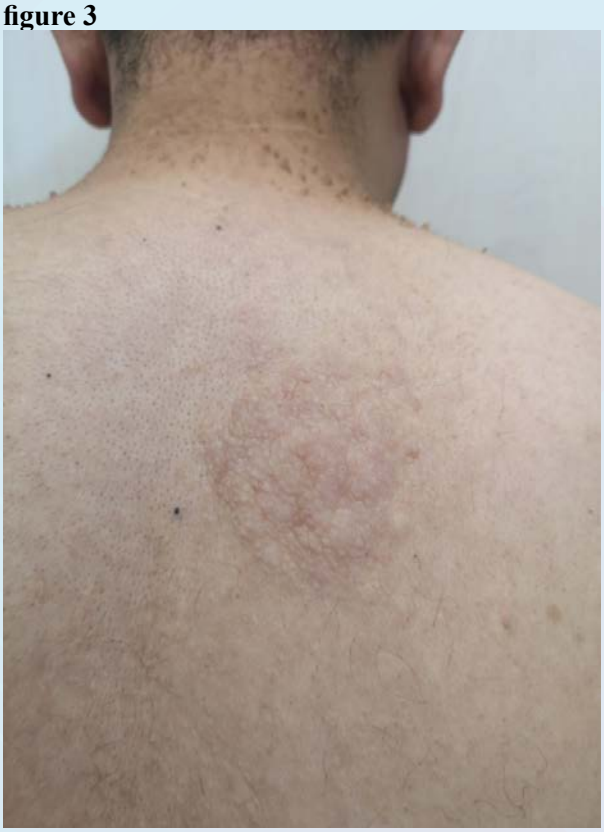
Sububgal fibrom and koenen tumors on toenails

figure 2



anjiyofibrom on face

figure 3



Shagreen patch on back

PP-09 [Angiology, Haemangiomas, Vascular Malformations, Vasculitis]

Vulvar lymphangioma circumscriptum secondary to radiotherapy

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Introduction: Lymphangioma circumscriptum (LS) is a rare vascular malformation that affects the skin and subcutaneous tissues.This is a hamartomatous disorder of the lymphatic channels in the skin.Typically, they can be clear in the form of vesicle clusters with a diameter of 2-4 mm, or they can be seen in pink, red or black color depending on the amount of blood in the lymphatic channels. Here, we present a case of lymphangioma circumscriptum, which developed after radiotherapy.

Case Presentation: A 51-year-old woman presented to our department with a complaint of a flesh-colored painless vulvar lesions present for the past two years. On examination multiple grouped flesh-colored papules and vesicles were seen on the atrophic erythematous plaque in the labia majora. Dermoscopy revealed multiple, semi-translucent papule on the vulvar skin. She had a history of ladiotherapy treatment for known cervical cancer 2 years ago. She had no significant past medical history of sexually transmitted disease.Serology tests for sexually transmitted diseases were normal. A skin biopsy was performed, differential diagnoses included condyloma accuminata, molluscum contagiousum and lymphangioma circumscriptum. Histopathological examination revealed lymphatic vessels in the superficial dermis and diagnosis of lymphangioma circumscriptum was made.

Conclusion: LS is a rare vascular malformation, mimics to sexually transmitted disease lesions.Histopathological examination is usually required for diagnosis.It is clinically seen at birth or immediately after birth, but can occur at any age. As in the case we presented, it should be considered in the differential diagnosis of cases that occur at an advanced age.

Keywords: Lympangioma circumskriptum, Lymphatic malformation, Vulva

PP-10 [Adverse Drug Reactions, TEN]

A Case Of Acneiform Eruption Developing After Panitumumab

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Introduction & Objectives: Acneiform eruption usually presents as erythematous papules and pustules involving the face, chest, and back. Less frequently, there may be involvement of the scalp, extremities, trunk, gluteal and palmoplantar areas. Drugs mainly play a role in the etiology of acneiform eruption, however it can also develop due to other factors.

This is caused especially by EGFR (Epidermal Growth Factor Receptor) inhibitors.

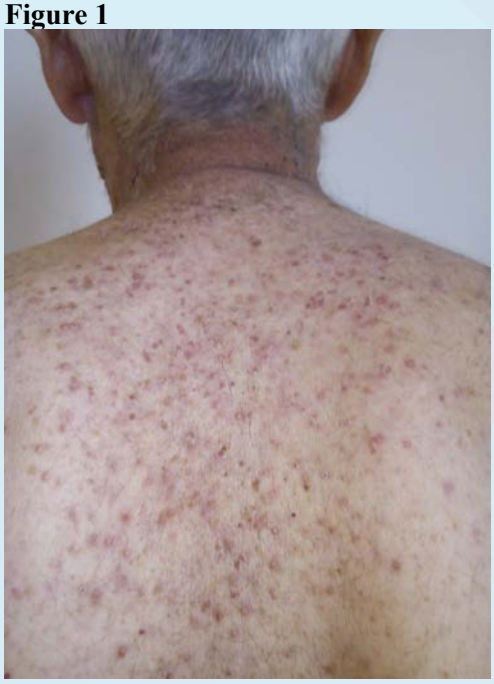
Panitumumab is an EGFR monoclonal antibody and frequently causes the mentioned side effect. It can causeacneiform eruptions in 90% of patients on a chemotherapy regimen containing panitumumab.

Materials & Methods: A 57-year-old male patient presented with rashes on the scalp, anterior and posterior trunk. On dermatological examination, papulopustules and plaques with yellow crusts (Figure 1,2) were observed on an erythematous base. His eyes had purulent effluence. One and half years ago the patient was diagnosed with metastatic colorectal cancer. Panitumumab + fluorouracil chemotherapy was started in the patient who had previously received neoadjuvant radiotherapy and was operated. Biopsy was taken from the patient, who had lesional activation after each chemotherapy course, with the preliminary diagnosis of acneiform eruption secondary to medication. The patient was treated with topical mometasone furoate 0.1%, topical diflucortolone valerate chlorquinaldol and oral levocetirizine. Oral corticosteroid and topical mupirocin treatment were added to the treatment of our patient, who reapplied because of exacerbation after chemotherapy. His biopsy resulted as a drug reaction and his lesions improved with the treatment given (Figure3,4)

Results & Conclusions: Skin side effects are common with EGFR inhibitors. Especially acneiform eruption secondary to the use of panitumumab is one of these side effects. Although there are many cases in the literature regarding this well-known and frequently encountered side effect, we aim to contribute to the earlier detection and treatment of toxicity in our country by presenting this case, since the number of cases reported in our country is limited.

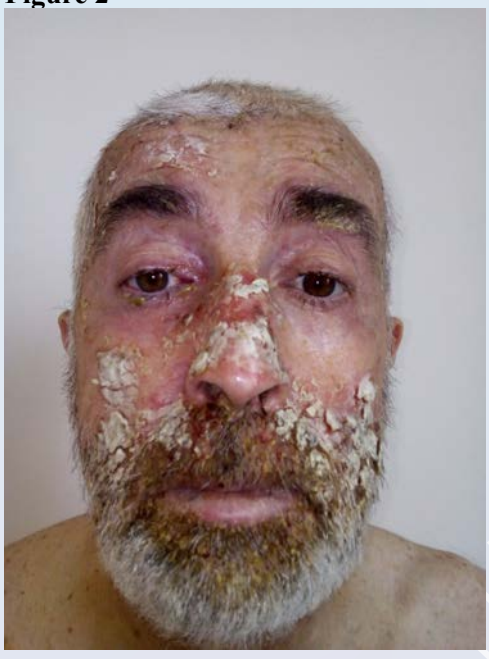
Keywords: Panitimumab, Acneiform eruption, Metastatic colorectal cancer

Figure 1



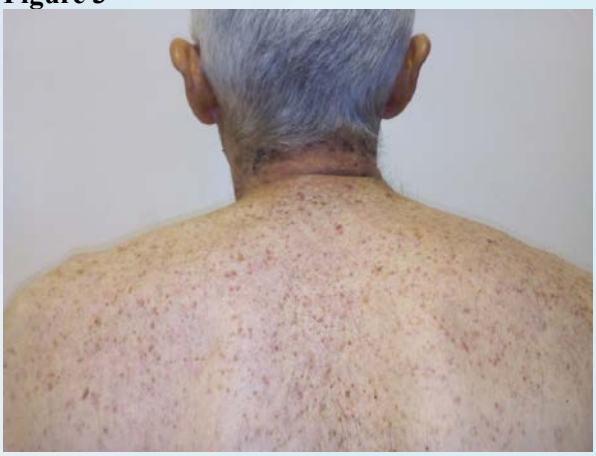
Yellow crusted papulopustules and plaques on erythamatous base

Figure 2



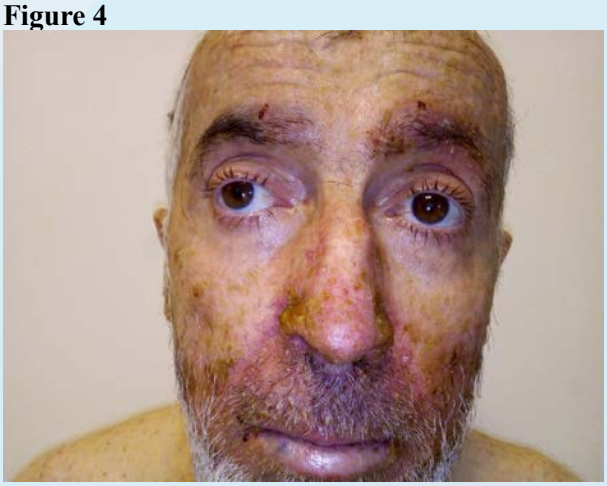
Yellow crusted papulopustules and plaques on erythamatous base

Figure 3



Improvement of eruptions after treatment

Figure 4



Improvement of face after treatment

PP-11 [Infectious Diseases, Parasitic Diseases, Infestations]

A case of nodular skabies suggestive of mastocytosis in infant

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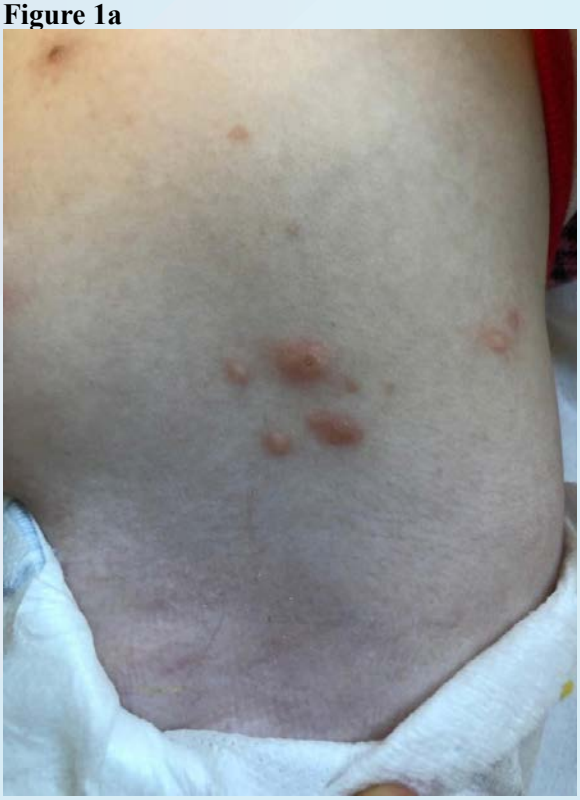
INTRODUCTION: Skabies is a dermatological problem caused by Sarcoptes scabiei, which causes lesions in the stratum corneum and produces a very itchy hypersensitivity reaction. Skabies affect an average of more than 300 million people each year. Skabies can be seen at any age, but are most common in children before the age of 2. Unlike adults, polymorphic lesions can be seen in children, including the scalp. Langerhans cell histiocytosis, insect bite, non-Langerhans cell histiocytosis, lymphoma, urticaria pigmentosa can be considered in the differential diagnosis of scabies lesions, especially in nodular form. A 9-month-old female patient presented with our polyclinic a 2-month history of itchy nodular lesions on her abdomen. Scabies should be considered in resistant nodular, itchy lesions accompanied by a family history.

Case Presentation: A 9-month-old female patient presented with our polyclinic a 2-month history of itchy multiple 4-5-mm nodules of brown colour and smooth surface nodular lesions on her abdomen(Figure 1a). As a result of rubbing or scratching these lesions, urticarial and erythematous halo occur around the lesions(Darier's sign))(Figure 1b). Scabies burrows appeared on the palms and wrists(Figure 1c). It was learned that her mother had more severe itching for 4-5 days, especially at night, and received treatment 3 month ago. They used single %5 permetrin treatment. She did not have a history of comorbidity and a drug that she used regularly. Routine laboratory tests and percentage of eosinophils and mast cells were within normal limits. Skin biopsy was not performed. The patient was diagnosed nodular skabies with clinical findings. Patient were treated with 2.5 % or 5 % permethrin cream after informing the parents

DISCUSSION: The prevalence of mastocytosis and scabies is higher in children under 2 years of age. Some clinical findings are common in both diseases. While mastocytosis in children presents with pruritic red-brown-yellowish macules, papules, plaques and nodules can be found on the trunk in both diseases. Nodular scabies is considered a delayed hypersensitivity reaction to mite rather than an active infection, and it can be persist after initial treatment. Although Darier's sign is seen in both diseases, itching in mastocytosis is triggered by trauma and thermal stimuli, while itching that increases at night is dominant in scabies. In our patient, we ruled out mastocytosis due to the absence of stimulus triggering itching in the scabies burrows, family history and recurrence in the complaints after the first treatment. The patient's complaints regressed rapidly after 5% permethrin administration in the treatment. As a result, in cases where scabies treatment is not applied properly, patients may be treated incorrectly with different diagnoses. Dermatologists need to be careful about this.

