5th INDERCOS

International Dermatology and Cosmetology Congress

12 - 15 March 2020

Wyndham Grand Levent - İstanbul

11 March 2020

Special Session ESCAD

Immunogenetics in Dermatology and Aging

FULL TEXT BOOK

www.indercos.org

Scientific Program
Lecture Summaries
Oral Presentations
Poster Presentations

INVITATION

Dear colleagues,

We are pleased to announce the **5th INDERCOS Congress**, taking place 12-15 March 2020 in İstanbul-TURKEY. The main topics of this meeting will be **"Immunogenetics in Dermatology and Aging"**. Through plenaries and parallel workshop sessions, we aim to share insights and experiences and discuss how advances in aesthetic and general dermatology. In order to success this, we have very distinctive international speakers with extensive experience and a range of expertise across aesthetic dermatology and dermatology. Several major histocompatibility complex and nonmajor histocompatibility complex genetic polymorphisms have been identified which may contribute to the inflammatory skin diseases and skin aging. Most of these genetic variants are associated with mechanisms attributed to the pathogenesis of skin disease and aging, including pathways involved in cytokines, chemokine and vitamin regulation and ultraviolet light exposure and other environmental factors. Immunogenetics is a subspeciality of medicine that studies the relationship between genetics and immunology. Immunogenetics helps in understanding the pathogenesis of several autoimmune, malign, infectious skin diseases and also skin aging. 5th INDERCOS congress focuses on the genetic research areas of autoimmune skin diseases such as connective tissue diseases, psoriasis, skin cancers, vasculitis, skin aging and skin infections. Lectures on genetics of cell interaction with immune system, immune response to transplantation, immune based therapies for treatment of cancers and inflammatory skin diseases and aging, antigenic phylogeny of alleles, alloantigens will be discussed. We hope you will be together with us in this fascinating, high quality scientifically educational congress and we look forward to your precious participation and feedback.

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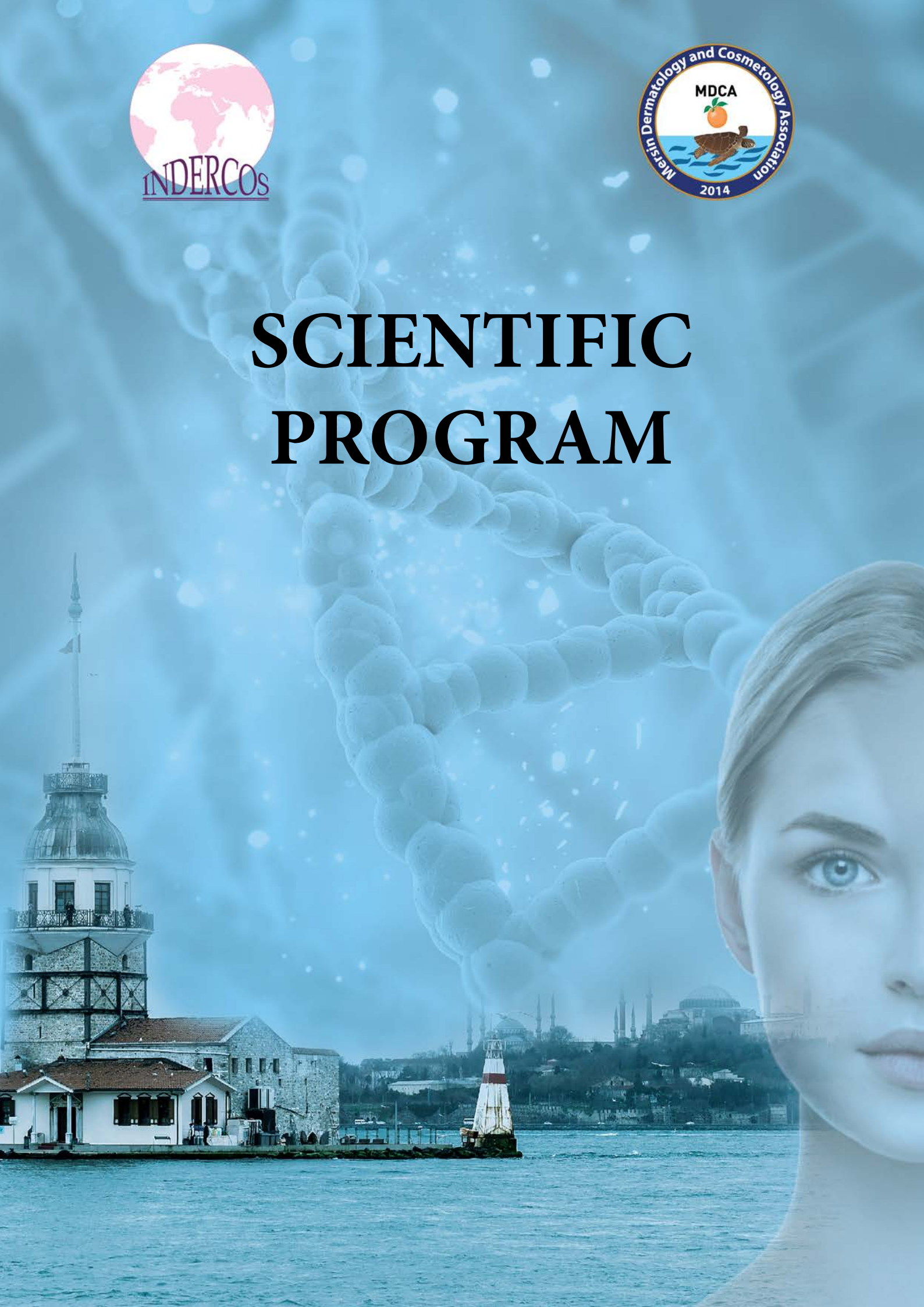
SCIENTIFIC PROGRAM



COURSES PROGRAM

12 MART, THURSDAY	13 MART, FRIDAY
10:00-13:30 **HANDS-ON** **BASIC FILLERS** *Tuba İşeri*	**10:00-13:30** **HANDS-ON** **LIP FILLER** *Ulaş Güvenç*
13:30-17:00 **HANDS-ON** **UNDER EYE AND** **MIDFACE FILLERS** *Ömür Tekeli*	**13:30-17:00** **HANDS-ON** **NON SURGICAL RHINOPLASTY** *Sadiye Kuş*
13:30-17:00 **HANDS-ON** **BOTULINUM TOXIN IN** **UPPER FACE** *Mustafa Bayram*	**13:30-17:00** **HANDS-ON** **DERMAL FILLER:** **DYNAMIC FACE LINES** *Ali Şahan*

14 MART, SATURDAY	15 MART, SUNDAY
10:00-18:00 **HANDS-ON** **HAIR TRANSPLANTATION** *Tayfun Oğuzoğlu*	**10:00-18:00** **HANDS-ON** **CADAVER COURSE** *Ersun Gün* *Serdar Bora Bayraktaroğlu*

5th INDERCOS

International Dermatology and Cosmetology Congress

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11 MARCH 2020, WEDNESDAY

HALL 3

13:45 - 14:00
WELCOME SPEECHES

14:00 - 15:10
ESCAD MEETING-1

15:10 - 15:20
COFFEE BREAK

15:20 - 17:10
ESCAD MEETING-2

17:10 - 17:20
COFFEE BREAK

17:20 - 18:40
ESCAD MEETING-3

12 MARCH 2020, THURSDAY

HALL 1	HALL 2
08:15 - 10:00 **PSORIASIS-1**	08:30 - 10:00 **DERMATOSURGERY**
10:00 - 10:30 **COFFEE BREAK**	
10:30 - 11:50 **PSORIASIS-2**	10:30 - 12:00 **DERMOSCOPY-1**
11:50 - 12:30 **SATELLITE SYMPOSIUM**	
12:30 - 13:30 **LUNCH**	12:00 - 13:30
13:30 - 14:45 **PSORIASIS WORKSHOP**	13:30 - 14:45 **DERMOSCOPY-2**
14:45 - 15:00 **COFFEE BREAK**	
15:00 - 16:30 **ADVANCES IN INTEGRATIVE DERMATOLOGY (SYMPOSIUM FROM WORLD HEALTH ACADEMY OF INTERGRATIVE DERMATOLOGY)**	15:00 - 17:00 **SKIN TUMOURS**
16:35 - 17:00 **ORAL PRESENTATION-1**	17:00 - 17:25 **ORAL PRESENTATION-2**

13 MARCH 2020, FRIDAY

HALL 1	HALL 2
08:00 - 10:00 UCARE SESSION & UCARE WORKSHOP	08:15 - 10:00 INVESTIGATIVE DERMATOLOGY AND TECHNOLOGY
10:00 - 10:15 COFFEE BREAK	
10:15 - 10:45 CONTACT DERMATITIS	10:15 - 11:00 PIGMENTATION DISORDERS
10:45 - 11:30 PATCH TEST WORKSHOP	11:00 - 11:40 SATELLITE SYMPOSIUM
11:30- 13:00 ATOPIC DERMATITIS	11:45 - 13:00 MUCOSAL DISAESES
13:00 - 14:00 LUNCH	
14:00 - 15:20 OLD BUT STILL YOUNG: GREAT IMITATOR OF DERMATOLOGY	14:00 - 15:20 HAIR DISORDERS
15:20 - 15:40 COFFEE BREAK	
15:40 - 17:00 GENERAL DERMATOLOGY-1	15:40 - 17:00 SEBACEOUS GLAND DISEASES-1
17:00 - 17:50 GENERAL DERMATOLOGY-2	17:00 - 18:00 SEXUALLY TRANSMITTED DISEASES
17:55 - 18:30 ORAL PRESENTATION-3	18:00 - 18:30 ORAL PRESENTATION-4

14 MARCH 2020, SATURDAY

HALL 1	HALL 2
08:15 - 08:30 **ORAL PRESENTATION-5**	08:15 - 08:25 **ORAL PRESENTATION-6**
08:30 - 10:00 **AESTHETIC DERMATOLOGY-1**	08:30 - 10:00 **SEBACEOUS GLAND DISEASES-2**
10:00 - 10:30 **COFFEE BREAK**	
10:30 - 11:40 **SKIN INFECTIONS**	10:30 - 11:45 **AESTHETIC DERMATOLOGY-2**
11:40 - 13:00 **GENERAL DERMATOLOGY-3**	11:45 - 12:00 **RATIONAL USES OF MEDICINE SESSION**
13:00 - 13:45 **LUNCH**	12:45 - 13:45
13:45 - 15:30 **VASCULITIS**	13:45 - 15:30 **GENERAL DERMATOLOGY-4**
15:30 - 16:45 **NAIL DISORDERS**	15:30 - 16:45 **PSYCODERMATOLOGY**
	16:45 - 17:00 **COFFEE BREAK**
16:45 - 19:00 **DERMATOPATHOLOGY SESSION**	17:00 - 18:20 **GENERAL DERMATOLOGY-5**
19:00 - 19:25 **ORAL PRESENTATION-7**	18:20 - 18:45 **ORAL PRESENTATION-8**

11 MARCH 2020, WEDNESDAY — HALL 3

13:45 - 14:00	**WELCOME SPEECHES** ***Ümit Türsen, Mustafa Atasoy***	
14:00 - 18:40	**ESCAD MEETING** ***Chairs: Andreas Katsambas, Oliver Kreyden, Medhat Abdelmalek***	
14:00 - 14:10	The untold truth of filler complications and management	*Medhat Abdelmalek*
14:10 - 14:20	Microneedling in dermatology	*Tamer İrfan Kaya*
14:20 - 14:30	Botulinum toxin-A: Upper face	*Oliver Kreyden*
14:30 - 14:40	Melasma: What's new in treatment?	*Andreas Katsambas*
14:40 - 14:50	Gun and pen uses in aesthetic dermatology	*Filiz Canpolat*
14:50 - 15:00	Synthetic fillers for facial rejuvenation (polymethyl methacrylate, silicone, carboxymethyl cellulose, polycaprolactone, calcium hydroxylapatite, poly-L-lactic acid, dextran fillers)	*Pertevniyal Bodamyalı*
15:00 - 15:10	Topical treatment of acne	*Jelena Stojkovic-Filipovic*
15:10 - 15:20	**COFFEE BREAK**	
15:20 - 15:30	Unlock facial beauty cods	*Medhat Abdelmalek*
15:30 - 15:40	HA, "full face sculpting- the picasso way''	*Oliver Kreyden*
15:40 - 15:50	Immunogenetics of aesthetic dermatology procedures	*Recep Dursun*
15:50 - 16:00	Striae distensae (stretch marks): What's new?	*Hilal Gökalp*
16:00 - 16:10	Treatment of the midface and upper face with fillers	*Zekai Kutlubay*
16:10 - 16:20	Microdroplet filler technique in aesthetic dermatology	*Filiz Canpolat*
16:20 - 16:30	Microdroplet botulinum toxin injections in aesthetic dermatology	*Filiz Kuşak*
16:30 - 16:40	Biology and treatment of tattoos	*Leonardo Marini*
16:40 - 16:50	Rosacea-diagnostic and therapeutic challenges: Our experience	*Predrag Stilet*
16:50 - 17:00	How I treat acne?	*Andreas Katsambas*
17:00 - 17:10	How to write and publish a scientific paper ?	*Torello Lotti*
17:10 - 17:20	**COFFEE BREAK**	
17:20 - 17:30	Transdermal patches in dermatology and aesthetic dermatology	*Tuğba Kevser Üstünbaş*
17:30 - 17:40	Biofilms in aesthetic dermatology	*Pertevniyal Bodamyalı*
17:40 - 17:50	Trans-oils and skin diseases	*Zennure Takcı*
17:50 - 18:00	Sun protector diets	*Şule Güngör*
18:00 - 18:10	Topical retinoids: What's new?	*Deniz Demirseren*
18:10 - 18:20	Stem cells in raynaud phenomenon and oral lichen planus	*Fahad Usman*
18:20 - 18:30	Off-Label uses of focused ultrasound therapy in dermatology	*Zehra Aşiran Serdar*
18:30 - 18:40	Complications in botulinum toxin-A	*Andreas Katsambas*