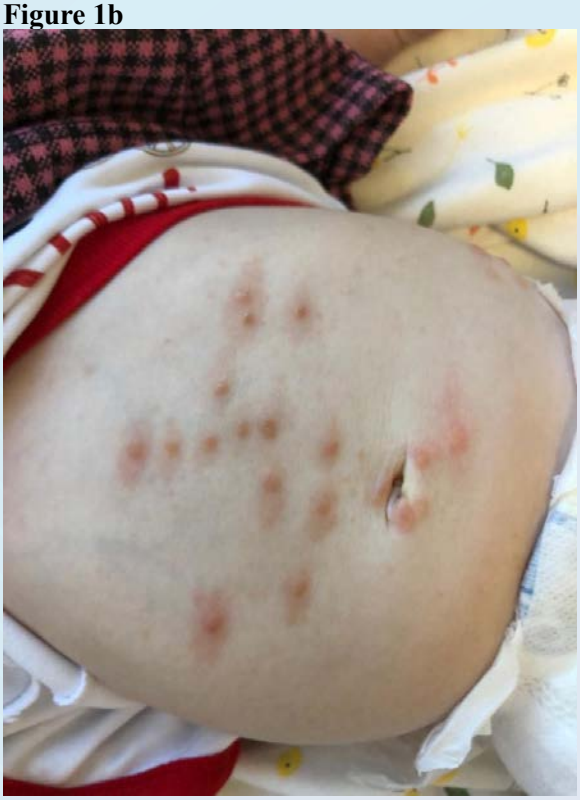
Keywords: nodular skabies, mastocytosis, Darier's sign

Figure 1a



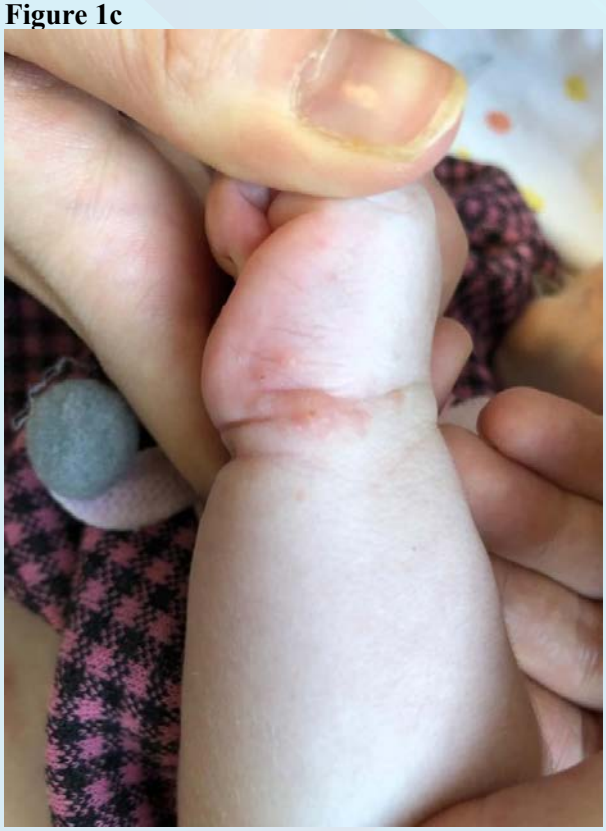
multiple 4-5-mm nodules of brown colour on her abdomen

Figure 1b



urticarial and erythematous halo occur around the nodules(Darier's sign)

Figure 1c



skabies burrows appeared on wrists

PP-12 [Infectious Diseases, Parasitic Diseases, Infestations]

Use of topical imiquimod in the treatment of resistant plantar verruca in an immunocompromised child

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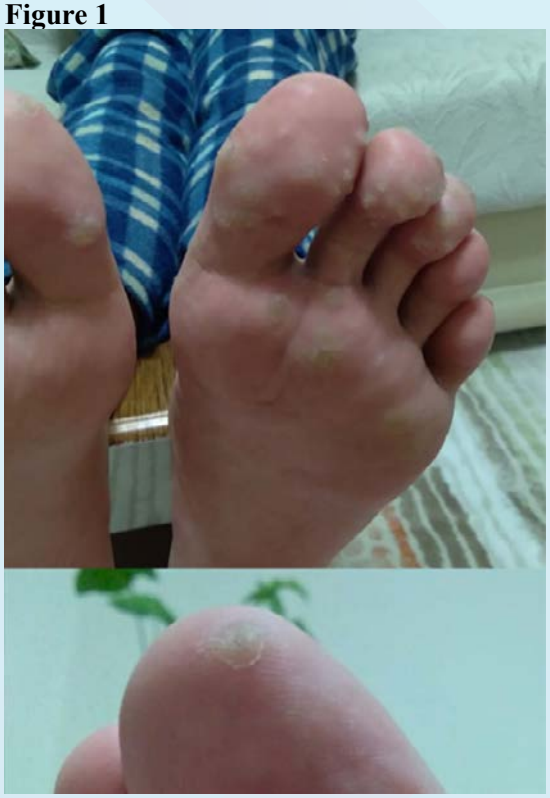
INTRODUCTION: HPV infections, one of the most common skin diseases, are benign tumors that affect keratinocytes in the skin and mucous membranes. HPV infection is more common in children compared to adults and its prevalence is 5%–30%.Most common nongenital wart variants in children common wart, plantar wart and plane wart.Cutaneous warts are usually self-limiting and asymptomatic, but plantar warts may cause pain and discomfort during walking due to their localization.Pitted keratolysis, punctate keratosis, corn, callus, molluscum contagiosum can be considered in the differential diagnosis of plantar wart. A 15-year-old male patient with combined immunodeficiency was admitted to our outpatient clinic with multiple painful, raised, skin-colored lesions in the plantar region

Case Presentation: A 15-month-old male patient presented with our polyclinic a 5-year history of multiple painful, raised, skin-colored lesions with a horny surface and surrounded by a horny collar on the bilateral plantar region(Figure 1).He had a history of autologous bone marrow transplant 14 years ago due to common variable immunodeficiency.He did not have any medication that used regularly.It was learned that he had hyperhidrosis in his plantar area.The patient was diagnosed Myrmecia plantar warts with clinical findings.Topical hamamelis virginiana -zinc oxide and calcipotriol were applied to the patient for 1.5 months for treatment.Then 10% KOH(potassium hydroxide) solution was added to the patient's current treatment.After 1.5 months, there was partial regression of the lesions, and cryotherapy was applied. When there was no response from all these treatments, all treatments were discontinued and after informing the families topical imiquimod was started three times per week after obtaining approval from the pediatrician.At the end of the 5th month, there was a great regression of the lesions(Figure 2). DISCUSSION: Viral warts often affect school-age children.It is more common in men because it is associated with outdoor activity.Immunosuppression is a risk factor for HPV infection.In treatment, topical salicylic acid, topical retinoid, topical 5-fluorouracil, topical 10% KOH, intralesional bleomycin, cryotherapy and carbon dioxide(CO2) laser applications are performed. In literature, it has been observed that topical imiquimod eliminates the warts in resistant plantar warts.Consistent with the literature, we found that topical application of imiquimod three times a week after removing the thick stratum corneum with a scalpel for 5 months resulted in significant healing of warts.Imiquimod acts by binding to the toll-like receptor-7 on monocytes and α-dendritic cells. The most common common effect known is local itching, but it varies according to the applied area.No side effects were observed in our case. In this case, we wanted to emphasize that topical imiquimod is an important option in the treatment of resistant plantar verrue in a child with immunosuppression.

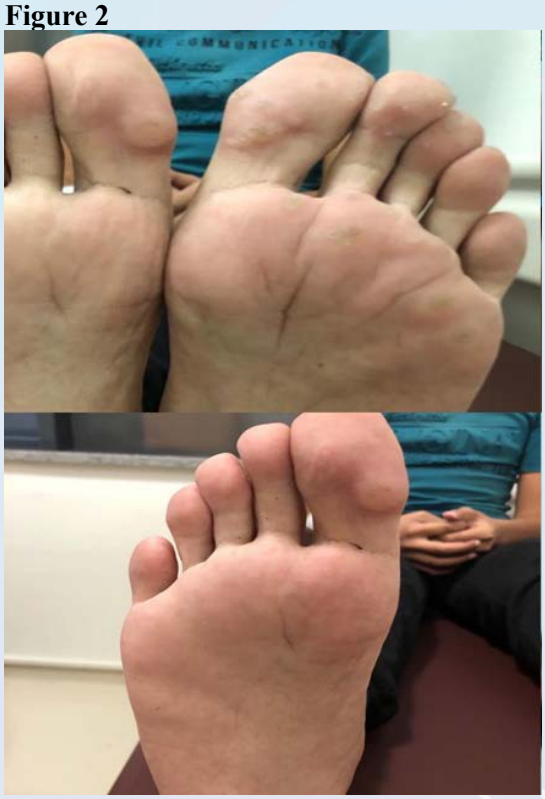
Keywords: immunocompromised child, topical imiquimod, resistant plantar verruca

Figure 1



before imiquimod therapy

Figure 2



after imiquimod therapy

PP-13 [Hair Disorders/Diseases]

A Case of Temporal Triangular Alopecia With Classical Trichoscophic Features

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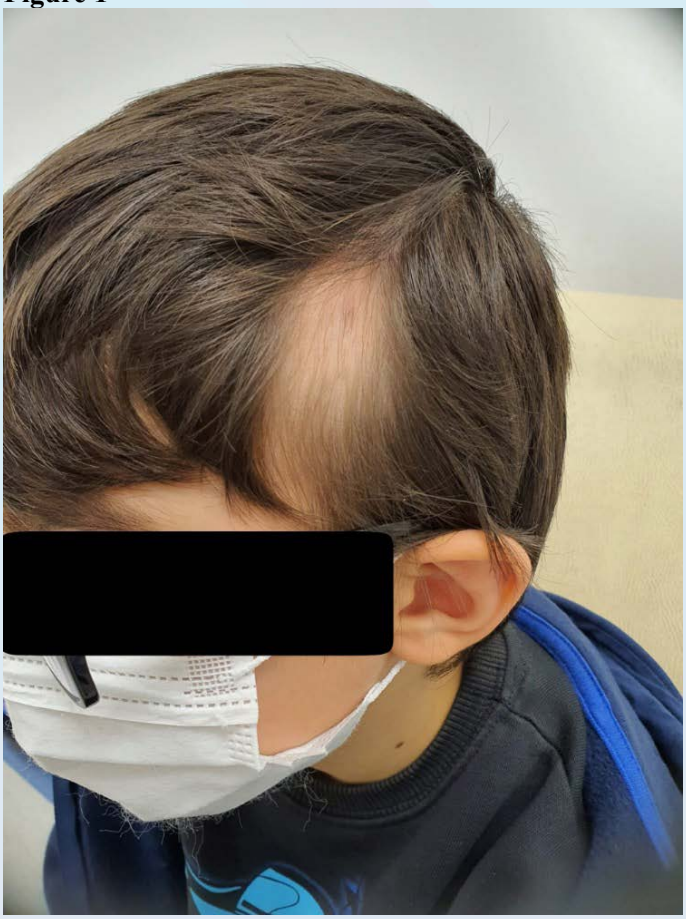
Introduction: Temporal triangular alopecia (TTA), also known as congenital temporal alopecia; is a permanent, non-cicatricial form of alopecia, mostly seen in the frontotemporal region. It is most common in children aged 2-9 years, but it can also occur at birth or may first appear in adulthood. It affects both men and women and is more common in fair-skinned people. Alopecia is usually unilateral, triangular or oval in shape. It is generally asymptomatic but may present with dysesthesia in some cases. The diagnosis of TTA has become more well-known with the widespread use of trichoscopy. The aim of this report is to emphasize the importance of trichoscopic examination in the diagnosis of TTA, which can be confused with other non-cicatricial alopecias.

Case Report: A 7-year-old male patient applied to our outpatient clinic with the complaint of hair loss. On dermatological examination, the patient had a triangular shaped alopecia patch measuring 4.5x5 on the left frontotemporal region and another triangular shaped alopecia patch 2.5x3 cm on the right frontotemporal region. Vellus hairs were observed in the inner part of the patch, which was surrounded with normal hair. From the patient's history, it was learned that the lesions were present from birth and their area did not enlarge. On trichoscopic examination, normal follicular openings were observed. Vellus hairs some with length diversity, tuft of hairs and white hairs were also detected. Yellow and black dots and dystrophic hairs were absent. There were normal terminal hairs around the lesion. The patient was diagnosed with TTA with clinical and trichoscopic findings.

Discussion: TTA is a rare type of alopecia encountered in clinical practice. Recently, with the widespread use of trichoscopic examination, it has become easier to distinguish TTA from other alopecias. Childhood non-scarring alopecias, especially alopecia areata, trichotillomania, tractional alopecia and aplasia cutis congenita, are difficult to distinguish from TTA without trichoscopic examination. Although vellus hairs are observed in many types of alopecia, the difference in diameter in vellus hairs is reported as a specific finding for this diagnosis. In addition, it has been suggested that the observation of white hair in the lesions is a finding with high sensitivity in the diagnosis of TTA. With these findings, we reached the diagnosis of TTA in our case. With the use of trichoscopy, the diagnosis can be reached by non-invasive means, as in this case and in this way, interventional applications such as intralesional corticosteroid injection, which are not useful in treatment, can be avoided.