12 MARCH 2020, THURSDAY — HALL 1

08:15 - 10:00	**PSORIASIS-1** ***Chairs: Sibel Alper, Burhan Engin***	
08:15 - 08:30	Psoriasis and microbiome	*Burhan Engin*
08:30 - 08:45	Psoriasis and diet	*Sibel Alper*
08:45 - 09:00	Position statement for the management of comorbidities in psoriasis	*Nida Kaçar*
09:00 - 09:15	Dermatologist and psoriatic arthritis	*Emin Özlü*
09:15 - 09:30	Pediatric psoriatic arthritis	*Betül Sözeri*
09:30 - 09:45	Pediatric psoriasis and clinical features	*Ayşe Deniz Yücelten*
09:45 - 10:00	Pediatric quality index, family quality index in psoriasis	*Andaç Salman*
10:00 - 10:30	**COFFEE BREAK**	
10:30 - 11:50	**PSORIASIS-2** ***Chairs: Necmettin Akdeniz, Emel Bülbül Başkan***	
10:30 - 10:50	Pegylation in dermatology	*Semahat Alp Erdal*
10:50 - 11:10	JAK inhibitors and skin	*Omid Zargari*
11:10 - 11:30	New biologics	*Omid Zargari*
11:30 - 11:50	Antibiotics in psoriasis	*Emel Bülbül Başkan*
11:50 - 12:30	**SATELLITE SYMPOSIUM** **Moderator:** *Serhat İnalöz* Target with ixekizumab: Complete Clearance **Speaker:** *Nida Kaçar*	Lilly
12:30 - 13:30	**LUNCH**	
13:30 - 14:45	**PSORIASIS WORKSHOP** ***Chairs: Kemal Özyurt, Ayşe Serap Karadağ***	
13:30 - 13:50	To calculate PASI (10 Cases with photos. We will use keypads in an interactive session)	*Kemal Özyurt, Filiz Topaloğlu Demir*
13:50 - 14:10	Management of difficult cases of psoriasis	*Omid Zargari*
14:10 - 14:45	Discussion	
14:45 - 15:00	**COFFEE BREAK**	
15:00 - 16:30	**ADVANCES IN INTEGRATIVE DERMATOLOGY (SYMPOSIUM FROM WORLD HEALTH ACADEMY OF INTERGRATIVE DERMATOLOGY)** ***Chairs: Belma Türsen, Ivana Binic***	
15:00 - 15:15	A new era in integrative dermatology	*Katlein Franca*
15:15 - 15:30	Environmental dermatology: An important pillar of integrative dermatology	*Katlein Franca*
15:30 - 15:45	Cellular stress and dermatology	*Devrim Gözüaçık*
15:45 - 16:00	Powerful anti-cancer herbs in dermatology	*Habibullah Aktaş*
16:00 - 16:15	Pollution and skin	*Ivana Binic*
16:15 - 16:30	Tranexamic acid in aesthetic dermatology	*Belma Türsen*

12 MARCH 2020, THURSDAY — HALL 1

16:35 - 17:00	**Oral Presentation-1** ***Chairs: Ufuk Kavuzlu, Habibullah Aktaş***	
16:35-16:40	**OP 001-** Evaluation of vascular findings of lesions with dermatoscopic examination of patients using systemic therapy for psoriasis	*Sinem Soğancıoğlu*
16:40-16:45	**OP 002-**Adverse Childhood Experiences in Psoriasis Patients	*Emin Gündüz*
16:45-16:50	**OP 003-**Paradoxical Psoriasis: Case Series	*Ilayda Esna Gülsunay*
16:50-16:55	**OP 004-**Presence of metabolic syndrome and its parameters and their correlations with psoriasis duration and severity, and sleep quality in psoriasis patients	*Betul Tas*
16:55-17:00	**OP 005-**The role of cystatin-C and fetuin-A in determining early atherosclerotic risk in psoriasis patients	*Abdullah Demirbaş*

12 MARCH 2020, THURSDAY — HALL 2

08:30 - 10:00	**DERMATOSURGERY** ***Chairs: Amor Khachemoune, Necmettin Akdeniz***	
08:30 - 08:45	Needle stick and sharps injuries in dermatosurgery	*Necmettin Akdeniz*
08:45 - 09:00	Cosmetic of skin cancer surgery of the face	*Eckart Haneke*
09:00 - 09:15	Safety tips in dermatologic surgery	*Amor Khachemoune*
09:15 - 09:30	Microneedle radiofrequency in the attenuation of acne scars	*Atula Gupta*
09:30 - 09:45	Anatomy and application of the sutures in dermatosurgery	*Hasan Mete Aksoy*
09:45 - 10:00	What can we use for hemostasis in dermatosurgery?	*Hasan Mete Aksoy*
10:00 - 10:30	**COFFEE BREAK**	
10:30 - 12:00	**DERMOSCOPY-1** ***Chairs: Mustafa Turhan Şahin, Ercan Arca***	
10:30 - 10:45	Interesting dermoscopy indications in dermatology	*Cüney Soyal*
10:45 - 11:00	Mucoscopy: Whats new?	*Mustafa Turhan Şahin*
11:00 - 11:15	Dermoscopy of acral lesions	*Ercan Arca*
11:15 - 11:30	Siascopy: Beyond dermoscopy	*Ahmet Metin*
11:30 - 11:45	Artificial intelligence for skin cancer	*Işın Sinem Bağcı*
11:45 - 12:00	Discussion	
12:00 - 13:30	**LUNCH**	
13:30 - 14:45	**DERMOSCOPY-2** ***Chairs:Pawel Pietkiewicz, Konstantinos Kantounis***	
13:30 - 13:45	Dermoscopy in pigmented face lesions	*Ömer Faruk Elmas*
13:45 - 14:00	Dermoscopy in inflammatory diseases: Inflammoscopy	*Pawel Pietkiewicz*
14:00 - 14:15	Dermoscopy in adnexal neoplasms	*Aylin Türel Ermertcan*
14:15 - 14:30	Dermoscopy in nonpigmented nail lesions	*Herman Mayısoğlu*
14:30 - 14:45	Dermoscopic-pathologic correlation in melanocytic lesions	*Konstantinos Kantounis*
14:45 - 15:00	**COFFEE BREAK**	
15:00 - 17:00	**SKIN TUMOURS** ***Chairs: Predrag Stilet, Jose Cardoso***	
15:00 - 15:15	Field-directed therapy of actinic keratoses	*Predrag Stilet*
15:15 - 15:30	Melanoma treatment with immune checkpoint blockers: How to improve their efficacy?	*Marcel Bekkenk*
15:30 - 15:45	Malignant sweat gland tumours: An update	*Jose Cardoso*
15:45 - 16:00	The “mystery” of cutaneous sarcoidosis: Facts and controversies	*Jose Cardoso*
16:00 - 16:15	Keloid: Genetics, pathogenesis and treatment	*Somesh Gupta*
16:15 - 16:30	Innovative pdt for non melanoma skin cancer	*Leonardo Marini*
16:30 - 16:45	Immunogenetics in NMSC and melanoma	*Tuğba Kevser Üstünbaş*
16:45 - 17:00	Discussion	

12 MARCH 2020, THURSDAY — HALL 2

17:00 - 17:25 **Oral Presentation-2**
Chairs: Tuğba Kevser Üstünbaş, Zennure Takçı

17:00-17:05	**OP 006 -** Evaluation of trichoscopic findings of tractional alopecia	*Özlem Karadağ Köse*
17:05-17:10	**OP 007 -** Pseudoepitheliomatous hyperplasia accompanied by an epidermal cyst: two case reports	*Erhan Ayhan*
17:10-17:15	**OP 008 -** Pyoderma Gangrenosum- not alone in manifestation	*Monika Fida*
17:15-17:20	**OP 009 -** Chin augmentation with the use of cannula from a single, midline entry point: Evaluation of 50 patients	*Nermin Karaosmanoğlu*
17:20-17:25	**OP 016 -** Evaluation of coping mechanisms in patients with acute and chronic urticaria	*Ezgi Aktaş Karabay*

13 MARCH 2020, FRIDAY — HALL 1

08:00 - 09:00	**UCARE SESSION** ***Chairs: Luis Felipe Ensina, Emek Kocatürk Göncü***	
08:00 - 08:15	Immunogenetics and immunopharmacology in urticaria	*Luis Felipe Ensina*
08:15 - 08:30	Urticaria guidelines: Consensus and controversies in the European and American guidelines	*Emek Kocatürk Göncü*
08:30 - 08:45	Oral provocation tests in dermatology: Is it too risky?	*Rafet Koca*
08:45 - 09:00	Autologous serum and plasma skin tests in dermatology	*Oktay Taşkapan*
09:00 - 10:00	**UCARE WORKSHOP** ***Chairs: Rafet Koca, Oktay Taşkapan***	
09:00 - 09:20	Inducible Urticaria tests	*Zafer Türkoğlu, Andaç Salman*
09:20 - 09:40	UAS7, UCT and other tools for evaluation of disease activity	*Kemal Özyurt, Ragip Ertaş*
09:40 - 10:00	Treatment of CSU with case presentations	*Luis Felipe Ensina, Emek Kocatürk Göncü*
10:00 - 10:15	**COFFEE BREAK**	
10:15 - 10:45	**CONTACT DERMATITIS** ***Chairs: Thomas Ruzicka, Sedat Akdeniz***	
10:15 - 10:30	Guidelines of contact dermatitis in dermatology	*Sedat Akdeniz*
10:30 - 10:45	Allergic reactions in cosmetical procedures	*Sadiye Kuş*
10:45 - 11:30	**PATCH TEST WORKSHOP** ***Chairs: Esen Özkaya, Emine Çölgeçen***	
10:45 - 11:10	Patch test: Evaluation of positive and irritant reactions. Interactive session with competition (book gift)	*Esen Özkaya*
11:10 - 11:30	Challenging cases with positive patch test results	*Esen Özkaya*
11:30 - 13:00	**ATOPIC DERMATITIS** ***Chairs: Thomas Ruzicka, Rafet Koca***	
11:30 - 11:45	Immunogenetic profiling of atopic dermatitis	*Luis Felipe Ensina*
11:45 - 12:00	Use of pharmacogenomics in atopic dermatitis	*Andaç Salman*
12:00 - 12:15	Elimination diets in dermato-allergy	*Rafet Koca*
12:15 - 12:30	Mast cell stabilizing agents, dermatological medications and impaired driving	*Tekden Karapınar*
12:30 - 12:45	Mast cell secretory drugs and foods	*Kansu Büyükafşar*
12:45 - 13:00	Guidelines for atopic eczema	*Thomas Ruzicka*
13:00 - 14:00	**LUNCH**	

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14:00 - 15:20	**OLD BUT STILL YOUNG: GREAT IMITATOR OF DERMATOLOGY** ***Chairs: Ayşe Serap Karadağ, Cengizhan Erdem***	
14:00 - 14:10	Syphilis: As a great imitator	*Seray Külcü Çakmak*
14:10 - 14:20	Sarcoidosis: As a great imitator	*Ayse Serap Karadağ*
14:20 - 14:30	Leprosy: As a great imitator	*Cengizhan Erdem*
14:30 - 14:40	Skin tuberculosis: As a great imitator	*Wenchieh Chen*
14:40 - 14:50	Leishmaniasis: As a great imitator	*Ayşe Akman Karakaş*
14:50 - 15:00	Mycosis fungoides: As a great imitator	*İlkin Zindancı*
15:00 - 15:10	Drug eruptions: As a great imitator	*Esra Pancar Yüksel*
15:10 - 15:20	Differential diagnosis of viral wart	*Zoran Nedic*
15:20 - 15:40	**COFFEE BREAK**	
15:40 - 17:00	**GENERAL DERMATOLOGY-1** ***Chairs: Ömer Kutlu, Nazan Emiroğlu***	
15:40 - 15:50	Teeth and dermatology	*Sezgi Sarıkaya Solak*
15:50 - 16:00	Gabapentin and pregabalin in dermatology	*Algün Polat Ekinci*
16:00 - 16:10	Neck involvement of skin diseases	*Züleyha Özgen*
16:10 - 16:20	Ocular findings of skin diseases	*Nazan Emiroğlu*
16:20 - 16:30	Rhino-laringological findings of skin diseases	*Fatma Pelin Cengiz*
16:30 - 16:45	Biomimicry (Endocrine mimicry) in dermatology	*Ömer Kutlu*
16:45 - 17:00	Discussion	
17:00 - 17:50	**GENERAL DERMATOLOGY-2** ***Chairs: Berna Aksoy, Amor Khachhemoune***	
17:00 - 17:10	Coffee-related skin diseases	*Berna Aksoy*
17:10 - 17:20	Skin problems and EGFR-tyrosine kinase inhibitor	*Neslihan Fişek İzci*
17:20 - 17:30	Women and dermatology	*Meltem Önder*
17:30 - 17:40	Cupping in dermatology	*Amor Khachemoune*
17:40 - 17:50	Discussion	
17:55 - 18:30	**Oral Presentation-3** ***Chairs: Ayşe Akman Karakaş, Esra Pancar Yüksel***	
17:55-18:00	**OP 031** - Gender comparison of clinical and histopathological findings of 23 patients with Behçet's Disease	*Ekrem Civas*
18:00-18:05	**OP 010** - The magic of Lifting and Filling Threads in Aesthetic Medicin***e***	*Afshin Javili*
18:05-18:10	**OP 011** - Filler complications- how we can avoid ?	*Monika Fida*
18:10-18:15	**OP 012** - The importance of Facial Anatomy in Aesthetic Dermatology	*Mirjana Dragan Bakic*
18:15-18:20	**OP 013** - Spectrum of Autoimmune Bullous Diseases in Bolu	*Belgin Küçükyangöz*
18:20-18:25	**OP 014** - Dupilumab In The Treatment of Atopic Dermatitis: Experience of 6 Cases	*Nazime Bensu Önentaşçi*
18:25-18:30	**OP 015** - A diagnostic dilemma over granulomatos in common variable immunodeficiency(CVID)	*Nurullah Yekta Akçam*

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08:15 - 10:00	**INVESTIGATIVE DERMATOLOGY AND TECHNOLOGY** ***Chairs: Mustafa Tunca, Ömer Faruk Elmas***	
08:15 - 08:30	Artificial intelligence: Friend or foe of dermatology?	*Ömer Faruk Elmas*
08:30 - 08:45	Social media and dermatology	*Ömer Faruk Elmas*
08:45 - 09:00	Anti-aging genes	*Özgür Timurkaynak*
09:00 - 09:15	Histone modifiers in dermatology	*Özgür Timurkaynak*
09:15 - 09:30	Animal models, transgenic animals and animal studies in dermatology	*Mustafa Tunca*
09:30 - 10:00	Stem cells in dermatology	*Erdal Karaöz*
10:00 - 10:15	**COFFEE BREAK**	
10:15 - 11:00	**PIGMENTATION DISORDERS** ***Chairs: Sanan Karimov, Pelin Üstüner***	
10:15 - 10:30	Vitiligo: Pathogenesis, approaches to therapy and socio-psychological aspects	*Sanan Karimov*
10:30 - 10:45	Vitiligo treatment: The future looks bright!	*Marcel Bekkenk*
10:45 - 11:00	Tranexamic acid in general dermatology	*Pelin Üstüner*
11:00 - 11:40	**SATELLITE SYMPOSIUM** Hair, scar and antiaging treatments with GCell new generation autologous tissue suspension (Micrograft) and SVF (Stromal Vascular Fraction) technology ***Speakers:*** *Zekayi Kutlubay, Ulaş Güvenç*	G Cell®
11:45 - 13:00	**MUCOSAL DISAESES** ***Chairs: Eckart Haneke, Ayşe Akman Karakaş***	
11:45 - 12:00	Guidelines in autoimmune bullous diseases	*Işın Sinem Bağcı*
12:00 - 12:15	Guidelines for autoimmune bullous diseases in Turkey	*Ayşe Akman Karakaş*
12:15 - 12:30	Differential diagnosis of oral leukoplakias	*Eckart Haneke*
12:30 - 12:45	Mouth-washes in dermatology	*Gamze Yanpar Erdem*
12:45 - 13:00	Lozenges in dermatology	*Mehmet Demirel*
13:00 - 14:00	**LUNCH**	