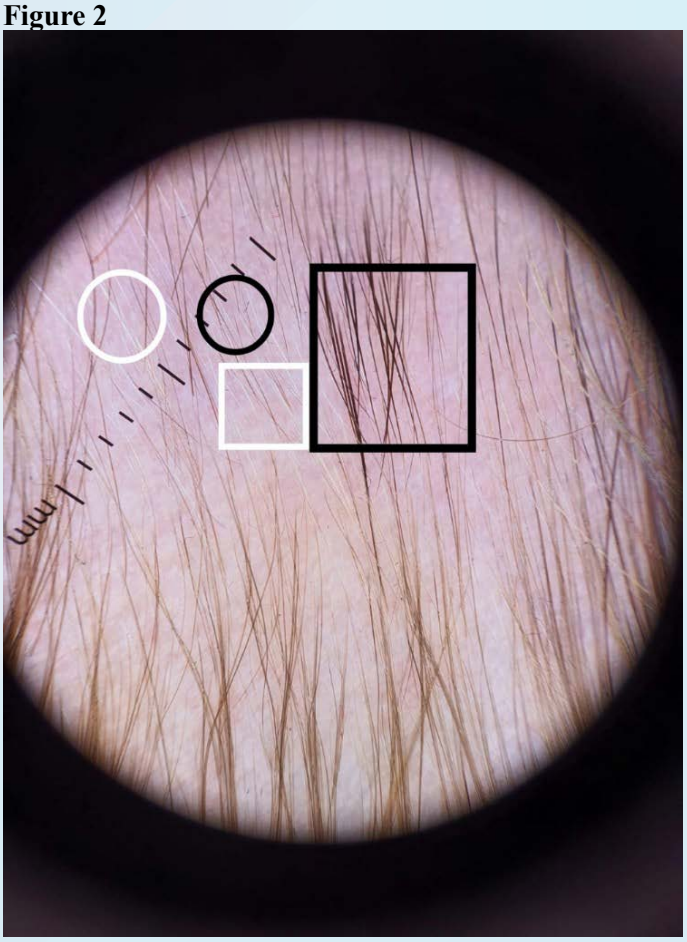
Keywords: alopecia, non-cicatricial, temporal, dermoscopy

Figure 1



Triangular patch of alopecia on the left frontotemporal region

Figure 2



Trichoscopic examination of the alopecic area: vellus hairs (black circle), white hairs (white circle), vellus hairs of different lengths (white square) tuft of hairs (black square)

PP-14 [Acne and Related Disorders, Hidradenitis Suppurativa]

Evaluation of dynamic thiol/disulfide homeostasis in patients with acne vulgaris

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[2]Department of Biochemistry, Izmir Katip Çelebi University, Izmir, Turkey

Introduction & OBJECTIVES: Acne is a chronic inflammatory disease of the pilosebaceous unit with multifactorial etiology. The role of oxidative stress in the pathogenesis of acne has been investigated in previous studies with conflicting results. In oxidative conditions the homeostasis is maintained by forming reversible disulphide connections between organic thiol molecules that acts as antioxidants. In this study, we aimed to evaluate dynamic thiol disulfide homeostasis parameters as a novel oxidative stress marker in acne patients.

Materials & METHODS: 63 patients with acne and age and gender matched 63 healthy controls were included in the study. Acne severity was classified according to the Global Acne Grading System. Serum Native thiol, disulfide, and total thiol levels were measured with an automated spectrophotometric method described by Erel and Neselioglu.

RESULTS: Total thiol and native thiol levels were significantly lower in patients with acne compared to healthy controls. Disulfide levels, disulfide/total thiol and disulfide/native thiol ratios were significantly lower and native thiol/total thiol ratio was significantly higher in the patient group than in controls. There was no statistically significant relationship with thiol disulfide homeostasis parameters, the duration of the disease and the severity of acne.

CONCLUSIONS: The shift of dynamic thiol disulfide homeostasis towards the thiol form in acne suggests that impairment of thiol disulphide homeostasis may play a role in the acne pathogenesis.

Keywords: acne vugaris, homeostasis, oxidative stress, thiol/disulfide

PP-15 [Infectious Diseases, Parasitic Diseases, Infestations]

Importance of a complete dermatological examination: Fungal infection or psoriasis vulgaris?

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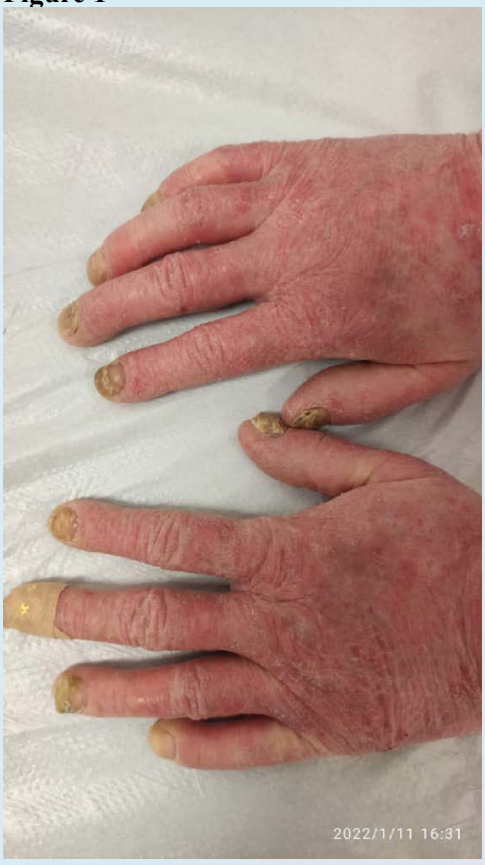
[2]Department of Dermatology, Ankara Yildirim Beyazit University, Faculty of Medicine, Ankara, Turkey

Psoriasis and fungal infections are two diseases that are similar in appearance and can be confused with each other in daily practice. In both diseases, red, round/oval shaped plaques can be seen in any part of the skin.

Therefore, a complete dermatological examination is necessary. In this case, we will present a case that shows the importance of full dermatological examination. A 35-year-old woman had complaints of yellowing and thickening of her fingernails 2.5 months ago. A few days later, red, itchy lesions appeared that spread to the dorsal face of both hands and forearms. Fifteen days ago, a sharply circumscribed plaque with erythema and scaling appeared around the left eye. A few days later, a sharply circumscribed erythematous plaque appeared on the right cheek. When the patient's face and extremities were fully examined, we made fungal examination from the fingernail, dorsum of the hand, around the eyelid and cheek of the patient with the suspicion of fungal infection, and the result was positive in all samples. We started oral terbinafine 250 mg/g for the treatment of fungal infection. In this case; It is aimed to emphasize the importance of performing a complete dermatological examination. It is intended to draw attention to fungal infections, which are shown as one of the great imitators.

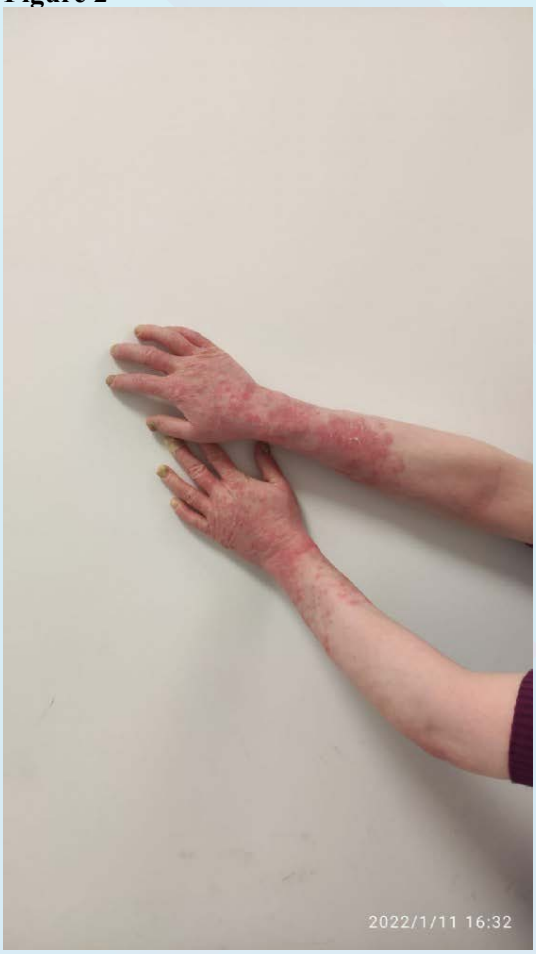
Keywords: fungal infections, nail, dermatological examination

Figure 1



Erythematous plaques on bilateral hand dorsum, yellow color and thickening of nails

Figure 2



Sharply demarcated erythematous plaques starting from the fingers and extending to the forearms

PP-16 [Infectious Diseases, Parasitic Diseases, Infestations]

A Crusted Scabies Case On HIV Positive Patient

Sena Inal Aptoula, Onur Sivaz, Birgül Özkesici Kurt, Ilknur K. Altunay
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INTRODUCTION: Crusted scabies (also called Norwegian scabies) is a rare manifestation of scabies, characterized by thick crusts that contain high of numbers of scabies mites. Spread is aided by close contact and predisposing factors include immune-compromised status, physical and mental debilitation, neurological disorders. Skin lesions consist of generalized, poorly defined, erythematous, fissured plaques covered by scales and crusts. Persistent itching is characteristic and is often worse at night and following a

hot bath. Clinical findings with the demonstration of mites, eggs and mite feces (scybala) is diagnostic. The treatment of crusted scabies does not only include scabicidals but also keratolytic agents to remove the thick crusts such as 5-10% salicylic acid in petrolatum, 40% urea or by soaking in a hot bath. Various topical agents and oral drugs used in the treatment of classical scabies are also used in treating crusted scabies. The sequential use of two or more different topical agents or a combination with an oral agent may be necessary. Several drugs have been in use to treat crusted scabies, including topical sulfur compounds, benzyl benzoate, crotamiton, lindane, malathion, permethrin and ivermectin. The disease can have high mortality, primarily due to sepsis.

CASE: A 29-year-old male patient with diagnosis of HIV infection since 2016 applied to infectious diseases department because of extremely itchy skin lesions. He was consultated to our deparment with widespread crusted lesions. He was on highly active antiretroviral therapy with Elvitegravir/Cobicistat/Emtricitabine/Tenofovir (respectively; 150/150/200/10 mg/day). At the moment of consultation, his viral load was <40 copies/mL and a total CD4 cell count of 723 cells/mm3. Dermatological examination revealed a generalized erythematous and scaly rash with intense hyperkeratotic lesions on his face, neck, trunk and extremities, interdigital areas, and genital area. There were no pathologic findings in the systemic examination. On microscopic examination we demonstrated the mites. The diagnosis of crusted scabies was established, and treatment with oral ivermectin 200 micrograms/kg on days 1, 2, 8, 9, and 15, and daily topical permethrin 5% lotion 7 days were given. He applied 10% urea daily as an emollient. His lesions resolved within 2 weeks after presentation.

DISCUSSION: This case report serves as a reminder to physicians to consider crusted scabies in 'difficult to treat' hyperkeratotic skin lesions especially in immunocompromised individuals. Such patients should be referred to dermatologists without delay.

Keywords: crusted scabies, HIV infection, scabies, Norwegian scabies, oral ivermectin

PP-17 [Infectious Diseases, Parasitic Diseases, Infestations]

Widespread Tinea Corporis That Mimicking Impetigo Contagiosum

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Background: Tinea corporis, one of the most common dermatophyte infections worldwide, refers to dermatophyte infections that develop in areas other than the hands, face, scalp, groins and feet. (1) Patients can become infected by close contact from an infected person, an infected animal, contaminated fomites, or contaminated soil or from secondary spread from other sites of dermatophyte infection. Tinea corporis typically presents as a well-demarcated, oval or circular, mildly erythematous, scaly patch or plaque. (2) Sometimes tinea corporis may mimicking with some skin disorders such as eczema, discoid lupus erythematosus, impetigo contagiosum, psoriasis, rocasea. (3, 4, 5) We describe here a case of a patient with widespread tinea corporis resembling impetigo contagiosum.

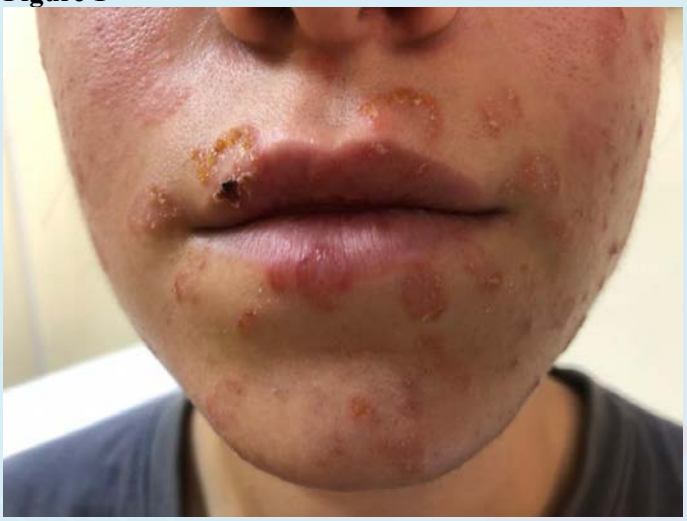
Case Presentation: 19-year-old healthy female was admitted our department with erythematous, well-circumscribed, rounded, pustular plaques on the face, arms, trunk, legs and and red, burning eyes that developed over three or four days. Some of plaques had honey-colored, yellow crusts. (Figure 1, 2, 3, 4) She described severe pruritus and tenderness. Her past medical history was unremarkable. Initially, impetigo contagiosum, erythema multiforme, subcorneal pustular dermatosis were considered as preliminary diagnoses. Amoxicillin-clavulanate 1000 mg peroral twice a daily, topical mupirocin cream twice a daily was administered. She was examined by ophthalmologist because of burning eyes, it was evaluated as bacterial conjunctivitis, and topical antibiotics were prescribed. In five days, her cutaneous eruption improved partially. Skin biopsy from arm showed intraepidermal pustule formation. It was not compatible with preliminary diagnoses. There was no microorganisms in swab culture and skin biopsy. On physical examination in fifth day, she had pale erythematous, sharply circumscribed, annular plaques. (Figure 5, 6) The appearance of the rash was consistent with classical tinea corporis. A potassium hydroxide (KOH) preparation with skin scrapings showed a lot of active hyphae. (Figure 7) She was diagnosed as

impetiginized tinea corporis. Because of the widespread infection, systemic terbinafine 250 mg peroral once a day, ketoconazole shampoo wash and naftifine cream twice a daily were prescribed. After four weeks, all skin lesions and complaints had regressed

Conclusion: Tinea corporis can sometimes resemble other skin diseases like eczema, discoid lupus erythematosus, impetigo. In our case, rapidly spreading pustular, yellow crusted, bright erythematous plaques and the accompanying bacterial conjunctivitis initially suggested impetigo contagiosum. Approach to the patient with annular or rounded skin lesions, we should keep tinea infections in mind. And we should performed the basic potassium hydroxide (KOH) preparation with skin scrapings in the diagnosis process.

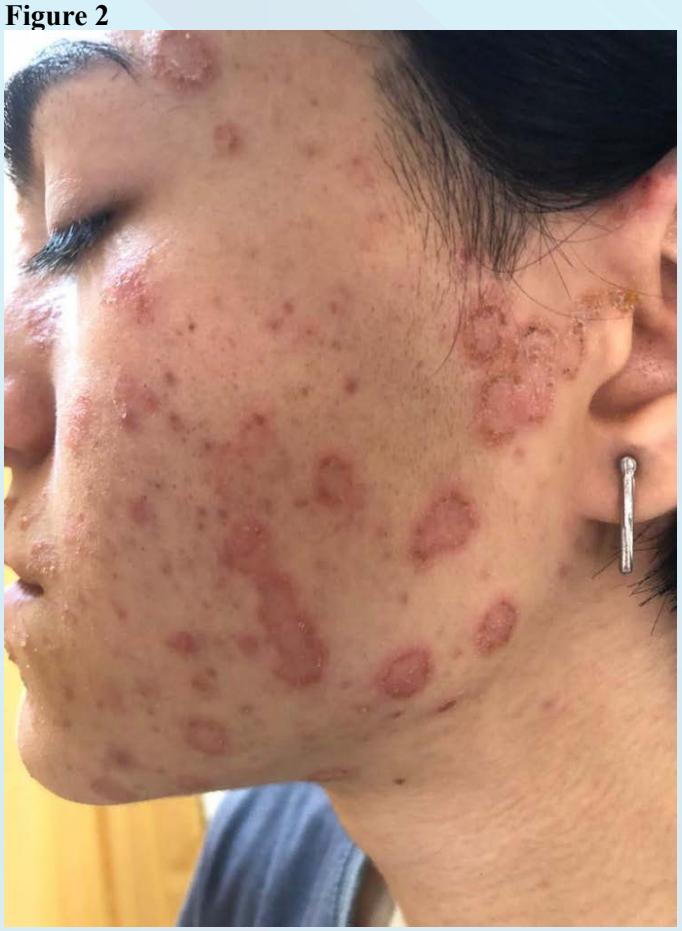
Keywords: tinea corporis, impetigo, potassium hydroxide preparation

Figure 1



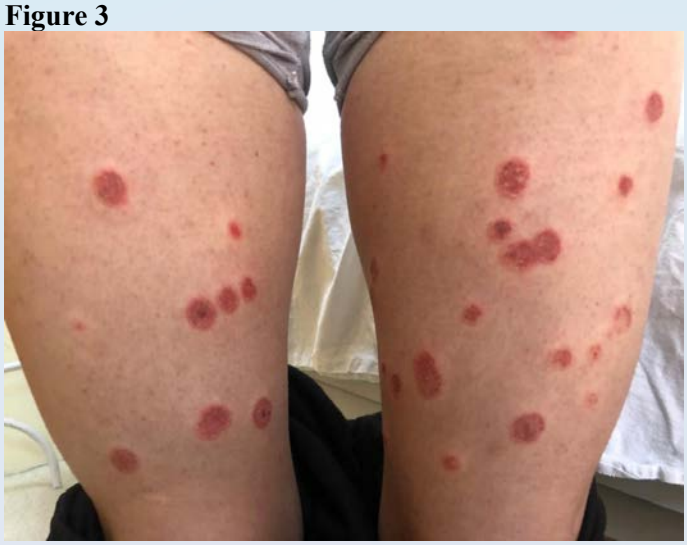
Erythematous plaques with yellow crusts on face

Figure 2



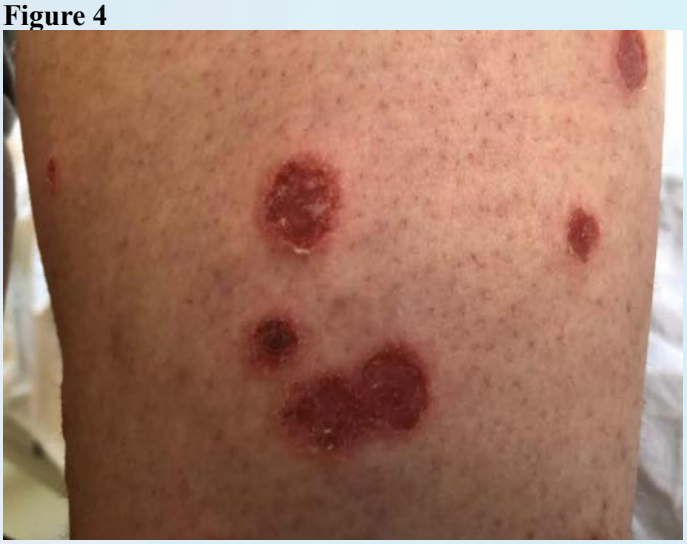
Erythematous plaques with yellow crusts on face

Figure 3



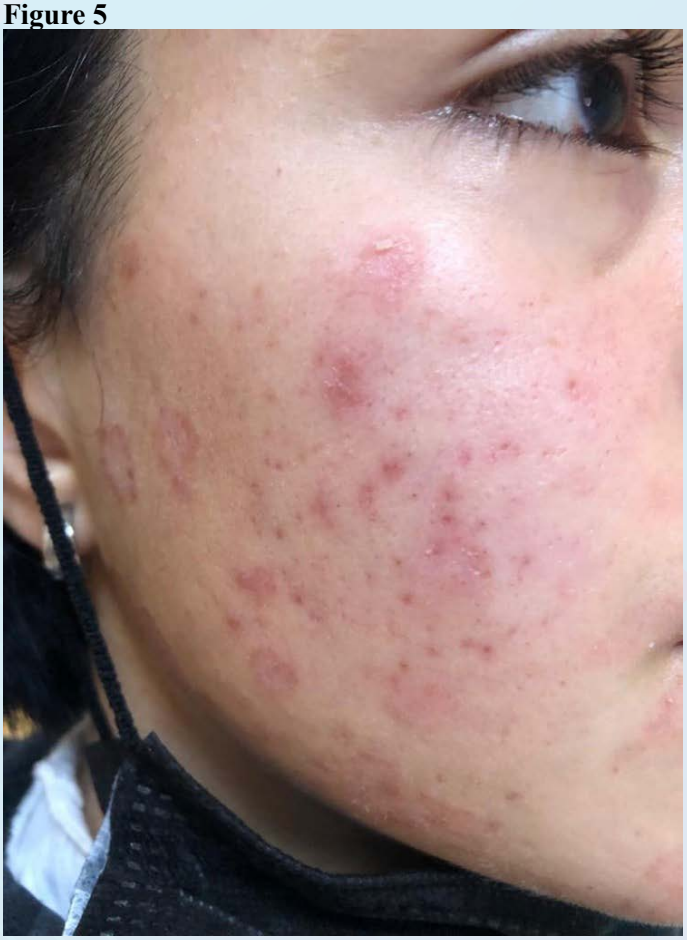
Erythematous, pustuler, rounded plaques on legs

Figure 4



Erythematous, pustuler, rounded plaques on legs

Figure 5

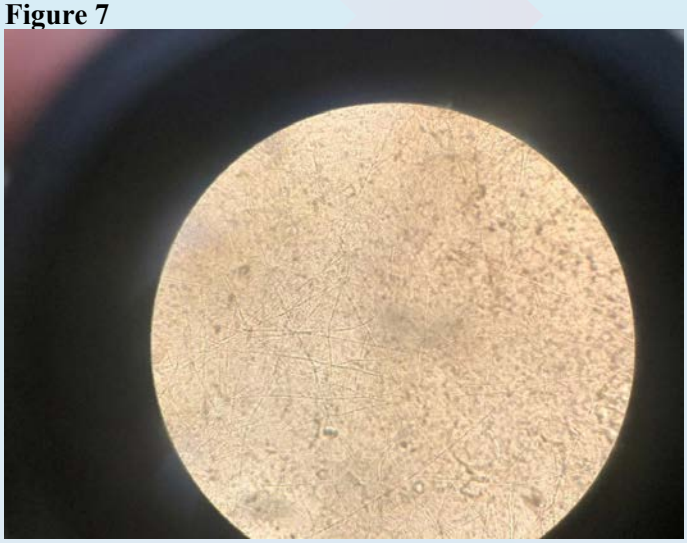


Regression of lesions after systemic and topical antibiotic

Figure 6

Regression of lesions after systemic and topical antibiotic

Figure 7



A lot of active hyphae on potassium hydoxide preparation

PP-18 [Adverse Drug Reactions, TEN]

Temozolamide-induced drug eruption

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Glioblastoma is the most common form of primary brain cancer. Treatment includes surgery, radiotherapy, and chemotherapy with an oral alkylating agent, temozolomide. To our knowledge, rare dermatological side effects of temozolamide have been described. In this case, a 60-year-old male patient with maculopapular erythematous lesions and desquamation caused by temozolamide during and after radiochemotherapy treatment was studied.

Keywords: Glioblastoma, Temozolamide, Drug Eruption

PP-19 [Autoimmune Connective Tissue Disorders]

Sneddon Syndrome: A Case Report

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Sneddon syndrome is a rare neurocutaneous disease of unknown cause. The characteristic of the syndrome is the coexistence of diffuse livedo reticularis and recurrent central nervous system findings. An English dermatologist, Sneddon, first noticed the relationship between ischemic cerebrovascular disease, ischemic dermatopathy, and livedo reticularis in 1965. The cause of this syndrome, described by Sneddon, is unknown. In this report, a 46-year-old female patient with recurrent livedo reticularis and ischemic radiological findings in the central nervous system was reviewed.

Keywords: Sneddon Syndrome, Livedo reticularis, Nervous System

PP-20 [Photobiology and Photoallergy]

Skin reaction due to UVC radiation used to inactivate SARS-CoV-2 virus

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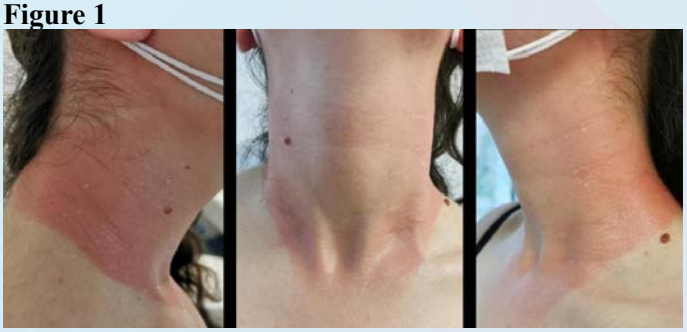
With the severe acute coronavirus (SARS-CoV-2) pandemic, measures to inactivate viruses have been used intensively in all areas of life. Irradiation with ultraviolet C (UVC) has become a more common method for decontamination of both the environment and equipment. Ultraviolet C (UVC) is the UV light spectrum at a wavelength of 100-280nm. UVC lamps with an emission peak of 254 nm are the most commonly used tools to inactivate or kill bacteria and viruses. However, UVC has harmful effects on human skin and tissues. Solar UVC is completely filtered by the stratospheric ozone layer of the atmosphere and cannot reach the earth (1, 2). For this reason, the harmful effects of UVC in humans are not something we encounter under normal conditions. Here, we want to present the skin findings of a healthcare worker who developed a skin reaction after a very short exposure.