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14:00 - 15:20	**HAIR DISORDERS** ***Chairs: Asja Prohic, Berna Aksoy***	
14:00 - 14:10	Efficacy of nonsurgical treatments for androgenetic alopecia	*Zennure Takçı*
14:10 - 14:20	Hair graying: What's new?	*Berna Aksoy*
14:20 - 14:30	Hair manifestations of endocrine diseases	*Pelin Üstüner*
14:30 - 14:40	Diagnostic tests for alopecias	*Filiz Canpolat*
14:40 - 14:50	The tricky "trichs" in dermatology	*Burçe Can Kuru*
14:50 - 15:00	What's new in alopecia areata?	*Asja Prohic*
15:00 - 15:10	Scalp folliculitis	*Asja Prohic*
15:10 - 15:20	The efficacy and safety of triple wavelenght technology in laser hair reduction	*Atula Gupta*
15:20 - 15:40	**COFFEE BREAK**	
15:40 - 17:00	**SEBACEOUS GLAND DISEASES-1** ***Chairs: Erdinç Terzi, Ayşe Serap Karadağ***	
15:40 - 15:50	Limitations, side-effects and guidelines in HS treatment	*Omid Zargari*
15:50 - 16:00	Multimodality management of acne scars	*Atula Gupta*
16:00 - 16:10	Clinical triggers of rosacea are endoplasmic reticulum stressor	*Bodo Melnik*
16:10 - 16:20	Clinical presentations of human demodicosis	*Wenchieh Chen*
16:20 - 16:30	Topical treatment of rosacea	*Jelena Stojkovic-Filipovic*
16:30 - 16:40	Systemic treatment of rosacea	*Aslı Tatlıparmak*
16:40 - 17:50	Discussion	
17:00 - 18:00	**SEXUALLY TRANSMITTED DISEASES** ***Chairs: Mihael Skerlev, Bilal Doğan***	
17:00 - 17:10	Immunogenetics of HIV infection	*Pelin Eşme*
17:10 - 17:20	Immunogenetics and preventive aspects of the HPV infection	*Mihael Skerlev*
17:20 - 17:30	HPV vaccines	*Bilal Doğan*
17:30 - 17:40	Vaccines related skin diseases	*Ömer Kutlu*
17:40 - 17:50	Identification of new herpesvirus gene homologs in the human genome	*Betül Şereflican*
18:00 - 18:30	**Oral Presentation-4** ***Chairs: Bachar Mehmet, Nagihan Sahillioğlu***	
18:00-18:05	**OP 029** - Cutaneous metastasis from pathologists' perspective: a tertiary center experience	*Rabia Burcin Girgin*
18:05-18:10	**OP 017** - Successful treatment of severe sebaceous hyperplasia with systemic isotretinoin	*Erhan Ayhan*
18:10-18:15	**OP 018** - Rare, endemic, may be overlooked disease: Mediterranean spotted fever (MSF)	*Gül Şekerlisoy*
18:15-18:20	**OP 019** - Erythema Migrans - A Sign of Early Lyme Borreliosis	*Sena Inal*
18:20-18:25	**OP 020** - Analysis of musculoskeletal side effects of oral isotretinoin treatment: a cross-sectional study	*Nermin Karaosmanoğlu*
18:25-18:30	**OP 021** - A common skin disease; pityriasis versicolor: assessment of anxiety, depression and impact on quality of life	*Asude Kara Polat*

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08:15 - 08:30	**Oral Presentation-5** ***Chairs: Ayşın Köktürk, Kansu Büyükafşar***	
08:15-08:20	**OP 022** - The utilization of a hand-held narrow band phototherapy device in the department of dermatology, Gaziantep Sanko University: A -8 year audit	*Fatmaelif Yıldırım*
08:20-08:25	**OP 023** - Successful treatment of a chıld wıth actınıc lıchen planus usıng topıcal pımecrolımus: a case report	*Mehmet Melikoğlu*
08:25-08:30	**OP 024** - Trichotillomania (TTM) is a disorder characterized by recurrent episodes of hair-pulling, affecting a growing and diverse patient population. The behavior is a result of conscious or unconscious stimuli aiming to alleviate stress. TTM can be diagnose	*Roxanna Sadoughifar*
08:30 - 10:00	**AESTHETIC DERMATOLOGY-1** ***Chairs: Kansu Büyükafşar, Ayşın Köktürk***	
08:30 - 08:40	Turmeric: A condiment, cosmetic and cure	*Ayşın Köktürk*
08:40 - 08:50	Sleeping beauty: Is it anti-aging?	*Kansu Büyükafşar*
08:50 - 09:00	Stress and aging	*Kansu Büyükafşar*
09:00 - 09:10	Sleep wrinkles: How can we treat?	*Ayşegül Usta Güney*
09:10 - 09:20	Fibroblast-derived fillers in skin aging	*Yasemin Oram*
09:20 - 09:30	RF devices for skin wrinkles and acne scars	*Yasemin Oram*
09:30 - 09:40	Smart chemical peeling systems in aesthetic dermatology	*Gül Yıldırım*
09:40 - 09:50	Aesthetic dermatology and medical ethic	*Şükran Sarıgül*
09:50 - 10:00	Antibiotics in aesthetic dermatology	*Öykü Maraşoğlu Çelen*
10:00 - 10:30	**COFFEE BREAK**	
10:30 - 11:40	**SKIN INFECTIONS** ***Chairs: Andaç Salman, Arzu Karataş***	
10:30 - 10:40	Immunogenetics of superficial fungal infections	*Arzu Karataş*
10:40 - 10:50	End of the road for terbinafine in dermatophytosis	*Melek Aslan Kayıran*
10:50 - 11:00	Immunogenetics of tuberculosis	*Andaç Salman*
11:00 - 11:10	Immunogenetics of parasitic skin infections	*Betül Şereflican*
11:10 - 11:20	Immunogenetics of antibiotic resistance in skin infections	*Gökçe Işıl Kurmuş*
11:20 - 11:30	Immunogenetics in skin bacterial infections	*Gökçe Işıl Kurmuş*
11:30 - 11:40	Demodicosis: New treatments, common misdiagnosis	*Ragıp Ertaş*
11:40 - 13:00	**GENERAL DERMATOLOGY-3** ***Chairs: Emel Fetil, Banu Taşkın***	
11:40 - 11:50	Music and dermatology	*Evren Sarıfakıoğlu*
11:50 - 12:00	Heavy metals, pesticides and insecticides-related skin diseases	*Zahide Eriş Eken*
12:00 - 12:10	Tanning: Facts and myths	*Emel Fetil*
12:10 - 12:20	The how, why and clinical importance of skin pH	*Zahide Eriş Eken*
12:20 - 12:30	Medical textiles in dermatology	*Banu Taşkın*
12:30 - 12:40	Filaggrin in dermatology	*Gül Yıldırım*
12:40 - 12:50	Medical shampoos in dermatology	*Melike Kibar Öztürk*
12:50 - 13:00	Dermatoses caused by cultural practices: Therapeutic and cosmetic cultural practices	*Melike Kibar Öztürk*

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13:00 - 13:45	**LUNCH**	
13:45 - 15:30	**VASCULITIS** ***Chairs: Milos Nikolic, Mehmet Melikoğlu***	
13:45 - 14:00	Immnuogenetics of vasculitis	*Bachar Memet*
14:00 - 14:15	Immunogenetics in CTD (connective tissue disorders)	*Nagihan Sahillioğlu*
14:15 - 14:30	Immunogenetics of Behçet' s disease	*Mehmet Melikoğlu*
14:30 - 14:45	Juvenile dermatomyositis	*Milos Nikoliç*
14:45 - 15:00	Wegener granulomatosis in children	*Milos Nikoliç*
15:00 - 15:15	Antibiotics in Behçet's disease	*Mehmet Melikoğlu*
15:15 - 15:30	Connective tissue diseases and malignancy	*Kamer Gündüz*
15:30 - 16:45	**NAIL DISORDERS** **Chairs: Pelin Koçyiğit, Eckart Haneke**	
15:30 - 15:45	Nail melanoma - a never ending challenge	*Eckart Haneke*
15:45 - 16:00	Nail unit disorders not to be missed	*Pelin Koçyiğit*
16:00 - 16:15	Intralesional therapies in nail disorders	*Ufuk Kavuzlu*
16:15 - 16:30	Retronychia of the toenails: Pathogenesis and management options	*Amor Khachemoune*
16:30 - 16:45	Non-meloma skin cancer of the digits including nails	*Eckart Haneke*
16:45 - 19:00	**DERMATOPATHOLOGY SESSION** ***Chairs: Mustafa Atasoy, Yasemin Yuyucu Karabulut, Amor Khachemoune***	
16:45 - 17:00	The importance of cytoskeletal antigen markers in dermatopathology	*Yasemin Yuyucu Karabulut*
17:00 - 17:15	The importance of biopsy localization in dermatopathology	*Ayça Kırmızı*
17:15 - 17:30	Fibrohistiocytic and macrophage markers for skin tumours	*Deniz Ateş*
17:30 - 17:45	How can we differentiate scarring alopecia and nonscarring alopecia with immunohistochemistry and histopathology?	*Mehmet Gamsızkan*
17:45 - 18:00	Granulomatous reaction in dermatopathology	*Pelin Yıldız*
18:00 - 18:15	Cutaneous vasculitis	*Merih Tepeoğlu*
18:15 - 18:30	Key diagnostic features of autoimmune bullous diseases	*Handan Bilen*
18:30 - 18:45	Cutaneous lymphomas: What is new ?	*Cahit Yavuz*
18:45 -19:00	How about histologic challenges in Mohs sections	*Amor Khachemoune*
19:00 - 19:25	**Oral Presentation-7** ***Chairs: Zahide Eriş Eken, Melike Kibar Öztürk***	
19:00-19:05	OP 035 - An Important Cutaneous Tumor In Differential Diagnosis; Papillary Eccrine Adenoma	*Ömer Faruk Elmas*
19:05-19:10	OP 036 - Osteo-Nevus of Nanta, Three cases reports	*Ömer Faruk Elmas*
19:10-19:15	OP 037 - Melanocytic lesions in pediatric age group: our experience over 10 years	*Zeynep Bayramoğlu*
19:15-19:20	OP 038 - Deep Learning as a Tool in The Diagnosis of Mycosis Fungoides	*Emre Çağatay Köse*
19:20-19:25	OP 039 - Digital and extradigital Glomus Tumors: A clinicopathological analysis of 16 cases	*Asuman Kilitci*

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08:15 - 08:25	**Oral Presentation-6** ***Chairs: Filiz Topaloğlu Demir, Ayşe Serap Karadağ***	
08:15-08:20	**OP 025** - Calcinosis cutis in association with long-term stasis after electrical burn injury: a case report	*Belkız Uyar*
08:20-08:25	**OP 027** - Hyperpigmented plaques in Behcet patients asssociated with Mycosis Fungoides	*Emin Gündüz*
08:30 - 10:00	**SEBACEOUS GLAND DISEASES-2** *Chairs: Bodo Melnik, Ayşe Serap Karadağ*	
08:30 - 08:40	Immunogenetics of acne	*Filiz Topaloğlu Demir*
08:40 - 08:50	The effect of milk consumption on acne	*Bodo Melnik*
08:50 - 09:00	Antibiotics in acne	*Wenchieh Chen*
09:00 - 09:10	Guidelines for acne therapy	*Ayşe Serap Karadağ*
09:10 - 09:20	What is new in acne scar therapy?	*Ahu Birol*
09:20 - 09:30	The role of p53 in acne pathogenesis and isotretinoin treatment	*Bodo Melnik*
09:30 - 09:40	Rosacea and diet	*Ivana Binic*
09:40 - 09:50	Skin barier and microbiome in acne	*Atula Gupta*
09:50 - 10:00	Discussion	
10:00 - 10:30	**COFFEE BREAK**	
10:30 - 11:45	**AESTHETIC DERMATOLOGY-2** ***Chairs: Ivana Binic, Serap Öztürkcan***	
10:30 - 10:45	Spermidine uses for anti-aging	*Semahat Alp Erdal*
10:45 - 11:00	Gravity and its effects on aging human skin	*Gülşen Tükenmez Demirci*
11:00 - 11:15	Health economy in aesthetic dermatology	*Serap Öztürkcan*
11:15 - 11:30	Anti aging skin care- new perspectives	*Ivana Binic*
11:30 - 11:45	Discussion	
11:45 - 12:00	**RATIONAL USES OF MEDICINE SESSION**	
	Rational uses of medicine	*M. Can Emeksiz*
12:45 - 13:45	**LUNCH**	
13:45 - 15:30	**GENERAL DERMATOLOGY-4** ***Chairs: Gaye Sarıkan, Somesh Gupta***	
13:45 - 14:00	Collagen synthesis markers	*M. Can Emeksiz*
14:00 - 14:15	Integrins in dermatology	*M. Can Emeksiz*
14:15 - 14:30	N-acetylcysteine uses in dermatology	*Göknur Kalkan*
14:30 - 14:45	5 elements in Dermatology: Air (0_2), soil, heat, water, tree (woooden)	*Gaye Sarıkan*
14:45 - 15:00	What is biting and eating you?	*Ahmet Metin*
15:00 - 15:15	Update of management of vitiligo	*Somesh Gupta*
15:15 - 15:30	New systemic retinoids in dermatology	*Thomas Ruzicka*

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15:30 - 16:45	**PSYCODERMATOLOGY** ***Chairs: İlknur Altunay Kıvanç, Şule Güngör***	
15:30 - 15:45	Sleep disturbance in dermatology	*İlknur Altunay Kıvanç*
15:45 - 16:00	A, b, c, d personality types in skin diseases	*Ezgi Erdal Özkur*
16:00 - 16:15	Anti-depressants and dermatology	*Şule Güngör*
16:15 - 16:30	Higher education-related skin diseases	*Melike Kibar Öztürk*
16:30 - 16:45	Discussion	
16:45 - 17:00	**COFFEE BREAK**	
17:00 - 18:20	**GENERAL DERMATOLOGY-5** ***Chairs: Kenan Aydoğan, Ömer Faruk Elmas***	
17:00 - 17:10	Reverse conditions in dermatology	*Ersoy Acer*
17:10 - 17:20	Spa treatments and heliotherapy in dermatology	*Kenan Aydoğan*
17:20 - 17:30	Paradoxal phenomenon in dermatology	*Seray Külcü Çakmak*
17:30 - 17:40	Brachytherapy in dermatology	*Özge Aşkın*
17:40 - 17:50	Apheresis in dermatology	*Nagihan Sahillioğlu*
17:50 - 18:00	Re-naming in dermatology	*Nagihan Sahillioğlu*
18:00 - 18:10	Silver toxicity in dermatology	*Nagihan Sahillioğlu*
18:10 - 18:20	Discussion	
18:20 - 18:45	**Oral Presentation-8** ***Chairs: Ömer Faruk Elmas, Nagihan Sahillioğlu***	
18:20-18:25	**OP 028** - Mismatch repair protein expression and potential histopathologic predictors for merkel cell carcinoma: A series of 17 cases	*Mehmet Arda Inan*
18:25-18:30	**OP 030** - Solitary lymphomatoid papulosis: A rare case	*Erhan Ayhan*
18:30-18:35	**OP 032** - Fibrohistiocytic and Macrophage Markers for Skin Tumors	*Deniz Ates Ozdemir*
18:35-18:40	**OP 033** - Metastasis to Skin: Clinicopathologic Findings of 21 Patients	*Betul Ogut*
18:40-18:45	**OP 034** - Spitz nevus, atypical spitz tumor and spitz melanoma: the clinicopathological discriminative features	*Ayça Kırmızı*

LECTURE SUMMARIES

THE UNTOLD TRUTH OF FILLER COMPLICATIONS AND MANAGEMENT

Medhat Abdelmalek

The prevalence of common dermal fillers technical errors tends to decrease with more clinical experience and knowledge. Hyaluronic acid dermal fillers have the advantage of being easily treatable. This lecture underlines how dermatologists should be prepared for emergencies to reduce adverse outcomes severity, which results from improper filler injection.

MICRONEEDLING IN DERMATOLOGY

Tamer İrfan Kaya

Skin microneedling accelerates the process of skin regeneration through the creation of numerous microinjuries. The skin is deeply punctured with very thin needles while keeping the epidermis partially intact. Controlled dermal wounding evokes wound healing phases which can be divided into four major phases: coagulation, inflammation, proliferation, and remodeling, which is likely responsible for the clinical results obtained. Puncturing with microneedles does not cause a deep injury and therefore it does not lead to scar formation, however this procedure is sufficient to induce skin trauma and trigger skin repair functions (as measured by induction of TGF-beta, TGF-alpha, FGF, PDGF), ultimately resulting in collagen and elastin production by fibroblasts. Moreover, microneedling device create micro channels into the skin which enables delivery of drugs and larger protein molecules through the epidermis. Microneedling can be performed with different devices such as dermapens and dermarollers, equipped with needles of various lengths.

Microneedling has been used effectively for several different aesthetic dermatologic conditions including skin rejuvenation, photoaging, teleangiectasia, acne scarring, rhytides, surgical scars, stretch marks, dyschromia (pigmentation changes), melasma, infraorbital dark circles, enlarged pores, and alopecias. In recent years, it has also been used in some dermatologic diseases such as vitiligo, viral warts and alopecia areata. Since the epidermis is retained, microneedling has less risk of infection, postinflammatory hyperpigmentation, scarring, and has fast posttreatment recovery and minimal downtime compared to other resurfacing methods such as laser skin resurfacing and deep chemical peeling. Microneedling can be combined with the application of UV light (photodynamic therapy), LED light, platelet-rich plasma, chemical peels, stem cells, retinoids and other pharmaceuticals to accelerate postprocedure regeneration and to enhance effects. Good effectiveness, limited number of side effects, and short recovery time, make skin microneedling a popular cosmetic, and medical treatment.

MELASMA: WHAT'S NEW IN TREATMENT?

Andreas D Katsambas

Melasma is a cosmetic problem that sometimes causes great emotional suffering. The two most important causative factors are sunlight and genetic predisposition. Moreover, natural and synthetic estrogens, the use of certain drugs and the use of cosmetics with certain components have been implicated as etiologic factors.

There are quite a variety of treatments that have been developed for the management of melasma. Prescriptive options will, however, be dedicated by the nature of the patient's skin, so cases may vary in their treatment and results.

Generalizations that can be made about melasma include the fact that sunlight and oral contraceptives exacerbate this condition; daily use of a broad-spectrum sunscreen is needed for an indefinite period of time and female patients should discontinue oral contraception. Additionally, pregnant women should be counselled that melasma often fades without any treatment after birth.

In the arena of prescribing compounds, Hydroquinone (HQ) remains the most effective topical hypopigmenting agent. HQ must be administered carefully, as the results from the various formulations range widely. For example, 2% HQ can be ineffective and is recommended for maintenance therapy, 3% to 4% HQ can achieve good depigmentation and 5% to 10% is even more effective but can also be irritating. Prolonged treatment with >3% preparation may rarely cause ochronosis in black skin individuals. A very effective combination is the use of HQ 2% to 5% with tretinoin 0.05%, with or without corticosteroids.

Treatment options outside the topical hypopigmenting formulations remain limited. While chemical peeling, alone or in combination with other depigmenting agents, can be effective in selected cases, laser therapy cannot be recommended for treatment of melasma at present.

The table below summarizes the treatment options of melasma.

Summary of treatment options:

- Sunlight exacerbates melasma. Daily use of broad-spectrum sunscreen is needed for an indefinite period of time.
- Female patients must stop oral contraception
- Pregnant women must be patient because often melasma fades without treatment after pregnancy.
- Two percent HQ alone is sometimes ineffective. It is recommended for maintenance therapy.
- Good depigmentation can be achieved with 3%-4% HQ.
- Five percent to 10% HQ is very effective but can be irritating.
- A very effective combination is the use of hydroquinone 2%-5%, with or without corticosteroids.
- The prolonged treatment with >3% HQ preparation may cause ochronisis
- Lasers are NOT recommended for the treatment of melasma at present
- Chemical peeling alone or in combination with other depigmenting agents is effective in selected cases.

TOPICAL TREATMENT OF ACNE

Jelena Stojkovic-Filipovic

Acne vulgaris represents the most common dermatologic condition and is affecting up to 9.4% of the global population. It typically begins at puberty, but it could appear in neonatal period, early childhod or in adults as well. Acne commonly bears a significant psychological and social burden and reduced QOL upon patients, which needs to be elicited during an acne consultation. The pathogenesis of acne is multifactorial and results from the complex interplay of different factors and current treatments aim to inhibit one or more of the steps in pathogenesis. Clinical presentation and the acne type is the key for the treatment decision. However, a combined treatment that targets more than one of the mechanisms of acne pathogenesis is often successful.

Acne should be considered a chronic disease and treatment should imply induction and maintenance therapy. Topical agents are still first terapeutic option whether used as monoterapy or in combination with oral/systemic agents for both induction and maintenance treatment. However, the ultimate judgment regarding any specific therapy or technique must be made by the physician and the patient in light of all the circumstances presented by the individual patient, and the knowledge of biologic behavior of the disease. Nevertheless, therapy atherence or patient compliance still stays as a main opsticle in theating this common condition.

Various new topical terapeutics that target different steps in the pathogenesis have been studied as a perspective treatment option, but non of them is on the market yet since more data is needed for the deffinitive concludions. In that light, it is very useful to restate some guidelines' highlights and point out some new treatment approaches as well as bring in mind special circumstances for the successful treatment of this common, but still treatment challenging condition.

UNLOCK FACIAL BEAUTY CODES

Medhat Abdelmalek

Non-surgical face-lifting approach is becoming a common aesthetic procedure that is highly recommended by many doctors worldwide . This includes oral surgeons , general surgeons and dermatologists. The level of expertise, successful treatment and patient satisfaction level is highly depended on adequate training, face anatomy knowledge and basic surgical skills. There are numerous types of face-lifting techniques; The 8-point lifting and similar other techniques approach are in high demand because they give best results whilst minimizing possible side effects. Such approaches promote lifting effect in individuals who seek to accentuate certain facial features. This lecture will spot the light on the holistic approach to lifting assessment and treatment technique.

STRIAE DISTENSAE (STRETCH MARKS): WHAT'S NEW?

Hilal Gökalp

Striae distensae (SD; stretch marks, striae atrophicans and striae gravidarum) are atrophic linear dermal scars that are evident in up to 88% of the population. Mechanical stretching is thought to play a primary role in SD development; SD usually develop during pregnancy and adolescence. SD can also develop following sudden weight gain or loss; long-term systemic or topical corticosteroid use; and various endocrine problems, including obesity, Marfan syndrome and Cushing's syndrome.1-3 SD are commonly noted on the abdomen, buttocks, thighs, breasts, knees, calves and lumbosacral areas and create cosmetic problems that can cause significant psychosocial stress and a reduced quality of life.1

Few treatments such as retinoids, chemical peels, microdermabrasion were available prior to the advent of the laser/light systems developed over the past two decades. Traditional non-fractional lasers (ablative and non-ablative) and intense pulsed light systems were the first laser/light techniques to be employed. Safer and better results were reported after the development of fractional laser technology. The most promising laser system is currently the fractional lasers. The pixelated light system of fractionated lasers causes thermal damage to the dermis and/or epidermis, in the form of microscopic columns termed microthermal treatment zones (MTZs).4-6 Repair and neocollagenesis follow reliably and rapidly; the surrounding tissue is intact, the extent of scar tissue created is less and the migratory pathways that keratinocytes must follow are short.1,3 However, it is difficult to claim that all current devices are equivalent because of differences in the numbers of MTZs created, their depths, and differences in the wavelengths of, and number of passes made by, the various devices. Few studies have compared the effectiveness of different devices; indeed, the strial type, number of treatments, Fitzpatrick skin type and energy parameters have not been standardised in most studies. No consensus on the most effective fractional laser wavelength (or optimal treatment parameters) has been attained.1,5,6 However, Ross et al. suggested specifically 1540-nm non-ablative fractionated laser (NAFL) as a first-line treatment in SD.7 In addition, the general opinion is that lasers are more effective when used to treat SR rather than SA.1,2,7,8 Besides lasers, microneedling, platelet-rich plasma, radiofrequency (RF), and fractionated microneedling RF have moderate effect in SD.1,7

SD is an important cosmetic problem experienced by mostly women. Many systems have been used to treat SD in recent years. Fractional lasers (FL) appear to be the most successful of these systems. Currently, NAFL systems seem to be the optimal SD treatment; the side effect profile is lower than that of ablative FL treatment, and recovery occurs more quickly. The NAFL was effective when used to treat both SR and SA, and the effects were long-term.1,3,7 However, larger series comparing and combining various treatment systems in patients with different conditions over a variety of body regions are required to develop a consensus treatment for SD.

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TREATMENT OF THE MIDFACE AND UPPER FACE WITH FILLERS

Zekayi Kutlubay

The face can be divided into three anatomical areas in terms of filler injection; these are the upper face, the midface and the lower face. The upper face is quite difficult in terms of the injection of fillers. The aesthetic end points that can be achieved on the upper face with injectables are temple volumazation, eyebrow shaping and forehead contouring.1,2

Temple filling: The youthfull temples are flat or slightly convex; on the other hand, the temples become concave with aging. Thick fillers can be used in temporal rejuvenation. The material should be injected perpendicularly to a point that is1 cm lateral from the temporal crest and 1 cm superior to the lateral orbital rim. 0.5-1 ml of material is usually enough; yet the adequate volume always depends on the patient's needs.1

Eyebrow shaping: Toxins are first line for the elevation of the tail of the eyebrow. Injectables can be used in patients were toxins are insufficient. The material is injected supraperiosteally at two points to the lateral end of the eyebrow. Slow injection is a must and massage should be performed afterwards. The orbital rim should be palpated during injection in order to prevent the migration of the material to the upper eyelid.1

Forehead contouring: Forehead lines are treated with fillers if they are static. The fillers are injected at 6 points (three at each half of the face). Aspiration before injection is obligatory due to the rich vasculature of the area. In the first and the sixth (the most lateral ones) injections, the temporal vessles are in danger; in the other injections, the supraorbital and supratrochlear vessels are in danger. All of the injections should be deep and at least 2 cm above the eyebrows.1

The mid face rejuvenation includes the following: infraorbital hollows, the nose and the malar area.3 Hyaluronic acid fillers are useful in the mid-face like in the upper face. Furthermore, monophasic fillers have a longer duration than the biphasic fillers in the pressure requiring areas such as the malar region.4

Infra-orbital hollows: Infra-orbital hollows are hard to treat areas. Blue discoloration due to Tyndall effect, irregularities at contour and vascular compromises are the potential complications that the physician should be aware of. When the nasojugal groove is filled a more youtful apperance is achieved. The use of a cannula is more advantegous to a needle due to the increased vasculature in the area. Stiff yet viscous fillers should be prefered in the infra-orbital region.3

Nose: A 22G- 25G cannula should be prefferd in the nose region as well. Yet the physicians should be alert for blanching which is an important sign for vascular compromise. The nose usually requires 0.1 to 1 ml of filler, depending on the patient's needs. Serial injections with 4-6 weeks intervals can also be performed.3

Malar region: Volumazation of the malar mounds not only rejuvenates the mid face but also rejuvenates the lower face due to its pulling effect on the sagging nasolabial folds and mental creases.3,5 The most commonly used techniques are the 4 point and 5 point techniques which were introduced by De Maio et al.. In the 4 points technique, the filler is injected to the zygomatic arch, zygomatic eminence, anteromedial cheek and submalar region. In the 5 points technique, the filler is injected at the zygomatic arch, zygomatic eminence, anteromedial cheek, parotid area and the buccal area.3

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ESCAD SESSION - ADVANCED LASER-ASSISTED TATTOO REMOVAL

Leonardo Marini

Getting and wearing tattoos has become increasingly popular among young adults worldwide. Tattoo ink particles have recently generated concerns regarding their ability to migrate to lymph nodes potentially interfering with accurate interpretation of non-invasive diagnostic procedures. Nano-particles contained in tattoo inks might potentially interact with cellular functions. Tattoos have nevertheless demonstrated a low carcinogenic risk profile.1 Public awareness of potential side-effects associated with tattoos and modifications of psychological acceptance attitudes towards them have contributed to a constantly increasing request of tattoo removal procedures. Super-selective nano-second (ns) and pico-second (ps) QS-LASERs have demonstrated to successfully shatter tattoo particles and are presently considered the gold standard strategies to eliminate tattoos.2-3 Conventional single pass techniques require many sessions to obtain acceptable tattoo clearance. Recently (2012) an innovative multi-pass sequential LASER technique, described as “R-20”, was presented with the aim of speeding-up and optimizing tattoo removal, but inter-pass waiting intervals necessary to clear photo-acoustic-induced “pop-corn” effect set at 20 minutes, were considered excessively long to be implemented in busy dermatologic practices.4 Subsequently different multi-layer LASER strategies have been proposed with the purpose of further improving clinical results. Among these, an innovative approach combining a single ablative fractional CO2 or 2940-nm Er:YAG LASER pass with two/three full beam ns/ps QS- LASER passes has proven quite effective in rapidly clearing intradermal tattoo inks. 5 Ablative fractional LASERs have been also proposed alone as colour-blinded tattoo-pigment destructive systems. Their micro-thermal drilling allows columnar elimination of exogenous dermal pigment at different depths bypassing the “shielding effect” noted when full beam QS laser are used. Minimal quantities of tattoo pigments are also eliminated externally through the micro-holes produced by this kind of technique. When ns/ps full-beam QS-LASER passes are performed immediately after, their photo-acoustic action induce specific shattering of tattoo particles further enhancing their elimination through previously generated trans-epidermal micro-channels along with progressive internal migration to regional lymph nodes. Inter-LASER pass waiting time can be reduced to 5 minutes due to the rapid elimination of cavitation bubbles through the numerous trans-epidermal micro-channels. More than 90% tattoo clearing has been achieved after an average of four/six treatments when this combination strategy has been used.6 More recently similar clinical results have been obtained substituting CO2/2940-nm Er:YAG fractional ablation with high-fluence 1064-nm ns/ps QS-LASER used in a fractional mode. Besides providing a faster and more uniform tattoo pigment clearing, these two innovative tattoo removal strategies did contribute to significantly improve micro/macro textural alterations derived from previously performed multiple tattoo procedures.