A 25-year-old female healthcare worker presented with complaints of erythema, mild edema, itching and burning around the neck. In her story, it was learned that during the 12-hour watch period, she entered and exited her cabin intermittently about 10 times, for 1-2 minutes, and was exposed to the radiation of the UVC lamp in the cabin, which produces light at a wavelength of 254 nm. Her complaints started within 24 hours of UVC exposure. In her dermatological examination, there was diffuse erythema and mild edema around the neck, which was sharply demarcated from the area covered by the clothes (Figure 1). During sampling, our patient's

face area was protected from reaction, by a protective mask, goggles and a bonnet. Only area around the neck that is not covered by clothing is affected as sharply defined. Moisturizing cream containing triticum vulgare extract and cream containing 0.1% hydrocortisone-17-butyrate were used alternately, twice a day. One week later, it was observed that the erythema faded and the complaints of burning and itching regressed. There were also complaints of burning, stinging and blurred vision in the eyes. In the eye examination, punctate epithelial erosions were detected. It was followed up with topical carbomer and artificial tear drops and the findings were found to be regressed in the control. No new lesion or skin cancer developed in the 1-year follow-up of our patient. If UVC can reach the earth's surface, or if artificial exposure to UVC occurs, it can penetrate the stratum corneum and upper epidermis layers of the skin. Therefore, its effects are expected to occur in more superficial layers (1). In our case, despite the very short exposure, a rapid and intense picture emerged, but it resolved without leaving a trace. The effects of UVC exposure on humans are not normally encountered. Therefore, we think that this case is important in terms of showing the effects of short-term UVC exposure on the skin. It is important to increase the awareness of health workers in the areas where these lamps are used in order to prevent such risks.

Keywords: Antimicrobial effect, burning, Ultraviolet C irradiation

Figure 1



Erythematous lesions around the neck

PP-21 [Wounds, Chronic Wounds, Wound Healing, Ulcer]

A Case Of Prolonged Acute Radıodermatitis Developing After Repeat Coronary Angiography

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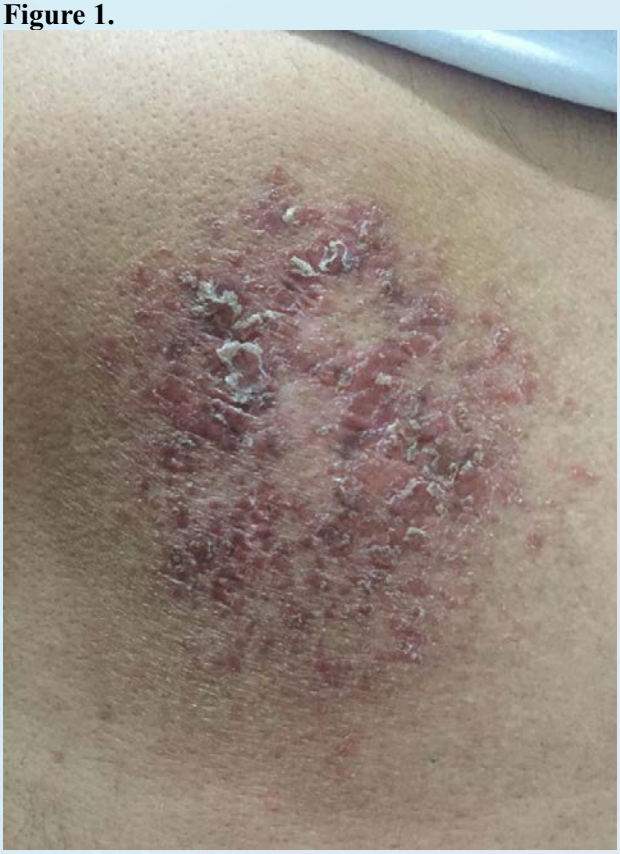
Radiodermatitis is an important dose-dependent side effect of external ionizing radiation. Although it is usually caused by radiotherapy, it can also rarely develop due to radiation exposure during interventional procedures such as coronary angiography, embolization procedures and permanent catheter placement. A 52-year-old male applied to our clinic with the complaint of a red lesion that developed on his back 8 months ago. In the dermatological examination; a lichenified, slightly erythematous, scaly papuloplaque with pale erythema and healed intact skin islets in the middle was observed in the left scapular area. His complaints started in November 2020, 3 weeks after the first coronary angiography and stent insertion, which lasted for seven hours. After the second coronary angiography and stent insertion in January 2021, which lasted for four hours, his symptoms exacerbated. In the photograph taken at that time; erythematous, leaky, edematous plaque with eroded areas and remnants of bullae covering more than half of the plaque were observed. The patient applied to different centers, but no specific diagnosis was made and he did not benefit from the treatment. In the skin punch biopsy taken from the patient who applied to us in August 2021; superficial perivascular mononuclear inflammatory cell infiltration and vacular degeneration in the basal layer were observed. The onset of complaints weeks after exposure, the patient's initial photograph and current dermatological findings led us to the diagnosis of prolonged acute radiodermatitis. Betamethasone dipropionate 0.005% ointment treatment was started. The patient who could not attend the control examination was contacted; the patient said that his complaints had completely regressed. He sent us the photo of his last status. Acute radiodermatitis is one of the most common reactions to ionizing radiation and usually occurs within 90 days of exposure. The severity of the reaction ranges from mild erythema to moist desquamation and ulceration. Acute radiodermatitis is expected to improve with mild skin changes. Rarely, acute radiodermatitis may not heal and changes may develop, including chronic wounds. In contrast, chronic radiodermatitis is a true late stage reaction that develops months or years after

exposure. Since the destruction of basal keratinocytes impairs wound healing, repeated exposures do not allow time for tissue and cells to repair. Risk factors for radiodermatitis include prolonged or multiple procedures that create radiation exposure. Radiation dermatitis that develops following coronary procedures is most commonly seen in the midline of the back, scapular region, right anterolateral chest, and under the right axilla. Emollients, dressings, topical corticosteroids, and surgical interventions are the treatment options for radiodermatitis. We presented this case to draw attention to radiodermatitis, which may be encountered more frequently due to the increasing use of fluoroscopy.

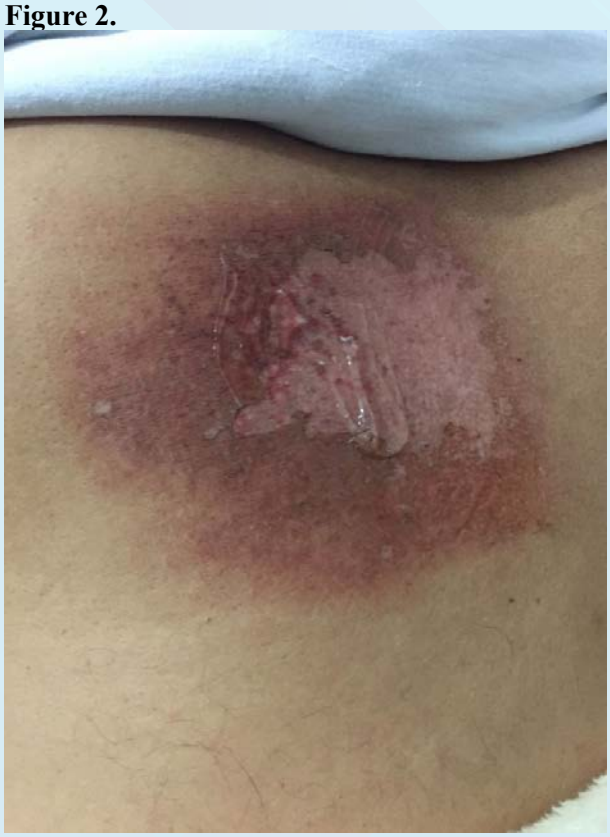
Keywords: radiodermatitis, coronary angiography, fluoroscopy

Figure 1.



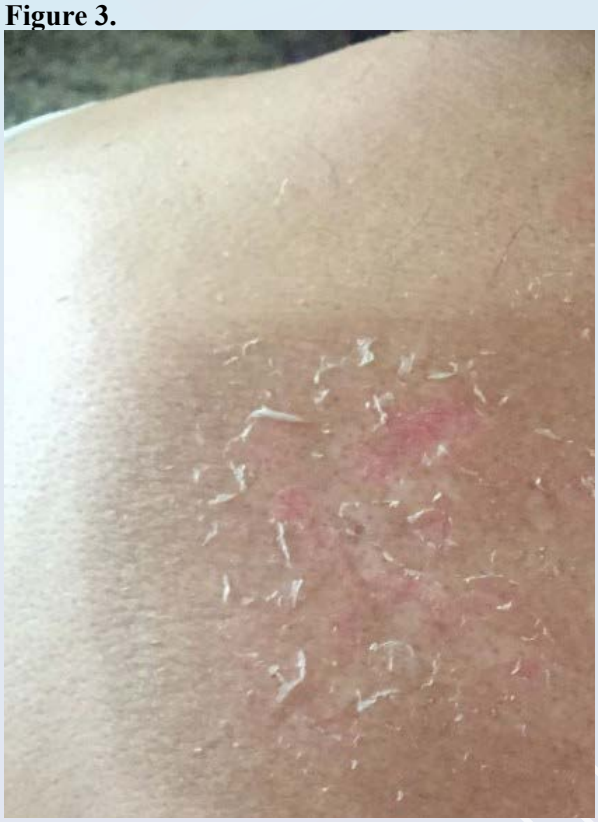
Photograph of the patient at the time of first admission to us (lesion from which skin biopsy was taken)

Figure 2.



Photograph of the lesion taken before the patient applied to us

Figure 3.



Post-treatment photo of the patient

PP-22 [Urticaria, Angioedema]

The relationship of cold urticaria with nutrition: Case Report

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Chronic urticaria means red itchy or burning wheals and/or angioedema persist for more than 6 weeks.Cold urticaria is a type of chronic inducible urticaria that develops within minutes on areas of skin exposed to cold. In this study, we analysed our patient who has cold urticaria and we evaluated the relationship between nutrition and urticaria temperature threshold.

CASE: A 40-year-old male patient was admitted to our outpatient clinic with the complaint of urticaria attacks that had been going on for 2 months. He stated that mostly urticaria attacks occur when he encounters a cold environment and that urticaria wheals occur in various parts of the body and they disappear in less than 1 hour. The photographs shown by the patient were consistent with urticarial wheals. He stated that he had 2 attacks of urticaria during this period, and that he used antihistamine drugs. His complaints were significantly relieved with the medicatios.He did not describe angioedema. During the urticarial attacks,there was no fever, abdominal pain and joint pain. There was no active urticaria plaque in his physical examination. Symptomatic dermographism test was evaluated as negative. According to the patient's anamnesis, cold provacation test was planned since he had urticaria attacks triggered by cold. The TempTest was used in our study. It provides a continous temperature gradient along ıts lenght from 4 to 44. In this way, the criticial temperature threshold is determined.In order to determine the relationship of cold urtıcaria with food, the temp test was repeated both in fasting and fead state. As a result of the test, we found that, swelling is occurred from 4 degrees to 22 when the patient is hungry and when he is full swelling is observed from 4 degrees to 20 (uas: 1 0 uct:2 4 3 3). In laboratory findings, Sedim:4 and CRP:1 were in the normal range. ANA:-,Total IgE: 88 and there was no eozonophilia. The patient's antihistamine medication was changed and he was told to take it once a day. He stated that his urticaria wheals disappeared in his follow-up 1 month later. (uas:1 0 uct:3 4 4 4)

DİSCUSSİON: Cold-induced urticaria is one of the types of chronic inducible urticaria and is rarely seen. In addition, there are other inducing factors such as pressure,solar,cholinergic vb. Recently, it has been thought that nutrition together with these triggers may also play a role in the pathogenesis of urticaria. Histamine immunoreactivity increases in intestinal mucosal mast cells following vagal stimulation. This provides a guide for the relationship between nutrition-inducible urticaria types. Some studies have shown the relationship between symptoms and food in patients with cold urticaria and symptomatic dermographism. The underlying mechanisms currently unclear and need investigation. More studies are needed to determine the prevalance and real life implications in these patients

Keywords: Chronic ınducible urticaria, Food-dependent cold urticaria, Temp test

TempTest when patient is full

TempTest when patient is hungry

PP-23 [Angiology, Haemangiomas, Vascular Malformations, Vasculitis]

Klippel-Trenaunay syndrome: a case report

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Klippel-Trénaunay syndrome is characterized by a clinical triad of extremity varicosities, cutaneous vascular malformations, and hypertrophy of soft tissues and long bones. The diagnosis is clinically supplemented with magnetic resonance imaging and tomography. We report the case of 3-year old male with Klippel-Trénaunay syndrome who presents with painfull ecchymosis and varicosities of the left.

Keywords: Klippel-Trénaunay syndrome, vascular malformation, venous malformation

PP-24 [Allergology and Immunology]

A rare report case: Autoimmune mastitis associated with Sjögren's syndrome

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Primary Sjögren's syndrome (pSS) is a systemic autoimmune disorder characterized by focal lymphocytic infiltration of the exocrine glands causing dry eyes and dry mouth(keratoconjunctivitis sicca and xerostomia). Sjögren's syndrome is well known to target exocrine glands, especially lacrimal and salivary glands, which share with mammary glands anatomical, histological, and immunological features.Classical involvement of the mammary glands is rare in SJS, and 11 cases accompanied by autoimmune mastitis (acinar atrophy with interstitial fibrosis and lymphocytic atrophy) have been reported in the literature so far. Coexistence of granulomatous mastitis was reported in 3 cases. We present a very interesting and rare case of primary sjögren's presenting with inflammatory mastitis. It is noteworthy that autoimmune mastitis poses a diagnostic challenge and the biopsy findings in the case are characteristic for autoimmune epitheliitis.