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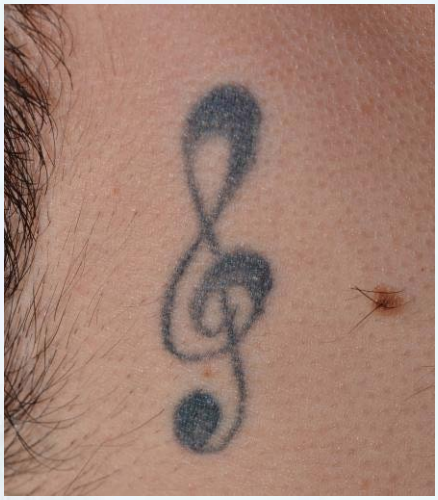
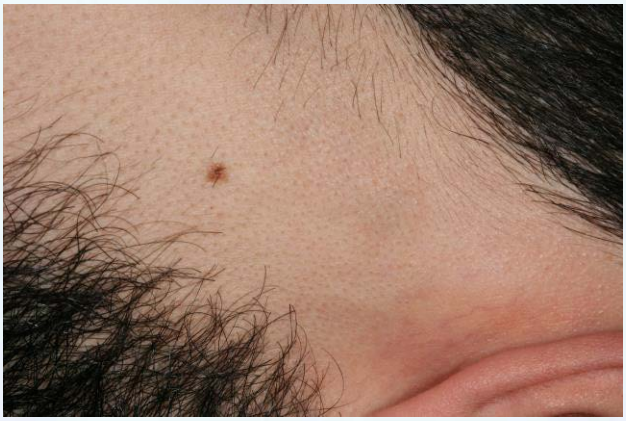
Beforetreatment



After4treatments



ROSACEA – DIAGNOSTIC AND THERAPEUTIC CHALLENGES :OUR EXPERIENCE

Predrag Stilet

• A common chonic inflammatary acneiform disoster of the facial pilosebaceous units.

• It is coupled with an increased reactivity of capillaries leading to flushing and telangiectasia.

• May result in rubbery thickening of nose, cheeks, forehead, or chin due to sebaceous hyperplasia, ederma and fibrosis.

EPIDEMIOLOGY:

Age of Onset: 30 to 50 years: peak incidence between 40 and 50 years.

Sex: Females predominantly, but rhinophyma occurs mostly in males.

Race: Celtic persons (skin phototypes I and II) but also southern Mediterraneans, less frequent or rare in pigmented persons (skin phototypes V and Vi, i.e., brown and black).

Rosacea is seriou disease and represent therapeutic challenge.

HOW I TREAT ACNE

Andreas Katsambas

Acne vulgaris is the most common skin disease that may affect patients of any age. Not all acnes are the same, so, when facing the acne patient, treatment should be individualized. This workshop will present the steps in the management of acne; the first step is the evaluation of the type and the severity of acne, along with the characteristics (age, medical history, gender) of the patient. In females, laboratory evaluation for hyperandrogenism may be indicated. Then, the decision of treatment is based on the characteristics of the acne patient. Acne treatments includetopicals, systemic agents (antibiotics such as tetracyclines, azithromycin, or isotretinoin, hormonal agents, zinc), peels for active acne (salicylic acid), and laser and light sources. Appropriate patient selection is the key in order to decide which treatment to use as first line therapyand to achieve optimal results. In this workshop, the indications, contraindications, dosages, and methods of acne treatments will be presented and 'difficult to treat' acne scenarios will be discussed.

TRANSDERMAL PATCHES IN DERMATOLOGY AND AESTHETIC DERMATOLOGY

Tuğba Kevser Üstünbaş

Transdermal patches are an effective and easy-to –use method of drug administration, allowing an active ingredient to penetrate through the skin and become systemically bioavailable. They can be used in treatment of various indications both in dermatologic conditions and cosmetical procedures. New generation patches are thin, small, and have an adhesive matrix. In these systems drugs are absorbed from skin and reach to circulation via capillaries in the skin after application of adhesive layer. Bypassing hepatic metabolism, providing constant plasma levels of drug for long time, and fewer drug interactions are the main advantages of this method.

These patches are also practical to use and well tolerated modalitites. They can be easily used even in uncooperative patients. Main side effects are usually localized reactions including irritant and allergic contact dermatitis caused by patch or active ingredient and are less common with modern technologies.

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SUN PROTECTOR DIETS

Şule Güngör

Ultraviolet radiation (UVR) induces inflammation, oxidative stress, DNA damage and suppression of the immune system in the skin that contribute to carcinogenesis and photoaging.

Some foods and spices can reverse these harmfull effects of UVR on skin and prevent skin photoaging and photocarcinogenesis. So they may act as endogeneous sun blocks. The main dietry substances that have endogeneous sun protection effect are known as Vitamin C, Vitamin E, Vitamin B3 (niacin) and the vitamin B3 derivative nicotinamide, carotenoids, polyphenols, coenzyme Q, selenium , zinc, omega-3 eicosapentaenoic acid (EPA).

Vitamin C, also known as ascorbic acid, protects endogen antioxidant system and reduces UV-induced lipid peroxidation. The most important vitamin C sources are citrus fruits, strawberry, rose hip, pepper, broccoli and potato.

Vitamin E, also known as tocopherol, ;i) decreases PGE2 levels and enhaces immun response and prevents UVR-induced immunosuppression; ii) decreases malondialehyde concentration and reduces UV-induced lipid peroxidation iii) scavanges ROS iv) decreases DNA miscoding. The most important vitamin E sources are; olive oil, wheat germ oil, coconut oil, sunflower oil, avocado, almond, peanut, goose meat and salmon.

Nicotinamide i) helps to repair of DNA damage induced by UVR by upregulating p53 activity and polyadenosine diphosphate ribose polymerase activity ii) prevents UVR-induced ATP depletion in keratinocytes. Vitamin B3 is found in a wide range of foods including chicken, pork, lamb, beef, fish, mushrooms, nuts, seeds, cereals and yeast.

Carotenoids, including beta-carotene, lutein, and lycopene; play a significant role in reducing oxidative damage in tissues by neutralizing UVR-induced ROS. Carotenoids decrease the level of UVR-induced cholesterol hydroperoxides and MMP expression leading to photoprotective effects. Lycopene protects skin from photocarcinogenesis by reducing UVR-induced MMP1 production and mitochondrial DNA damage. The most important beta-carotene sources are carrot, sweet potato, dark leafy greens, red and yellow peppers, apricot, lettuce and pumpkin. The most important lycopene sources are tomato, watermelon, pink grapefruit, papaya, apricot and guava. The most important lutein sources are green beans, avocado, broccoli, cucumber, spinach, lettuce and asparagus

There are different types of polyphenols found in dietry sources including flavonoids, tea polyphenols (epigallocatechin gallate [EGCG] from green tea, and theaflavins and thearubigins from black tea), grape seed proanthocyanidins, resveratrol, silymarin, caffeine, cocoa polyphenols. Flavonoids i) reverses cis-UCA induced immunosuppression ii) have antioxidant activity. Green tea polyphenols reduces UVR-induced photocarcinogenesis by enhancing repair of DNA damage, as well as reduces UV-induced inflammation by reducing PGE2 formation. Coffee polyphenols have antiinflammatory effect preventing DNA damage. Grape seed proanthocyanids i) inhibite UVR-induced expression of proinflammatory cytokines especially COX-2 ii) stimulate the repair of damaged DNA in UVR exposed skin iii) stimulate langerhans cells, dendrictic cells and prevent the photoimmunosuppression. Olive oil contains phenolic antioxidants hydroxytyrosol and oleuropein, which have been shown to be protective against UVR-induced carcinogenic cellular activity. Another polyphenol curcumin decreases UV-induced carcinogenesis by reducing ROS, MMP1 and MMP3 production. The natural sources of polyphenols include tea, cocoa, grape, wine, soy, blueberry, almond, pomegranate and spices.

Coenzyme Q, selenium , zinc are cofactors for antioxidant enzymes so they maintain endogenous antioxidant system.

EPA i) decreases UVR-induced inflammation by reducing the PGE2 formation ii) protects cell membrane , proteins and DNA from ROS by upregulating antioxidant genes and downregulation prooxidant genes.

Synergistic effects have been noted with these substances, including beta-carotene with alpha-tocopherol and ascorbic acid. Citrus juice has been shown to protect labile green tea catechins during the digestion process, enhancing their stability and activity. The effects of these nutrients may become more potent when the nutrients work together synergistically, suggesting a complete dietary system may be more beneficial than supplementation with select individual nutrient.

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TOPICAL RETINOIDS: WHAT'S NEW?

D. Deniz Demirseren

SUMMARY

In order to treat the acne, psoriasis and mycosis fungoides, topical retinoids are used, whereas they are also used in antiaging. Retinoids exert multiple biological effects since they contain structural and functional analogues of vitamin A. The effects of the retinoids performed through their intranuclear retinoid receptors. The different actions of the retinoids can be summarized in two mechanisms: First to decrease cellular proliferation and differentiation, thereby to decrease the growth rate of follicular keratinocytes; and second to inhibit the blockage of follicles and formation of new lesions, including comedones, inflammatory and noninflammatory lesions. Retinoids reduce the release of proinflammatory cytokines, therefore perform their anti inflammatory mechanism.

Retinoic acid receptors α, β, and γ and retinoid X receptors α, β, and γ are nuclear hormone receptors that act as ligand-controlled transcription factors, activated when natural or synthetic retinoid agonists bind in the active site located in the Ligand Binding Domain of the receptor. The classification of the retinoids were made as first, second, and third generation retinoids.

Within the first generation all-trans-retinoic (tretinoid), 13-cis-retinoic acit (isotretinoin) and 9-cis-retinoic acit (alitretinoin) can be found. Second generation retinoids including etretinate and acitretin were classified through replacement of the beta-ionine ring in all-trans-retinoic acit with an aromatic structure.

Third generation retinoids including adapalene, bexarotane and tazarotene were classified after the discovery of retinoic acid receptors, receptor specific. Galderma Research and Development LLC developed topical trifarotene for the treatment of acne vulgaris which is a first-in-class, fourth-generation retinoid [selective retinoic acid receptor -γ agonist].

Trifarotene is approved in October 2019 in the USA for the topical treatment of acne vulgaris in patients older than 9 years of age. In multiple mouse models trifarotene exhibited superior comedolytic, anti-inflammatory and depigmenting activity compared with other topical retinoids. Trifarotene is a potent and selective RAR-γ agonist and this may avoid RAR-β-mediated skin irritation. Consequently, it is hoped that this might translate to a better tolerability.

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STEM CELL THERAPY IN RAYNAUD'S PHENOMENON & ORAL LICHEN PLANUS

Fahad Usman

Introduction & Objectives: Raynaud's phenomenon is a problem that causes decreased blood flow to the fingers [1]. In some cases, it may cause less blood flow to other areas such as the ears, toes, nipples, knees, or nose. This happens due to spasms of blood vessels in those areas. The spasms happen in response to cold, stress or an emotional upset.

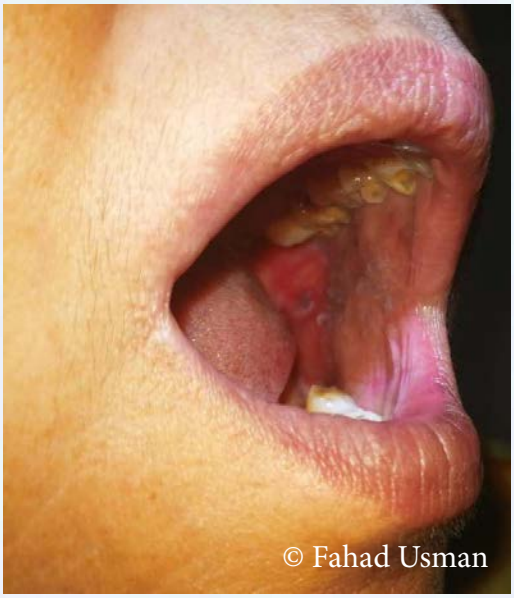
There are two forms of the Raynaud's phenomenon: the primary form which occurs on its own, and the secondary form which happens along with other diseases. The diseases most often linked with Raynaud's phenomenon are autoimmune or connective tissue diseases such as Lupus (systemic lupus erythematous), Scleroderma, etc. The primary form of Raynaud's is the most common type. It often begins between ages 15 and 25. It's less severe than the secondary form. People with primary Raynaud's do not often develop a related condition.

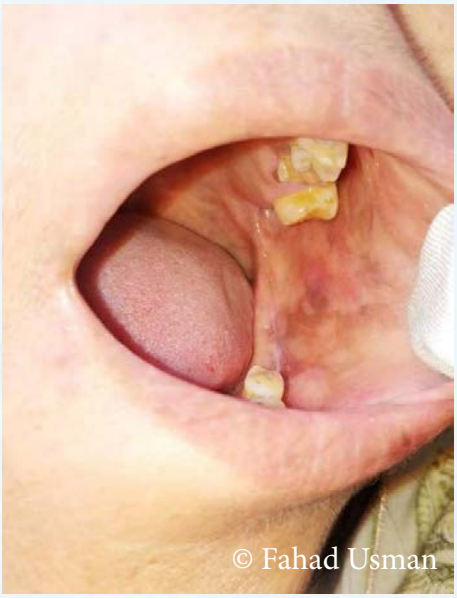
Oral Lichen Planus (OLP) is a chronic inflammatory disease that affects the skin and the mucus membrane [2]. OLP is a T-cell mediated autoimmune disease in which the auto-cytotoxic CD8+ T cells trigger apoptosis of the basal cells of the oral epithelium.
Stem cells can be derived from bone marrow, adipose cells and peripheral blood [3]. Platelet rich plasma (PRP) is a concentrate of protein derived from whole blood and Bone Marrow, centrifuged to remove red cells. It stimulates antimicrobial activity and enhances the regeneration process. Adipose Derived Stem Cells (ADSC) give a higher concentration of the stem cells in the shape of SVF (Stromal Vascular Fraction) [4].
The objective of this study is to control the severity of the disease using stem cell therapy.
Material & Methods: This study has been conducted on patients with Raynaud's Phenomenon and Oral Lichen Planus with a proper clinical

and laboratory diagnosis. For PRP, the sample (Bone Marrow or Peripheral Blood) should be collected in a blood collecting tube. After centrifugation the plasma is separated from blood. ADSC-SVF should be extracted from Adipose cells through Lipo-aspiration or Liposuction Procedure.
The plasma should be injected through Papular or Nappage technique into the targeted area, whereas the ADSC-SVF infusion through IA/IV.
Results: All the patients included in this study showed about 70-80% improvement, some within weeks and some within months. Using stem cell therapy in Raynaud's Phenomenon and OLP we were able to achieve the following effects:

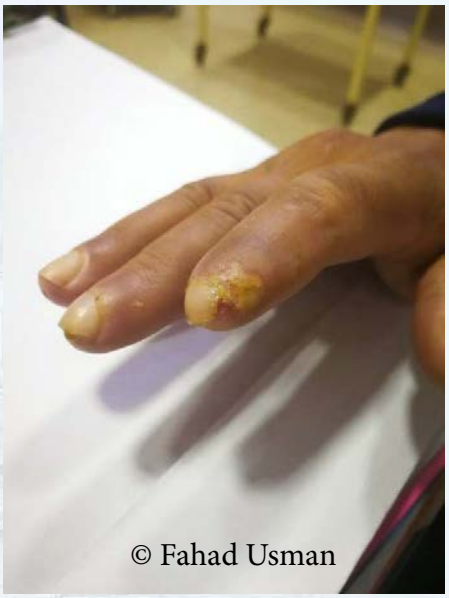
- Anti-inflammatory Effect
- Tissue regeneration
- Pain relief
- Increase vascularity
- Anti-bacterial effect
- Treat neuropathies
- Analgesic effect
- Cell metabolism
- Accelerated wound healing

Patient 1: Oral Lichen Planus Results achieved within a month

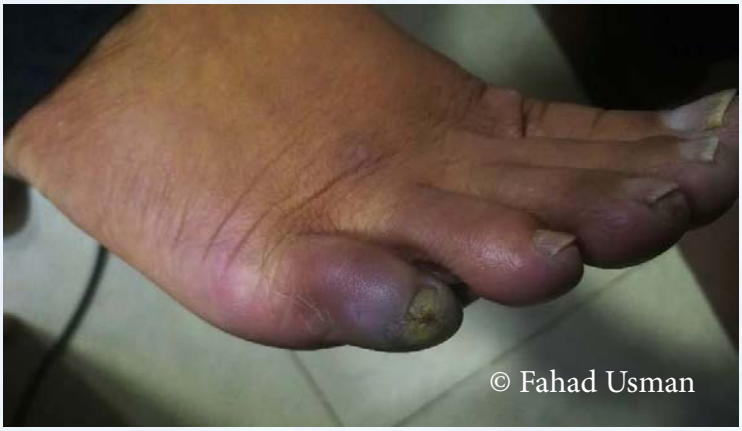


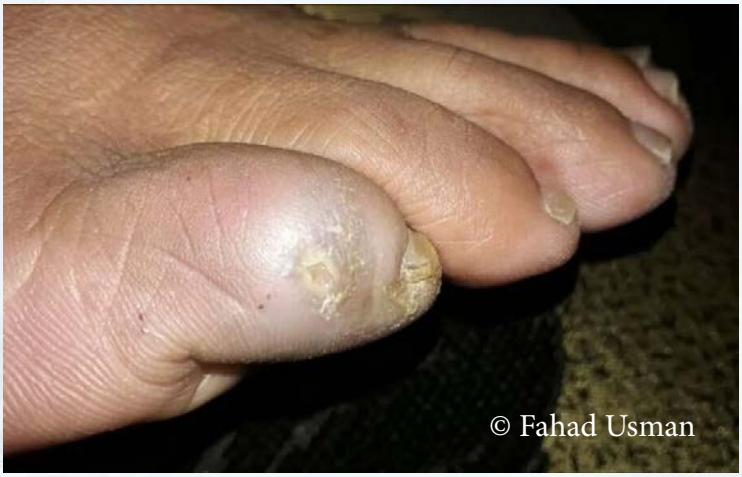


Patient 2: Raynaud's Phenomenon Results achieved within 3 weeks



Patient 3: Raynaud's phenomenon Patient was relieved within 1 month





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BOTULINUM TOXIN-A: PITFALLS – HOW TO AVOID AND WHAT TO DO.

Andreas Katsambas

The cosmetic use of Botulinum Toxin-A continues to increase since its approval some years ago. Despite the fact that more than 80% of patients using Botulinum Toxin-A are satisfied with the results, there still remains the 20% of patients who express dissatisfaction with the final outcome.

Among many, some reasons for pitfalls when using Botulinum Toxin-A can be:

(a) Higher or lower dosage (usually the latter), due to hesitation by doctors, especially young and/or inexperienced who are afraid of possible side effects.

(b) Wrong positioning of the injection point (e.g. women who pluck or draw new brow lines can cause confusion of the exact injection point).

(c) Superficial veins, especially around the eyes (crow's feet area) at times cannot be identified and may in some cases cause bruising.

(d) Existing asymmetries which are not explained to the patient by the doctor prior to using Botulinum Toxin-A may result in patient dissatisfaction afterwards.

Although there are some difficult indications in the use of Botulinum Toxin-A, it can prove to be quite successful if correct methods are adopted.

MICROBIOME IN PSORIASIS AND PSORIATIC ARTHRITIS

Burhan Engin

For centuries micro-organisms have co-evolved with humans inhabiting most of the mucosal sites. These organisms are fundamental for human physiology and helps us maintain immune hemostasis. In the recent future the microbial signaling that is involved in disease pathogenesis is emerging and continues to be unraveled in dominions of autoimmunity and oncology.

The microbiome represents the collection of all microorganisms inhabiting the human body, including bacteria, fungi, protozoa and viruses. The majority of these organisms inhabit our gut, in particular the large intestines. Microbiome being essential in human development so any dysregulation may lead to autoimmune disorders like diabetes mellitus, rheumatoid arthritis, multiple sclerosis and psoriatic disease. Microbiome was unknown until the 90s, however it was discovered that both GI and cutaneous flora effects the development and function of immune system.

As soon as food is introduced in the first year of life the microbiota starts to form and over timeit becomes robust and resilient. Cutaneous microbiome is vigorously researched in inflammatory skin diseases like psoriasis, atopic dermatitis or hidradenitis suppurativa and it is long argued that psoriatic disease is driven by altered host bacteria. Multiple studies on the microbiome proved that psoriatic patients tend to have increased number of streptococcus and a decreased level of propionobacterium acnes. Meanwhile in the gut microbiome the ratio of firmicutes and bacteriodes is disturbed in patients with psoriasis. A disturbance in skin microbiome flora diversity may be an ominous sign of an elevated risk of arthritis. The skin microbiota is very diverse due to existence of multiple microhabitats characterized by dominance of specific bacteria e.g. sebaceous sites are predominated by Propionibacterium spp., moist sites being dominated by streptococcus and Corynebacterium meanwhile the dry sites are mainly dominated by gram negative bacteria.

At the beginning microbial flora was thought to be restricted to more superficial layer of the skin like the epidermis, hair follicles and sebaceous glands. Meanwhile various analyses suggested otherwise proving that microbes are also found in deeper dermis and underlying fat tissue.

Due to the variety of the microflora between different individuals it has been difficult defining a standard. However it is generally thought that a healthy skin microbiome is characterized by a high diversity of symbiotic bacteria. In contrast in patients with psoriatic skin a loss of microbial diversity and an increased number of pathogenic bacteria is found.

Together with the role of bacteria, the yeast microbiome is also important. The majority of the interactions between the individual with fungi takes place in the GI tract and the skin. Most types of fungi are resident in the skin, genitals and GI mucosa without causing disease. In a recent research it was found that baker's yeast also known as saccharomyces cerevisae is abundant in GI tract and is decreased in psoriatic patients.

Dysbiosis in the GI flora leading to systemic disorders is best proved in diseases like Reiter syndrome. In which a disturbance in the GI tract like a campylobacter infection leads to joint inflammation in genetically inclined individuals and about 20% of these individuals go on to develop ankylosing spondylitis. A similar pathophysiology is seen in whipple disease and jejunoileal bypass arthritis and fascinatingly over 50% of the patients with SpA or PsA have subclinical intestinal inflammation. Furthermore asymprtomatic sacroiliitis leading to fully blown AS is seen in 10% of the patients with IBD. The importance of the microbiome was further proved in animal models where HLA-B27 transgenic rats grown in sterile conditions did not develop autoinflammatory disorders however those exposed to pathogens developed psoriasis-like skin lesions, peripheral arthritis and Crohn-like ileitis supporting the hypothesis that dysbiosis is necessary in initiation of diseases.

NEEDLE STICK AND SHARPS INJURIES IN DERMATOSURGERY

Necmettin Akdeniz

Healthcare professionals can face many risks and dangers in the workplace. Needle stick and sharps injuries, which are among the occupational risks of healthcare workers, continue to pose a danger since the injector was first used in 1845.

Needle stick and sharps injuries is also the leading cause of morbidity in the field of dermatology. Among medical professionals, surgeons and dermatologists have the highest needle and sharp injury rates. High needle and sharp injury rates in dermatology apply not only to doctors, but also to nurses, physician assistants and health technicians in the dermatological field.

It states that the majority of needle stick and sharps injuries are caused by subcutaneous vehicle. Disposable needles are 32%, suture needles 19%, winged steel needles (butterfly) 12%, scalpels 7%, IV catheter needles 6% blood collection needles cause 3% injury.

How the event occurred; Injury needle application (26%), needle disposal (23%), collision with a worker (10%), cleaning (10%), IV entry (6%) and needle closure (6%) injuries.

Most needle stick and sharps injuries are preventable injuries. It is reported that 80% of needle stick and sharps injuries cases can be prevented by using safe tools.

PREVENTION OF NSIs FROM SYRINGE NEEDLES

- Follow simple safety procedures such as following general safety rules;
    - o Avoid hand to hand passage of sharps and injectors
    - o Maintain a consistently organized surgical tray
    - o Position surgical table at appropriate height
    - o Position surgical tray/instruments in a convenient and easily accessible location
    - o Avoid unnecessary bending or straining
    - o When sharps are in surgical field assistant should utilize a hemostat grasping gauze or cotton-swabs to blot surgical field
    - o Wearing safety glasses or gloves.
    - o Avoid over-sized surgical gloves
    - o Utilize cotton-tip applicators for counter traction
    - o Always utilize eye and mucus membrane protection
- Use needles or instruments designed for this purpose as much as possible to prevent contamination with blood and body fluids.
- Utilize Safety Syringes—syringes with auto-disable and protective sheaths
- Avoid “re-capping” needles
- Avoid placing hand in direction of applied force
- Immediately dispose of used syringes
- Use needles or instruments designed for this purpose as much as possible to prevent contamination with blood and body fluids.
- Needles do not break, twist,

- Use injectors with safety mechanisms when administering local anesthetics or injectable drugs.
- Use a blunt-tip needle when taking medication from the vial.
- Do not put the cap or cover on the used needles again.
- If the cap needs to be recapped, use mechanical tools or one-handed technique.
- Immediately dispose of used syringes in special box

Needle and sharp injuries are of great concern due to the money, opportunity, social and emotional costs associated with their occurrence.

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POSITION STATEMENT FOR THE MANAGEMENT OF COMORBIDITIES IN PSORIASIS

Nida Kaçar

Psoriasis is a systemic inflammatory disease. It is associated with increased risk of many comorbidities including psoriatic arthritis, cardiovascular disease, diabetes, metabolic syndrome, inflammatory bowel disease, obesity and nonalcoholic hepatic steatosis. Comorbidities are important both in the selection of psoriasis treatment and the treatment of comorbidities can contribute positively to psoriasis management. Thus, awareness of comorbidities is important. Potential comorbidities, treatment options and lifestyle changes should be discussed with the patient. The clinician should be aware of the comorbidities and in this respect, patients should be followed carefully.

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COSMETICS OF SKIN CANCER SURGERY OF THE FACE

Eckart Haneke

Approximately 85% of all skin cancers develop in the head and neck region, and more than 40% are localized on the nose. This reflects the peak of sun exposure and its associated ultraviolet radiation. Until the age of 70 years, approximately 70% of all light-skinned Caucasians develop actinic keratoses, often multiple, not rarely by the hundreds. This field cancerization poses important therapeutical challenges as to the eradication of precancers and invasive carcinomas.1 This is also the reason why tumour excisions have to be carried out sparingly but completely – requiring Mohs surgery and defect repair without waste of adjacent skin.

Provided a cutaneous cancer has been completely excised there are several options for good cosmetic defect repair. Primary surgery often gives excellent cosmetic results; however, the length-to-width ratio of 3 to 1 represents a tremendous waste of tissue, up to 70%. Skin saving sutures help to make the excisions shorter and waste less skin.2,3 Secondary intention healing is a good option for certain concave facial areas such as the inner corner of the eye.4 Free grafts, either split-thickness or full-thickness skin, are less adapted for facial defects as they will remain foreign skin in the face. Full-thickness skin grafts give excellent results when used for defects of the pinna.5,6 Flap repair is the optimum for many defects. Again, flaps that require large tissue movements with Burow triangles are good for single carcinoma but may soon reach their limits in case of multiple tumours. These flaps are island pedicle flaps that are based on the principle of VY advancement and ideal for defects under the eyes, in the perinasal area, lower lids, etc. Another method to avoid skin waste by Burow triangles is the use of back-cuts which is ideal for kite flaps and also larger rotation flaps.

Certain facial areas require special solutions for defect repair. The pinched advancement flap is an excellent solution for defects of the tip of the nose and other convex structures such as the lower chin.7,8 Rotation flaps are good for large defects of the cheeks.

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DERMATOLOGIST AND PSORIATIC ARTHRITIS

Emin Özlü

Psoriatic arthritis (PsA) is a prevalent and underdiagnosed disease with potential long-term complications and sequelae for patients. Dermatologists are on the front line to identify PsA in their patients with psoriasis. It was shown that that psoriatic arthritis is associated with cardiometabolic and cerebrovascular comorbidities, including coronary heart disease, diabetes mellitus, hypertension, dyslipidemia, and cerebrovascular accidents, further highlighting the importance of identifying affected patients.

Recognition of the clinical features of PsA is critical, as delayed detection and untreated disease may result in irreparable joint injury, impaired physical function, and a significantly reduced quality of life. In this talk, the importance of PsA for dermatologists will be reviewed and discussed.

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SAFETY TIPS IN DERMATOLOGIC SURGERY

Amor Khachemoune

Dermatologists perform a significant number of in-office procedures daily. As such, one must be aware of potential complications and safety issues. In this presentation, I will review common tips to increase both patient and medical staff safety during these procedures. The aim of this lecture is to highlight some safety issues and review protocols and methods implemented to minimize error and injuries.