CASE: A 39-year-old female patient presented with complaints of pain in both breasts and nipple discharge for 1 year. An increase in stromal connective tissue and scattered fibrocysts were detected in the mammography of the patient who was multiparous and had a history of oral contraceptive use. Breast USG revealed fibrostromal connective tissue increase in both breasts and simple and complex cysts, the largest of which was 20 mm in diameter. A large number of epithelioid histiocyte-type inflammatory cells and a few giant cells were observed in the cytomorphological examination of breast aspiration (in Pap and H.E stained preparations under light microscopy). Tru cut bx: diffuse interlobular fibrosis and local lobular atrophy were detected. Character of inflammation; periductular and periacinar lymphoplasmocyte type inflammatory cell dominant clusters (more than 50 cells in 1 lobule), epitheliitis, epithelioid histiocyte formations. In the evaluation made in immunology, the Schirmer test for dry mouth and dry eyes at 3 months was positive below 5 mm (keratoconjunctivitis sicca). The patient underwent salivary gland biopsy. Similarly, in seromucous type salivary gland biopsy, mature small morphological lymphocytes (more than 50) and a small number of plasmocytes were observed in 11 of 13 lobules

that formed aggregates in the periductal region. SJS was diagnosed in the patient who had positive ANA, Anti-SSA and Anti-SSB antibodies. The autoimmune mastitis detected in this patient was evaluated as consistent with the classical involvement of the exocrine glands of SJS (autoimmune exrinopathy). Immunosuppressive treatment was started and the patient was followed up.

CONCLUSION: Classical involvement of exocrine glands may lead to mastitis in SJS Sjögren's syndrome. The first sign of SJS may be mastitis.

Keywords: Autoimmune exocrinopathy, sjögren, mastitis, autoimmune mastitis

PP-25 [Inflammatory Skin Diseases]

A Case Of Severe Amicrobial Pustulosis Of The Folds Unresponsive To Ustekinumab Treatment

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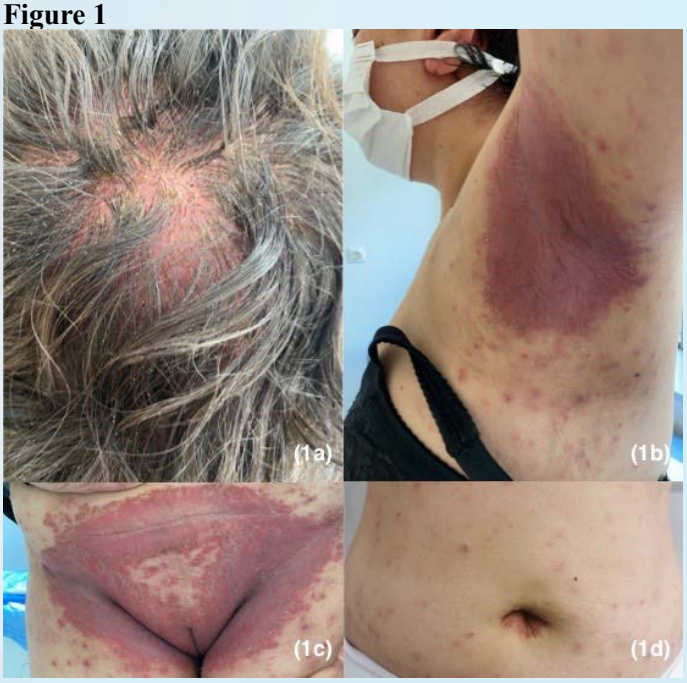
Introduction: Amicrobial pustulosis of the folds (APF) is a disease of relapsing aseptic pustules that are located on the scalp, cutaneous folds, external ear canal, axillary region, and vulva. APF is a rare, chronic, and relapsing disease belonging to neutrophilic dermatosis. The disease is often associated with autoimmune diseases and female sex. Since its first description less than 100 cases are found in the literature. Herein we report a case of APF and discuss this hard to diagnose and manage disorder.

Case report: A 39-year-old otherwise healthy woman was referred to our clinic for weeping pustular dermatosis present for one year. The rash began as erosive and erythematous plaques in her axillary and inguinal folds, before rapidly appearing on scalp, pubis, umbilical fold, retroauricular folds, and external auditory canals. On physical examination, diffuse erythema with scattered pustules and yellow crusts were observed on the scalp with partial alopecia (Fig. 1a). Bright and macerated erythematous plaques with fissuration and pustules were scattered on the axillary folds, inguinal folds, umbilicus, pubis, and inframammary area (Fig. 1b-c). On both normal-appearing skin mainly involving the abdomen and both extremities, a generalized pustular eruption was noted (Fig. 1d). Laboratory test revealed an ANA titer of 1:100 and elevated C reactive protein level. Histopathological examination revealed epidermal orthokeratosis, neutrophilic infiltration in parakeratotic areas, and papillary edema with dermal dense perivascular mixed type inflammation (Fig. 2). With typical clinical signs and histopathological findings, we diagnosed her as APF. Oral methylprednisolone 40 mg was started. Her lesions were improved; but as we tried to taper corticosteroids after a month, her lesions relapsed. Colchicine was started but did not result in any benefit. 4 months after oral steroid therapy, ustekinumab was administered without any benefit after 4 months of use. The patient is still using systemic corticosteroid therapy as her lesions flare up intermittently.

Discussion: APF is recently considered as an auto-inflammatory neutrophilic dermatosis in respect to neutrophilic characteristic of skin infiltrates and overall cytokine profile of patients. There is no codified therapeutic approach to APF. Topical and systemic corticosteroids, oral antibiotics, zinc supplementation, colchicine, hydroxychloroquine, dapsone, cyclosporine, and methotrexate are reported as treatment options in literature. Two case reports showed patients with Crohn's disease improved with ustekinumab. Our patient didn't show any improvement with ustekinumab. We think that treating the associated autoimmune disease with ustekinumab may lead to improvement in both patients. Diagnosing and treating APF is hard since it is rarely encountered in routine practice and treatment methods are mainly anecdotal. Further cases will aid clinicians to find a more suitable treatment protocol in the future.

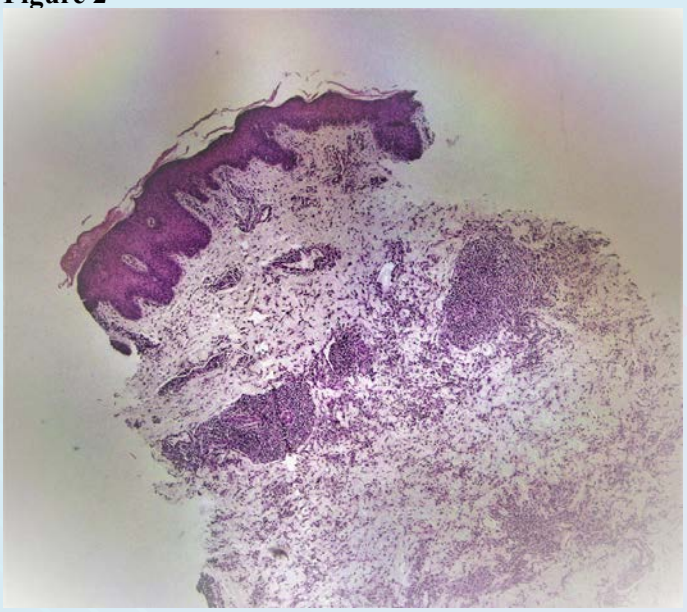
Keywords: Amicrobial pustulosis of the folds, ustekinumab, treatment

Figure 1



Alopecia and diffuse erythema with scattered pustules (a), bright and macerated erythematous plaques with fissuration and pustules on the flexures (b-c), generalized pustular eruption on the abdomen (d)

Figure 2



Epidermal orthokeratosis, neutrophilic infiltration in parakeratotic areas, and papillary edema with dermal dense perivascular mixed type inflammation (HEx40)

PP-26 [Autoimmune Bullous Diseases]

Paraneoplastic Epidermolysis Bullosa Acquisita Associated with Gastric Carcinoma

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Epidermolysis bullosa acquisita (EBA) is a chronic, rare autoimmune disease caused by autoantibodies against type VII collagen. It is characterized by the development of subepithelial bullae on the skin and mucous membranes exposed to trauma as a result of autoantibodies. Many subepidermal immune bullous diseases may be associated with underlying chronic inflammatory disease or malignancy. EBA has been associated with numerous systemic diseases, including inflammatory bowel disease, systemic lupus erythematosus, rheumatoid arthritis, amyloidosis, diabetes, thyroiditis, and other endocrinopathies. It has also been reported that EBA is associated with hematological diseases and solid tumors. Herein, we report the case of a 70-year-old male patient with gastric cancer who did not improve despite total resection and continued to develop mucocutaneous bullae as a result of lymph node metastasis.

Keywords: Epidermolysis Bullosa Acquisita, Paraneoplastic,Gastric

PP-27 [Adverse Drug Reactions, TEN]

Amiodarone-induced cutaneous leukocytoclastic vasculitis: a case report and a review of the literature

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Amiodarone is a drug of choice in a variety of arrhythmias. Given its widespread use, the probability of clinicians encountering its cutaneous adverse effects is high. Although a few cases of amiodarone-induced cutaneous vasculitis are reported in medical literature, it is possibly underdiagnosed in clinical practice. Indeed, amiodarone's

cutaneous reactions may present a wide range of manifestations and are sometimes difficult to diagnose. Herein, we report a case that manifested a sizeable necrotic ulcer on the left lower leg shortly after amiodarone exposure. A rigorous diagnostic study was performed before arriving at the diagnosis of amiodarone-induced cutaneous vasculitis, which showed the histopathological features of leukocytoclastic vasculitis. After unsuccessful treatment attempts, the lesion was almost completely healed by the third month of discontinuation of amiodarone. To our knowledge, there have been seven previous amiodarone-induced cutaneous vasculitis cases in the literature. We reviewed previous cases and presented our case compared to previous cases in this article.

INTRODUCTION: Amiodarone is a class III antiarrhythmic agent used to treat variety of arrhythmias1. Numerous adverse reactions, some life-threatening, have been described, including pulmonary toxicity, thyrotoxicosis, cardiac dysrhythmia, hepatitis, ocular toxicity, and cutaneous reactions2-7. Adverse skin reactions are comprised of photosensitivity, bluish-slate gray discoloration of the skin (so-called "blue man syndrome"), hyperpigmentation, pseudoporphyria, bullous dermatitis, and cutaneous vasculitis7. Cutaneous vasculitis is even rarest amongst those reactions because there are only a few cases of amiodarone-induced vasculitis have been reported in the medical literature9. We present a patient who developed leukocytoclastic vasculitis twenty days after exposure to amiodarone in this article. Moreover, we aim to enhance awareness about amiodarone-induced vasculitis, which is probably overlooked.

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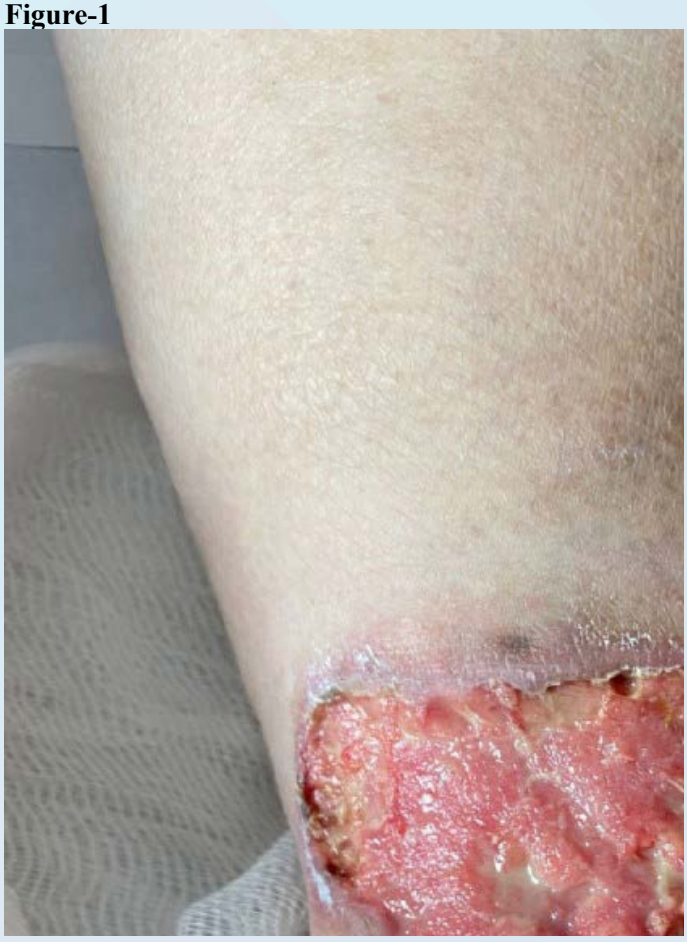
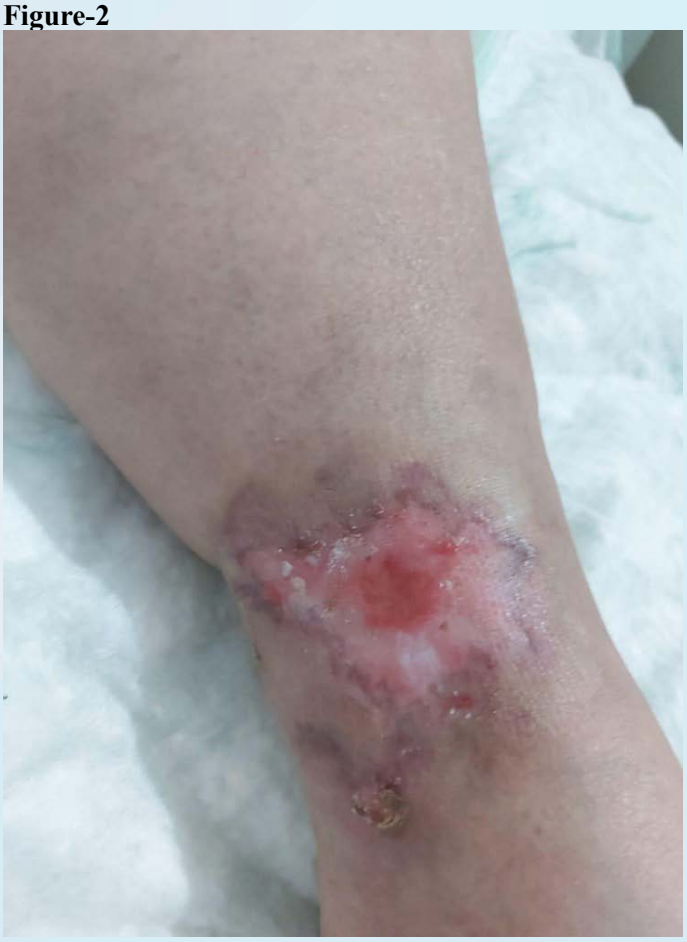
Keywords: Amiodarone, adverse effects, cutaneous leukocytoclastic vasculitis, skin ulcer

Figure-1



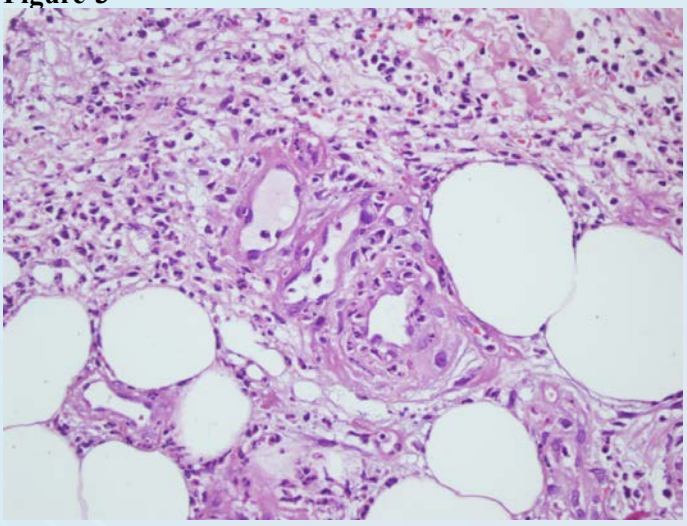
An ulcer on lower leg with well defined borders and nonpurulent base

Figure-2



Same ulcer healing from the periphery after discontinuation of amiodarone

Figure-3



A skin biopsy specimen displaying the typical features of leukocytoclastic vasculitis including fibrin deposition in the vessel walls, polymorphonuclear leukocytes attacking vessel walls, and extravasated red blood cells

PP-28 [Paediatric Dermatology]

Bullous scabies, report of four cases supporting the hypotesis of superinfection

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Bullous scabies is a rare subtype of scabies, with predilection of elderly males. Its median age is 70. The mechanisms of bullous scabies is not fully understood; superinfection, friction due to pruritus, autoeczemation, direct injury from scabies mite's lytic enzymes, cross-reactivity of scabies protein with basal membrane zone antigens are considered to be possible reasons. We herein report four pediatric cases of bullous scabies two with hemorrhagic bullae, supporting superinfection mechanism.

Keywords: Bullous Scabies, Hemorrhagic Bullous Scabies, Pediatrics, Superinfection

Figure-1

7 years old boy, scabies burrows and hemorrhagic bullae on his palm

PP-29 [Nail Disorders/Diseases]

A 34-year-old Case of Acquired Idiopathic Total Leukonychia

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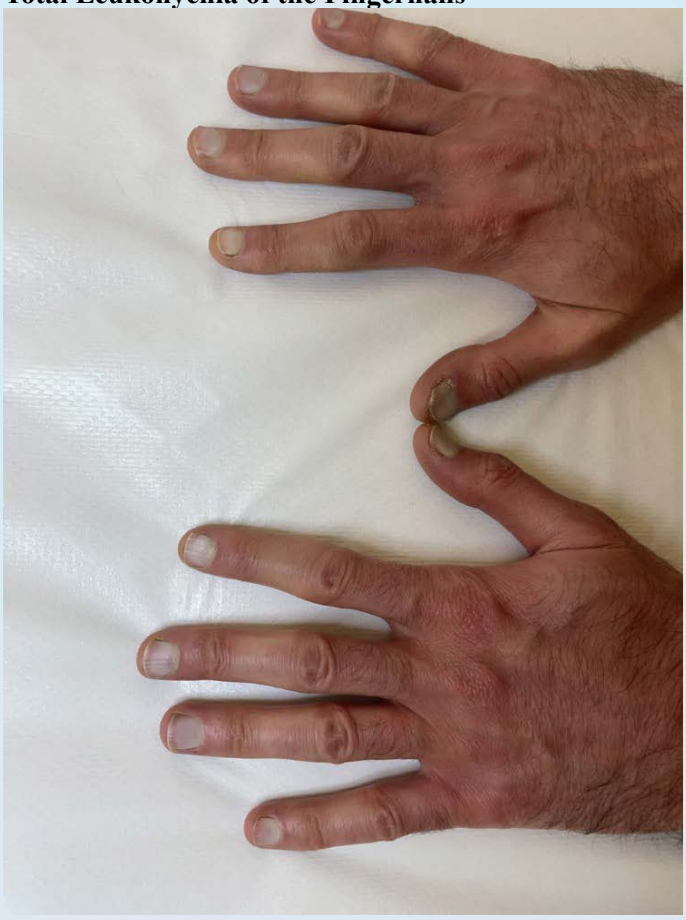
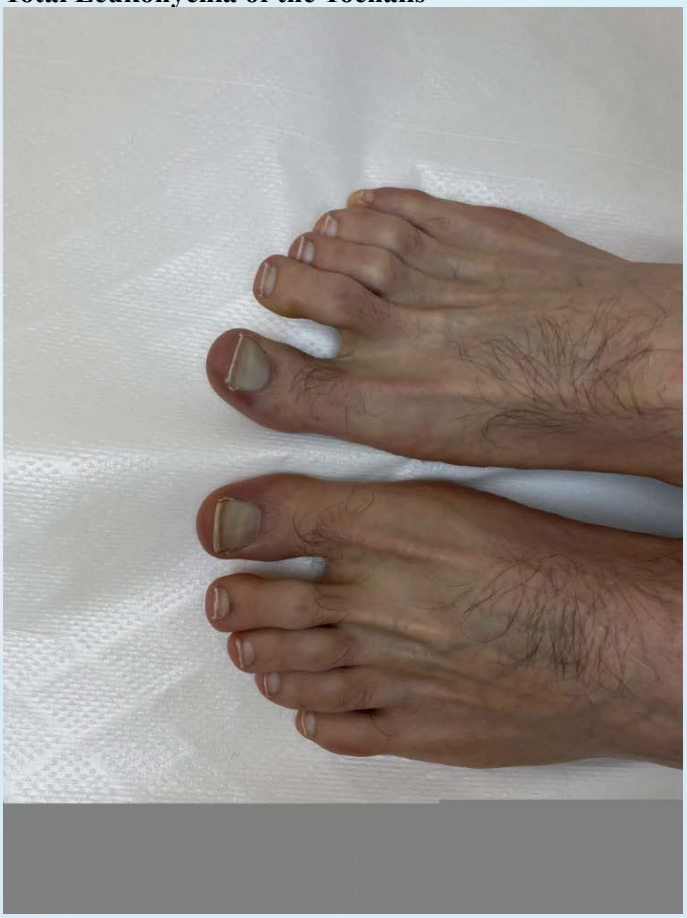
Leukonychia is a white discoloration of the nail plate. It can be hereditary or acquired. Acquired leukonychia may cause trauma, drugs, infections, hypocalcemia. True leukonychia, which results from matrix keratinization, can be observed in three different morphologies: punctate, striate and total (diffuse) leukonychia. Total leukonychia is rare, mostly inherited alone or as part of syndromes. In our case, total leukonychia was acquired and idiopathic. A 34-year-old male patient presented with whiteness on all fingernails and toenails for 3 or 4 years. He had no significant illness, trauma in his medical history. He was not on any medications, and not exposed any chemicals. There was no family history of leukonychia. On examination diffuse total leukonychia was observed in all fingernails and toenails. There was no other abnormality on whole body examination. The routine complete blood count, liver function test, renal function tests were within normal limits. There was only mild elevation in triglyceride value. Total leukonychia was considered as idiopathic acquired total leukonychia, since other causes of leukonychia were excluded in the patient. Leukonychia is the white discoloration of the nail plate. It is the most common nail discoloration. If this color change originates from the matrix, it is also called true leukonychia. True leukonychia is histopathologically caused by the keratinization disorder of the nail plate, and it should be differentiated from other causes of white nails. These are apparent leukonychia which is white discoloration that disappears with pressure, and pseudoleukonychia caused by superficial white onychomycosis. Subtypes of true leukonychia have been identified. These are punctate leukonychia, transverse leukonychia and total leukonychia. Apart from this, leukonychia can be classified as congenital and acquired. Total leukonychia is defined as diffuse involvement of the entire nail plate. It is rare and inherited in an autosomal dominant pattern. Mutations in PLCD-1 and GJA1 genes can cause total leukonychia. It occurs alone or as part of syndromes. For example, knuckle pads deafness and total leukonychia are seen together in Bart-Pumphrey syndrome. Idiopathic acquired total leukonychia is a very rare condition and is not accompanied by any other systemic findings. More than ten idiopathic acquired total leukonychia have been reported in the literature so far, the common feature among them is that they are all young male patients. Idiopathic acquired total leukonychia has no known cure, only a cosmetic problem. In conclusion, cases of acquired idiopathic leukonychia totalis are rare and have been reported as case reports in the literature. Therefore, we wanted to present our case.

Keywords: total leukonychia, white nail, leukonychia

Total Leukonychia of the Fingernails



Total Leukonychia of the Toenails



PP-30 [Psoriasis]

A case of a paradoxical palmoplantar pustular psoriasis associated with certolizumab pegol

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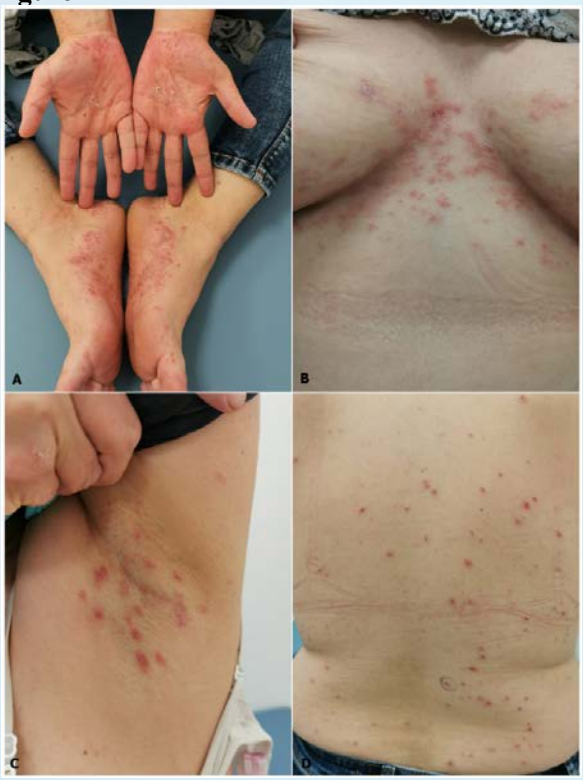
INTRODUCTION: Certolizumab pegol (CZP) is an Fc-free, a PEGylated tumor necrosis factor-α (TNF-α) inhibitor, biologic agent. It is used in moderate-severe plaque psoriasis, rheumatoid arthritis (RA), psoriatic arthritis, Crohn's disease, ankylosing spondylitis (AS), non-radiographic axial spondyloarthritis. Although it has been used successfully in the treatment of psoriasis, rarely cases of paradoxical psoriasis have been reported as a side effect as a result of its use in the treatment of RA, AS and other spondyloarthropathies and inflammatory bowel diseases (IBD). Herein we present the case of a paradoxical psoriasis in a patient using certolizumab for ankylosing spondylitis.