PEDIATRIC PSORIATIC ARTHRITIS

Betul Sozeri

Pediatric psoriatic arthritis (PsA) is one of seven categories of juvenile idiopathic arthritis (JIA) as defined by the International League of Associations for Rheumatology (ILAR). The prevalence of pediatric PsA is not known with certainty, and there appears to be considerable geographic variation. It represents approximately 7 % (range: 0 to 11 percent) of all patients with JIA. The age at onset of disease is bimodal. A first peak (mainly in girls) occurs during the preschool years ANA positive, and affected by dactylitis, the sausage-like swelling of individual digits; the second peak is seen during middle to late childhood and resembles adult psoriatic arthritis. Pediatric PsA is very uncommon before the age of one year.

Pediatric PsA is clinically heterogeneous. Arthritis in JPsA begins as an oligoarthritis in approximately 80% of children. Initial presentation as monoarthritis is relatively common, and in some patients the disease begins with dactylitis in the absence of other joint involvement. The most commonly involved joints are the knee and ankle, with hip joint disease in up to 20-30%. Even in children in whom arthritis remains oligoarticular, wrists, ankles, and small joints of the hands are more frequently affected than in other subtypes of oligoarthritis. Polyarticular onset is observed in 20% of cases, although the number of joints involved is often lower than in other forms of childhood-onset polyarthritis, especially seropositive disease. As a result, joints affected by pediatric PsA are often asymmetrically distributed. Sacroiliitis, often asymmetric, principally affects patients with older age. Enthesitis denotes inflammation localized to the insertion of a tendon, ligament, fascia, or joint capsule into bone. Enthesitis is prevalent in half of patients within the older onset. Dactylitis refers to swelling within a digit that extends beyond the borders of the joints. In children, dactylitis is observed in 20% to 40% of patients. Most commonly the second toe and index finger are affected. Overt psoriasis occurs in 40 to 60 % of patients.

No randomized controlled trials (RCTs) have been conducted in pediatric PsA. Psoriatic synovitis is potentially destructive of cartilage and bone, may compromise bone growth in the immature skeleton. The goal of therapy is therefore remission, with normalization of physical findings and laboratory markers of inflammation. Efficacy has been demonstrated for nonsteroidal anti-inflammatory drugs (NSAIDs), sulfasalazine, methotrexate, leflunomide, and the anti- TNF agents. The basic treatment algorithm is similar to that employed in other subtypes of JIA.

The long-term outcome of children with JPsA is incompletely defined. Patients followed at least 15 years demonstrated worse functional outcome than patients with oligoarticular or polyarticular JIA, and 33% still required DMARD therapy.

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ANATOMY AND APPLICATION OF THE SUTURES IN DERMATOSURGERY

Hasan Mete Aksoy

There are an increasing number of suture materials and suturing techniques described in the medical literature. A dermatologic surgeon's familiarity with these suture materials and suturing techniques is important to supplement his or her already established practices and improve surgical results.

Sutures are the materials which are most commonly used in skin closure. There are a variety of suture types, each with their own unique characteristics. These characteristics must be understood to choose the best suture for a particular wound closure procedure. Sutures are best characterized by their physical properties, which include composition, configuration, surface, coating, color, and ability to degrade over time. Properties of suture materials are tensile strength, knot security, capillarity, elasticity, plasticity, pliability, memory, tissue reactivity and coefficient of friction.

Sutures are made up of either natural or synthetic materials. The configuration of a suture indicates whether it is multifilament or monofilament. Multifilament sutures are made up of several filaments, braided, or twisted together, whereas monofilament sutures are composed of a single strand. The surface of monofilament sutures can be smooth or barbed. Monofilament sutures are uncoated but multifilament sutures may be uncoated or coated. Several suture types are available with an antibiotic coating of triclosan. Color addition to a suture makes it easier to visualize.

A suture material is accepted as absorbable if it loses most of its tensile strength within 60 days of tissue implantation. A natural suture material is degraded by proteolysis, whereas a synthetic suture is degraded by hydrolysis. Sutures which retain most of their tensile strength beyond 60 days are considered to be nonabsorbable. The absorbable sutures that are most preferred by dermatologic surgeons are polyglactin 910, poliglecaprone 25, polyglycolic acid, and polydioxanone. The nonabsorbable sutures most preferred by dermatologic surgeons are nylon and polypropylene.

The ideal skin closure method is the one that decreases tension on edges of the skin, provides precise wound edge approximation and eversion, ensures adequate hemostasis, is relatively fast for the surgeon to execute, and leaves few or no lasting suture marks. The best technique to achieve the ideal skin closure changes depending on intrinsic skin characteristics and the defect location. In many cases, dermatologic surgeons use standard buried dermal or buried vertical mattress sutures and simple interrupted or simple running sutures to close skin defects or incisions. However, there are other wound closure techniques like horizontal mattress suture, running subcuticular suture, running horizontal mattress suture, running locking suture, and inverting horizontal mattress suture to achieve wound hemostasis and better cosmetic results. Excessive wound tension can cause wound edge separation and scar widening with time. Deep, tension-relieving suture placement is helpful, especially in large tissue defects, to eliminate surface tension. These tension relieving sutures include the suspension, imbrication, plication, corset plication, and pulley sutures. The "tip" stitch (both traditional and buried) is useful for approximating 3 or more edges of tissue together. Guitar-string sutures and purse-string closures are helpful techniques to reduce the defect size before grafting or flap placement.

Numerous factors must be taken into account when choosing a suture type and suturing technique. These factors are wound tension, desire for wound edge eversion, desired hemostasis, repair type, patient's ability to care for the wound and return for suture removal, skin integrity, and location of the wound. Careful consideration of all these factors and proper execution of suturing techniques can result in excellent cosmetic outcomes.

In conclusion, a dermatologic surgeon must know when and how to use sutures and suturing techniques.

PEDIATRIC QUALITY INDEX, FAMILY QUALITY INDEX IN PSORIASIS

Andaç Salman

Psoriasis is a chronic, inflammatory skin disease which is increasingly being associated with systemic and psychosocial comorbidities. Almost one-third of the patients with psoriasis has an onset during childhood. Considering the pyschosocial development during childhood, the major role of families in the treatment of their children and importance of quality of life (QoL) assessment in the management of chronic diseases, pediatric patients with psoriasis should be evaluated for the impact of disease on the patients' and their families' life quality. Moreover, QoL assessment is recommended in the recently published comorbidity screening guidelines. In this lecture, a brief overview of the burden of psoriasis on patients' and their caregivers' and different indices that can be used for QoL assessment in routine clinical practice will be given.

WHAT CAN WE USE FOR HEMOSTASIS IN DERMATOSURGERY?

Hasan Mete Aksoy

Hemostasis is the act of restricting or stopping blood flow from a damaged vessel or organ. Two types of bleeding are seen during a surgical procedure; arterial bleeding which can be seen to pulsate and venous bleeding which oozes rather than pulsates.

Effective control of bleeding is critical for obtaining positive outcomes in the surgical patient. During a surgical procedure, bleeding must be taken under control, not only to provide the best view of the operative site, but also to avoid the adverse physiological effects associated with loss of blood. Adverse effects of uncontrolled or diffuse bleeding during surgery include visual obstruction of the operative field, need for blood transfusions, reduction in core body temperature, thrombocytopenia, hypovolemic shock and economic consequences.

When the natural process of blood clotting does not occur following surgical trauma to blood vessels, other methods of achieving and maintaining hemostasis are often indicated. Effective management of hemostasis in the surgical patient is very important in the practice of surgery including dermatological surgery. Various methods are available for control of bleeding during surgery. There are risks, benefits, indications, contraindications, and adverse effects associated with available surgical hemostasis methods. The methods currently available to manage surgical bleeding control are mechanical hemostatic techniques, thermal/ energy based methods, and the various types of topical hemostatic agents. Mechanical hemostatic methods include direct pressure, clamps, ligating clips, suture ligation, figure of 8 or plication sutures and bone wax use. Thermal or energy based methods include laser use, cryosurgery, harmonic scalpel, vessel sealing device, ultrasonic energy and electrocautery (monopolar and bipolar). Chemical methods of hemostasis are vasoconstrictors and topical absorbable hemostats. Topical absorbable hemostats include topical thrombin, fibrin glue, microfibrillar collagen, oxidized regenerated cellulose, methyl cellulose (Gelfoam) and combination of thrombin, gelfoam and CaCl. Systemic agents like vitamin K and tranexamic acid can be used for achieving surgical hemostasis.

Determining patients at risk for prolonged or excessive bleeding prior to a surgical procedure is also very important. So preoperative screening for bleeding risk is important. Hemostasis screening tests like bleeding time, clotting time, platelet count, prothrombin time (PT) and activated partial thromboplastin time (aPTT) can be used to determine risk for excessive bleeding in addition to history and physical examination.

PEGYLATION IN DERMATOLOGY

Semahat Alp Erdal

PEGylation, first describing in the 1970s, is the biomasking strategy using bioconjugation technique. The term PEGylation describes the modification of biopharmaceutical products by covalent conjugation with Poly(ethylene glycol) (PEG) molecule, which is synthetic, non-toxic, non-immunogenic, highly soluble in water, and FDA approved polymer (1). PEG is an important biocompatible polymer for pharmaceutical, cosmetic, and medical applications and is used for an extremely wide scale of products ranging from skin care products to laxatives, and biological products including proteins, peptides, hormones and enzymes (2).

Biological products have gained the pharmaceutical importance mainly in terms of their high specificity, rapid onset of action and requirement for relatively small doses compared to conventional synthetic molecules. However, most biomolecules unfortunately have short circulating lives, low stability due to proteolytic and enzymatic degradation in vivo and rapid clearance from the body via glomerular filtration. PEGylation is used to overcome these disadvantages, and changes the physical and chemical properties of the biomedical molecule (1,3). This modification improves drug solubility and localization at specific disease sites, increases stability, decreases immunogenicity and antibody recognition, also reduces proteolysis and renal excretion, thereby allowing a reduced dosing frequency. In order to benefit from these favorable properties, a variety of therapeutic proteins, peptides, and antibody fragments have been PEGylated (1,4). PEGylation plays an important role in drug delivery, enhancing the potentials of peptides and proteins as therapeutic agents (5). Since 1990, 12 PEGylated biopharmaceuticals have been introduced into the market as drugs approved by FDA for human use in US and/or Europe. These drugs have used in several chronic diseases including hepatitis C, leukemia, rheumatoid arthritis(RA), psoriatic arthritis(PsA) and Crohn disease (1). Certolizumab pegol is a humanized Fab of a monoclonal antibody (50 kDa) that has been conjugated with a 40-kDa PEG moiety (Figure1). It binds to TNF-α generally considered as the master pro-inflammatory cytokine, and blocks its interaction with TNF receptors (6). The lack of the IgG Fc region can result in the fast degradation of biologics because the binding of the Fc region to the neonatal Fc receptor (FcRn) in the endosome is important for regulating antibody homeostasis by protecting IgG from degradation, thereby contributing to the long plasma half-life of IgG. However, the plasma half-life of certolizumab pegol has prolonged by the presence of the covalently linked PEG moiety, because PEGylation increases the plasma half-life and solubility and reduces immunogenicity and protease sensitivity. Despite its inability to bind to FcRn, the serum half-life of certolizumab pegol (14 days) is comparable to those of other IgG1 drugs, including infliximab (8–10 days), adalimumab (10–20 days), and golimumab (9–15 days). The distribution of certolizumab pegol in the inflamed joint is greater than those of infliximab and adalimumab, and this is probably due to the unique structure of certolizumab pegol (7). The lack of the Fc region in certolizumab pegol results in no activity of complement-dependent cytotoxicity (CDC) and antibody-dependent cell-mediated cytotoxicity (ADCC), whereas other TNFα blockers can induce potent CDC and ADCC (6,7,8). Additionally, it obviates interaction with the FcRn, therefore minimizing its transfer across the placenta (6,9).

Certolizumab is FDA-approved for the treatment of plaque psoriasis, PsA.6 Certolizumab pegol is likely to have similar class characteristics to the other TNF-a inhibitors regarding treatment combination, efficacy in difficult-to-treat areas, and possibly, immunogenicity. Nevertheless, there is no evidence available on these topics, and these statements are based on extrapolation of data from other TNF-a inhibitors (6). The melting point of PEG depends on the chain length and can be tailored in the physiological temperature range by blending and cocrystallizing different molecular weights of PEG, which is important for skin creams, ointments, and suppositories (1).

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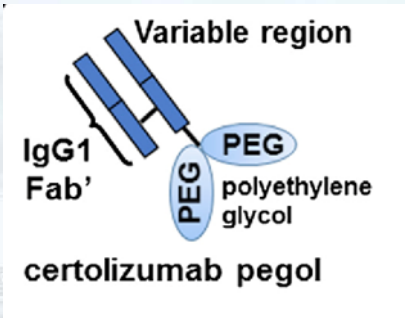


Figure 1. Structure of Certolizumab pegol

(Figure 1. from Mitoma, H., Horiuchi, T., Tsukamoto, H., & Ueda, N. (2018). Molecular mechanisms of action of anti-TNF-&agr; agents – Comparison among therapeutic TNF-&agr; antagonists. Cytokine, 101, 56–63.)

INTERESTING DERMOSCOPY INDICATIONS

M. Cüneyt Soyal

Dermoscopy is a diagnostic technique originally developed for evaluation of melanocytic and pigmented lesions. But In recent 10 years, It has been used to diagnose of various nonmelanocytic skin tumors, inflammatory and contagious skin disease. It is accepted as “the dermatologist’s stethoscope” just for today, New and interesting facilities and extrasordinary techniques for dermatoscopy will be presented.here

MUCOSCOPY: WHAT IS NEW?

Mustafa Turhan Sahin

Dermoscopy (dermatoscopy), is a noninvasive technique performed using a handheld instrument called a dermatoscope. This technique is widely used for the examination of pigmented and nonpigmented lesions of the skin, scalp, nails, palms, and soles. By using dermoscopy, the clinician's diagnostic accuracy increases, and may allow the recognition of malignant skin tumors at an early, curable stage. There is increasing evidence that dermoscopy may also be helpful to differentiate benign from malignant or suspicious lesions arising in the mucosa. This presentation will review the dermoscopic features of pigmented and nonpigmented mucosal lesions and the dermoscopic criteria for differentiating benign from malignant tumors.

DERMOSCOPY OF ACRAL LESİONS

Ercan Arca

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.

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.

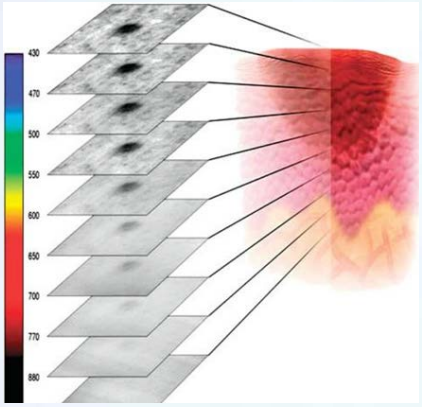
Transition pattern – Pigment network on the nonglabrous side and parallel furrow pattern or lattice-like pattern on the glabrous side of the lesion.