Case presentation: A 36-year-old female patient presented to our clinic with wounds on her body, palms and soles. In her past medical history, after using 6 doses of CZP for ankylosing spondylitis her complaints started. Dermatological examination revealed papular lesions 1-3 mm in diameter, erythematous, itchy, and thin scaling on both axillary regions, intermammarian region, under the breasts and back. There were papulopustular, scaly, itchy lesions on palmoplantar areas on an erythematous background. Histopathological examination of the skin biopsy taken from the patient's back was found to be compatible with psoriasis. The patient's CZP treatment was discontinued. After a two-weeks washout period, 15 mg/week subcutaneous methotrexate treatment was started. After eight doses of methotrexate treatment, perifollicular, erythematous, scaly lesions on the scalp and extensive hair and nail loss appeared. At the same time, an increase in psoriasis lesions was observed. Methotrexate treatment was also discontinued and topical calcipotriol betamethasone combination and moisturizer were recommended. The patient's skin lesions regressed with topical treatment. Hair and nails started to grow again 3 months after stopping the drug. Psoriasis lesions regressed, leaving postinflammatory hyperpigmentation in the dorsal region, and there was no recurrence. The patient is still being followed up without any systemic treatment.

DISCUSSION: Immune-mediated inflammatory diseases are complex clinical events that can be both ameliorated and induced by intervention in the dynamics of the inflammatory cytokine response. Despite many studies, the pathomechanism of this dermatitis induced by anti-TNF-α is not yet fully understood. The incidence of psoriasiform dermatitis associated with anti-TNF-α is 1.04-3 per 1000 persons in a year. The majority of reported cases are associated with infliximab, adalimumab, and etanercept. To our knowledge, only 18 cases have been reported associated with CZP. In some of reported cases, there was scalp involvement accompanied by alopecia, which was seen at a later stage in our case. It is thought that this case will contribute to the literature with these aspects.

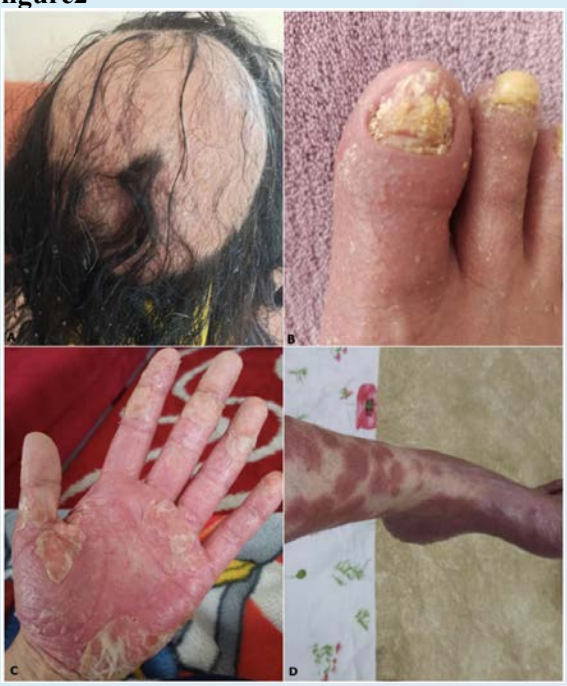
Keywords: certolizumab pegol, paradoxical psoriasis, tumor necrosis factor-α inhibitor

figure1



erythematous, itchy, and thin scaling papular and papulopustular lesions represented in A.) palmoplantar areas B.) intermammarian and under the breasts region C.) axillary regions D.) back region

figure2



After eight doses of methotrexate treatment, perifollicular, erythematous, scaly lesions represented A.) on the scalp and extensive hair and B.) nail loss appeared C-D.) increase in psoriasis lesions

PP-31 [Dermatology and Internal Medicine, including Skin Manifestations of Systemic Diseases]

A case of sarcoidosis with erythema nodosum

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Erythema nodosum is the name given to lesions that appear on the anterior part of the knee and tibia, where painful redness and swelling occur on an inflammatory background. As it usually occurs secondary to upper respiratory tract infection, Behçet's and TBC are also among the etiological factors that require screening in our country. In our case, a 56-year-old female patient did not have any additional disease or any medication she used. His only systemic complaint was a chronic cough that had existed for one year. There were 15-20 common, painful erythematous plaques on the extremities and trunk, which had an intermittent course with subfebrile fever, which occurred in the last week. With the preliminary diagnosis of erythema nodosum, sweet syndrome, skin biopsy was taken and reported as septal-lobular panniculitis. On the chest X-ray of the patient taken due to cough, hilar lymphadenopathy was observed on the thorax tomography, and reticular opacities in the parenchyma were observed. After consultation with the pulmonary diseases clinic, sarcoidosis was considered as a preliminary diagnosis. Pet-CT was performed to rule out malignancy, and granulomatous pattern finding was reported. Ebus planned by chest diseases. After the hilar lymphadenopathy of the patient with high Ace levels was ruled out as malignancy, steroid treatment was started. We aim to present our case considering that the most common finding of sarcoidosis is erythema nodosum, and that sarcoidosis is the cause of 10-22% of all erythema nodosum cases.

Keywords: case report, erythema nodosum, sarcoidosis

PP-32 [Cutaneous Oncology]

A Rare Clinical Variant of Mycosis Fungoides; Ichtiosiform MF

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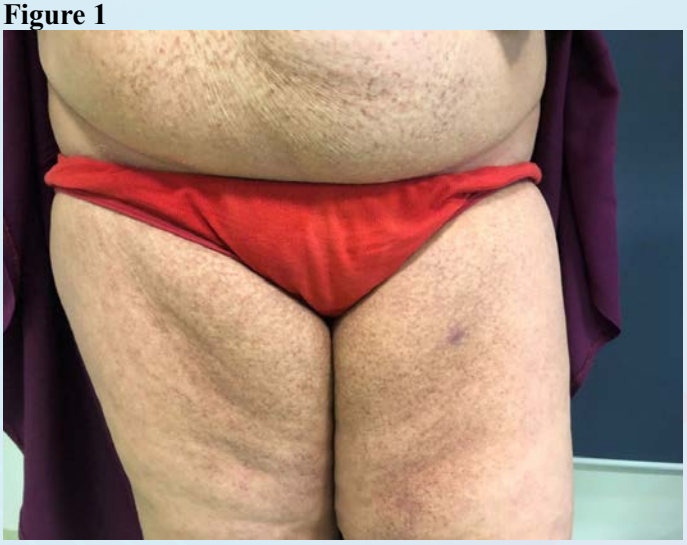
Mycosis fungoides is the most common cutaneous T cell lymphoma. Subtypes and variants may have wide clinical spectrum. Ichthyosiform eruption may be a paraneoplastic sign of a lymphoproliferative malignancies but also may represent a specific clinical variant of MF rather than a paraneoplastic eruption. Ichthyosiform mycosis fungoides is a rare variant of mycosis fungoides and observed in 1.8%. We report a case of ichthyosiform mycosis fungoides in a 42-year-old woman who has ichthyosiform appearance, pigmented patches on her body and petechia on her upper legs.

Keywords: Cutaneous T Cell Lymphoma, Ichthyosis, Mycosis fungoides

Figure 1



Pigmented plaqs, ichtiosiform eruption and petechia

PP-33 [Inflammatory Skin Diseases]

A Case of Granuloma Faciale That Is Presented Atypical Skin Lesions

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Granuloma faciale is a rare, benign and chronic inflammatory dermatosis, usually presenting as isolated, reddish-brown or violaceous asymptomatic papules, nodules or plaques with follicular accentuation and telangiectasia. The factors that play the role in the development of granuloma faciale are unknown. It is frequently unresponsive to therapy. We report a case of 59 year-old-man who has multiple, isolated, erythematos plaqs that circumcrimbed white border on his skalp and forehead.

Keywords: Granuloma faciale, white border, grenz zone

PP-34 [Cutaneous Oncology]

Bowen's Disease presenting as neurodermatitis: the role of dermoscopy

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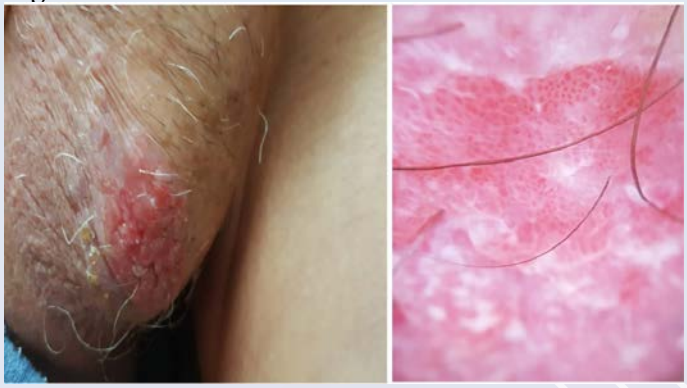
Bowen's disease is a very early form of skin cancer that is easily treated. The main symptom is a red, scaly patch on the skin. It affects the squamous cells in the skin's outermost layer and is sometimes referred to as squamous cell carcinoma in situ.

Bowen's disease can be confused with other diseases until it is diagnosed. A 75-year-old male patient who had been followed up with neurodermatitis in the scrotum for 2 years was diagnosed with Bowen's disease after dermoscopic examination and histopathological examination.

Keywords: Bowen, cutaneous cancer, dermoscopy

Figure 1.



PP-35 [Systemic Treatment]

Oral tranexamic acid with a combination modified Kligman's regimen in treatment of melasma

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[1]Kırklareli Training and Research Hospital, Dermatology Department, Kırklareli
[2]Manisa Celal Bayar University, Dermatology Department, Manisa

Introduction & Objectives: Melasma is an acquired, chronic, recurrent hypermelanosis that occurs exclusively in areas exposed to the sun. Tranexamic acid has been found to lighten melasma by interfering with the interaction of melanocytes and keratinocytes by inhibiting the plasminogen&plasmin system. Multiple treatments for melasma are available, with mixed results. The aim is to evaluate the effect of oral Tranexamic acid (TXA) with a combination modified Kligman's regimen in treatment of melasma.

Materials & Methods: This retrospective study analyses patients who applied with melasma diagnosis between September 2020 and November 2021. The patients chosen had refractory melasma who treated with oral tranexamic acid 250 mg twice daily in and combination Kligman's regimen therapy. MASI(Melasma area severity index) was calculated at baseline and at end of 6 & 12 weeks. A student square T test was used to evaluate the changes in the MASI scores pre-therapy and post-treatment. Statistical significance was defined as $P < 0.05$. All patients were instructed to use sunscreen (SPF 50).

Results: 28 patients treated with oral Tranexamic acid (TXA) with a combinationmodified Kligman's regimen mean treatment time of 15.6 ± 1.2 week. Their mean age was 41.3 ± 1.42 years. The mean MASI scores at 12th week of tranexamic acid and modified Kligman's regimen treatment was (2.4 ± 1.3) were significantly lower ($P < 0.01$) than those prior to treatment (9.4± 3.8). No serious side effects were observed during the study.

Conclusions: Low-dose oral tranexamic acid with combination of Kligman's regimens is a safe and effective treatment of refractory melasma.

Keywords: Kligman's regimen, MASI, melasma, tranexamic acid.

PP-36 [Angiology, Haemangiomas, Vascular Malformations, Vasculitis]

Vulvar Lymphangiectasia: A Case Report

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Cutaneous lymphangiectasia is a benign cutaneous disorder involving the dermal and subcutaneous lymphatic vessels. Vulvar presentation is uncommon. It can be congenital condition or might develop secondary to trauma, surgery, radiotherapy, tuberculosis etc. We report the case of 26-year old pregnant female clinically diagnosed vulvar lymphangiectasia.

Keywords: Vulva, Lymphangiectasia, Cutaneous

figure 1

Lymphangiectasia include labium minus

PP-37 [Infectious Diseases, Parasitic Diseases, Infestations]

A Case of Scabies Mimicking Cutaneous Mastocytosis

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Scabies is an itchy and contagious parasitic disease caused by Sarcoptes scabiei hominis. Scabies, which is transmitted from person to person, is common in communal living areas and mostly in winter months. Diagnosis can be difficult due to its atypical clinical forms. It can be seen in both genders, all age groups and all socioeconomic levels. In our case, a 7-month-old patient with cutaneous mastocytosis in the differential diagnosis and diagnosed with scabies will be presented. A 7-month-old female patient was admitted to the outpatient clinic with complaints of itching that did not last for about 1 month and an occasional recurrent itchy periods. She had received antihistamine and topical corticosteroid treatment, which was considered as an allergic reaction in her previous outpatient clinic application. It was stated that the rashes subsided temporarily and the itching decreased but did not go away, then the itching increased again, especially at night, and the rash spread more. Her 4-year-old sister also complained of itching about 1 month ago, and her itching regressed as a result of using a lotion whose name they did not know. In her history, it was learned that she was born at term, with a vaginal delivery and was born 3600 g, she did not have a history of intensive care, her vaccinations were complete, she did not use regular drugs other than vitamin D and iron, and she was switched to solid food about 1 week ago. On physical examination, there were widespread and erythematous papules, erythematous papulopustular and eczematous red-brown lesions in intertriginous areas, scalp, head and neck, trunk, lower and upper extremities. Darier's sign was positive. There was no hepatosplenomegaly. Other system examinations were normal. There was no pathological finding except mild eosinophilia and mild CRP elevation as laboratory findings. In the differential diagnosis, cutaneous mastocytosis was considered because scabies and Darier's sign were positive. Considering the clinical and history, the patient was started on permethrin treatment with a preliminary diagnosis of scabies. The patient's lesions and pruritus completely regressed within treatment of the permethrin 2 times with 1 week intervals. The family was advised to use prophylactic scabies treatment. No new skin findings were detected in the patient who has been followed up for 4 months. In every child presenting with the complaint of itching and rash, the history should be well questioned and scabies should be considered in the differential diagnosis.

Keywords: Cutaneous Mastocytosis, Darier sign, Scabies

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