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 dermoscopic 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.

SIASCOPY: BEYOND DERMATOSCOPY

Ahmet Metin

Multispectral digital dermoscopy is a noninvasive diagnostic tool for examination of the skin lesions. It gives result by the emmiting of the lights of different wavelengths to the skin surface and by collecting the reflected rays with a computer-based analysis program [1,2]. For this purpose, 3 devices called Melafind, SolarScan and SIAskopi are used. While computer-aided automatic diagnosis is provided with Melafind and SolarScan, images obtained by SIAscope require interpretation the physicians. (Figure 1).



Şekil 1: View obtained at different depths in Multispectral Digital Dermoscopy

Siascopy (Spectrophotometric Intracutaneous Analyze Scopy) is one of the modern diagnostic methods that allow rapid spectral analytical examination of the skin lesions. In the evaluation with this method, skin lesions are examined regional or locally spectroscopically by light from 5 different spectra from 400 to 1000 nm. As a result, information is obtained beyond the examination of the lesions with the naked eye and dermoscopic examinations. Structural chromophores at a depth of 2-2.5 mm from the surface of the skin (to the papillary dermis) are targetted in a siascopic examination. Images of the tissue structure are obtained by measuring the light that, absorbed or reflected from up to this depth.

These measurements provide information about the age-related changes of the skin, the concentration, distribution and position of epidermal and dermal melanin, hemoglobin, dermal collagen and blood vessels. It is a digital colorimetric analysis technique based on imaging the lesions in the diagnosis of pigmented lesions, infrared wavelength radiation with visible spectrum rays, which are completely harmless and painless [2, 3]. By using computer algorithms, 5 images containing color, total melanin, dermal melanin, vascular and collagen are obtained [4]. The siascope device consists of a combination of a dermatoscop, with a contact remittance spectrophotometer, and hyperspectral imaging [5] (Figure 2)

Şekil 2. Contact Siaskop V

A computerized scoring algorithm “PCSA” has been developed, which is integrated with the SIAscope scanner, to be used for melanoma screening by physicians providing primary care. In addition, optional and 7 point and 3 point scoring software has been added to be used for the same purpose.

Dermoscopy can only be useful when used by physicians who have had long-term training and experience in this field. In addition to the interpretation of the colors appearing in dermotoscopy, Siascopy is also provided with extra three colour and an infrared light spectrum to evaluate the lesion by computerized analysis. For this reason, histological maps revealed by SIAscopic examinations for evaluating lesions are always more useful. Moreover, it is much simpler to learn the features determined for skin lesions and useing the device

in SIAscopic examination.

Findings such as dermal melanin, erythematous appearance, blood vessel displacement and the presence of collagen holes are quite characteristic in a siascopic examination to be used for the diagnosis of pigmented lesions, mainly melanoma.

In studies, the sensitivity in the diagnosis of melanoma has been reported at rates ranging from 79-94% and specificity between 80.1-84% [6,7].Siascopy has been found useful in the diagnosis of non-melanoma skin cancers [8]. There are also studies that find SIAscopy less sensitive and specific than dermoscopic examinations. However, all of these have been done in the superior research institutions, which have dominated dermoscopy and have the possibility of histopathological examination.

On the other hand, although a few in number, siascopy has been used in various skin diseases and cosmetological problems besides pigmentation disorder and malignancy. These; photo aging, psoriasis, keloid, wound healing, burns, rosacea, planer warts are issues such as [9]

Given the present value and status of siascopy; it is possiple to say that “Although it also provides a colorful image equivalent to dermoscopy, siascopy has remained in the shadow of dermoscopy” and has not yet found the place it deserves in dermatologic practice. This is probably due to the fact that the technique is new, the technology is different, the devices are expensive, the optical principles are mixed and difficult to understand for dermatologist.

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TO CALCULATE PASI (10 CASES WITH PHOTOS. WE WILL USE KEYPADS IN AN INTERACTIVE SESSION)

Kemal Ozyurt, Filiz Topaloglu Demir

Psoriasis is a common, chronic, multifactorial, multisystemic inflammatory disease with mostly skin and joint involvement. It can present with different clinical types. Chronic plaque psoriasis is the most common subtype, characterized by well-demarcated, erythematous plaques with overlying, coarse scale. Assessment of psoriasis vulgaris severity is multifaceted and unfortunately there is no single tool that can evaluate the severity of the disease in all aspects (1). The most commonly used scales are Psoriasis Area and Severity Index (PASI), the global assessment of the physician (PGA) and the body surface area (BSA) showing the % distribution of the areas showing involvement. PASI combines the assessment of the severity (erythema, induration and desquamation) of lesions and the percentage of affected area into a single score in the range 0 (no disease) to 72 (maximal disease) (2,3). It is the most extensively studied and validated reference scoring system accepted for psoriasis severity assessments but is limited by its subjectivity and low intra- and inter-rater consistency (1,3). PASI measurements are also time consuming and recommended to be done by the same person. There are some free online applications that can help physicians and patients in the computation of the PASI. A new computerized method, based on the proprietary Fotofinder system to measure PASI has also been described to solve the problem (4) .In this session, PASI calculation will be performed from the photos of 10 psoriasis patients.

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DERMOSCOPY OF PIGMENTED FACE LESIONS

Ömer Faruk Elmas

Dermoscopy significantly improves the diagnostic accuracy of pigmented and non-pigmented skin lesions. However, the dermoscopic differential diagnosis of facial lesions may be challenging, due to the peculiar anatomic and histologic features of facial skin. Solar lentigo, pigmented actinic keratosis, lichen planus like keratosis and lentigo maligna are the common pigmented flat facial lesions.

The presence of four dermoscopic criteria has high sensitivity and specificity for the diagnosis of lentigo maligna when compared to solar lentigo or early seborrheic keratosis. These criteria include asymmetric pigmented follicular openings, dark rhomboidal structures, gray globules, and gray dots. Every single criterion can also be seen in solar lentigo or seborrheic keratosis but the presence of all four features together is strongly suggestive of lentigo maligna. In contrast, light brown curved lines, milia like cysts, scalloped borders and sharp demarcation have been associated with the diagnosis of seborrheic keratosis or solar lentigo. Recent studies revealed that lentigo maligna and pigmented actinic keratosis show strikingly similar dermoscopic patterns. Basically, any of the established criteria of lentigo maligna can be also seen in pigmented actinic keratosis. However; black blotches within the follicular opening, namely obliterated follicles seem quite specific to lentigo maligna while prominent follicular openings are suggestive of pigmented actinic keratosis. The differential diagnosis between the two entities may be even histopathologically difficult, when it is not clear whether the pigmented atypical cells in the basal layer are keratinocytes or melanocytes. Dermoscopic discrimination between lichen planus like keratosis and lentigo maligna is also not easy and can be basically made only if areas of the preexisting benign solar lentigo and seborrheic keratosis are still preserved. Fully or nearly fully regressed lichen planus like keratosis is characterized by diffuse brownish-gray granules, which may coalescence to form globules, streaks, or even structures similar to rhomboids. Because lentigo maligna may exhibit the same dermoscopic features, a biopsy should always be done in a lesion showing dermoscopic signs of regression.

DERMOSCOPY IN INFLAMMATORY DISEASES: INFLAMMOSCOPY

Pawel Pietkiewicz

Although being mostly utilized in skin cancer diagnosis, dermatoscopy is becoming increasingly popular for non-neoplastic conditions. Each year a plenty of new reports are published on dermatoscopy of inflammatory conditions (inflammoscopy), yet the main role of this method should not be to focus on the features of rare diseases, but mostly to serve as an auxiliary every-day tool to reveal the nature of most common skin diseases presenting atypical or conflicting features. The 5 parameters recognized by International Dermoscopy Society consensus (2019) helpful for determining the diagnosis are vascular clues (morphology and distribution), scale (colour and distribution), follicular findings, other clues and specific clues (highly suggestive to just one diagnosis due to clinico-dermatoscopico-pathological correlation).[1,2] Although non-contact polarized dermatoscopy is a gold standard in inflammoscopy (for the importance of scale), a supplementary use of the contact polarized dermatoscopy with a contact fluid may enhance the visibility of vascular clues.[2] The diseases revised in this lecture, selected on the basis of their clinical prevalence and the presence of the specific inflammoscopical features, were grouped into 4 clinical clusters: papulosquamous and maculopapular, papulokeratotic, erythematous facial and granulomatous disorders (Fig. 1-3).[3,4] In many situations the ability to distinguish clinically similar diseases can make the diagnostic process faster, cheaper and more reliable, and most of all saves the patient from the consequences of diagnostic and therapeutic pitfalls. Thus, inflammoscopy deserves due appreciation and should be integrated into dermatological training programs.

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Keywords: dermoscopy, inflammoscopy, inflammatory diseases

FIELD – DIRECTED THERAPY OF ACTINIC KERATOSES

Predrag Stilet

• These single or multiple, discrete, dry, rough, adherent scaly lesions occur on the habitually sunexposed skin of adults, usually on background of dermatoheliosis.

• Actinic keratoses can progres to squamous cell carcinoma.

• Synonym:Solar keratosis.

EPIDEMIOLOGY:

Age of Onset: Middle age, although in Australia and southwestern United States solar keratoses may occur in persons < 30 years.

Sex: More common in males.

Race: SPT I, II and III: rare in SPT IV: almost never in black or South Indians.

Occupation: Outdoor workers (expecially farmers, ranchers, sailors) and outdoor sportspersons (tennis, golf, mountain climbing, deep – sea fishing_.

Our experience in the treatment of actinic keratoses.

IMMUNOTHERAPY FOR MELANOMA, HOW TO IMPROVE THEIR EFFICACY

Marcel Bekkenk

Melanoma therapy has been changed dramatically since the anti-CTLA4 agent ipilimumab came available in 2011. Agents blocking another immune checkpoint (PD-1) improved the efficacy of immunotherapy, combination of both checkpoint blockers even enhances their effect. Apart from agents targeting the immune system, agents targeting BRAF and MEK were invented and proved to be highly effective for selected patients with BRAF mutated melanomas. Unfortunately will the majority of patients develop resistance for this treatment. Despite the success of the immune checkpoint blockers (ICB), a large group of melanoma patients do not response or relapse. Especially patients with extensive disease and brain metastases still have a poor prognosis. Several approaches have been suggested to enhance the efficacy of ICB. Combination therapy, the adjuvant use in an early stage and selecting specific groups of patients with a favorable response are all theoretically possible approaches. Recently an international initiative has started to investigate the possible relation with genomic DNA SNPs and the response and side effects of ICB. Apart from specific tumor characteristics and the immune response of the patient, the local environment of the tumor also plays a role in (lack of) response to the tumor. I will discuss the potential benefits and pitfalls of adapting the use of ICB bearing in mind the above mentioned factors.

MALIGNANT SWEAT GLAND TUMOURS: AN UPDATE

Jose Cardoso

Malignant tumours with sweat gland differentiation represent a serious diagnostic challenge in Dermatopathology due to their overall rarity combined with a great diversity due to a large number of different entities. This problem is often made worse by a confusing nomenclature that has evolved significantly over time, thus, not uncommonly, the same entity gets described under several names in the literature. Additionally, some lesions display overlapping features between different diagnostic categories making exact classification a difficult task, sometimes only allowing a descriptive diagnosis.

Malignant sweat gland tumours comprise a wide spectrum of neoplasms with a very broad biological behaviour. Some tumours have predominantly local invasiveness, with tendency for recurrence but low metastatic potential (e.g. microcytic adnexal carcinoma, adenoid cystic carcinoma, endocrine mucin-producing sweat gland carcinoma). Contrariwise, other lesions have potentially a more aggressive behaviour with significant risk of metastasis to local regional lymph nodes or visceral organs (e.g. porocarcinoma, apocrine carcinoma, digital papillary adenocarcinoma).

Morphologically, some tumours have a benign counterpart and often a definitive diagnosis is not possible unless the histological features of a benign component (or similar to it) are identified, for example spiradenocarcinoma, cylindrocarcinoma and a significant proportion of cases of hidradenocarcinoma, porocarcinoma and syringocystadenocarcinoma papilliferum. On the other hand, some neoplasms do not have a known benign counterpart, such as the case of microcystic adnexal carcinoma, adenoid cystic carcinoma, mucinous carcinoma and squamoid eccrine ductal carcinoma, among others.

In some neoplasms, the main difficulty is to distinguish a primary cutaneous adnexal carcinoma from a cutaneous metastasis of an adenocarcinoma from other organs, like the breast or salivary gland, for example. This diagnostic dilemma can occur with several neoplasms, for example apocrine carcinoma, signet ring/histiocytoid carcinoma, mucinous carcinoma or malignant mixed tumour. Immunohistochemistry is of limited value in this setting, although in some cases positivity for p63 and podoplanin may be useful in favouring a primary cutaneous origin. From a morphological point of view, finding areas of in situ adenocarcinoma is a valuable clue for primary cutaneous carcinoma. In some instances, only staging the patient, namely with imaging studies, will allow definitive exclusion of a metastatic origin for some tumours.

In recent years, the advances in the field of genetics have allowed the identification of some genetic abnormalities that are specific for a subset of tumours. Notably, secretory carcinoma of the skin, a morphologically identical neoplasm to its homologous in the breast and salivary gland, has consistently showed the presence of a ETV6-NTRK3 translocation. Hidradenocarcinoma frequently harbours a translocation t(11;19) involving METC1 and MAML2 genes, although this finding is much more common in hidradenomas. Of note, overexpression of HER2 on immunohistochemistry has been described in a significant proportion of hidradenocarcinomas, opening the possibility for targeted therapy, although this finding is not consistently associated with HER2 gene amplification.

The purpose if this presentation is to convey an updated overview on malignant sweat gland tumours, focusing primarily on the current classification, recently defined entities and novel features, namely regarding immunohistochemistry and genetic findings.

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POWERFUL ANTI-CANCER HERBS IN DERMATOLOGY

Habibullah Aktaş

Both patients with cancer, and doctors are looking for alternative treatment for cancer because current remedies generally do not have a curative potency. Herbal products are among the most frequently used for this purpose. According to a study, one third of herbal treatments are for skin diseases,including skin cancers (1).

There are plenty of phytochemicals made from plants such as caffeic acid, flavonoids, capsaicine etc claiming effectiveness against many types of skin cancer. Their anti-oxidation, anti-metastasis, anti-inflammation, anti-angiogenesis and antiproliferative effects were demonstrated in the literature, establishing the role of both prevention and treatment of skin cancers (2).

Studies showed the safety and efficacy of topical ingenol mebutate gel obtained from the plant Euphorbia peplus in the treatment of actinic keratosis and superficial basal cell carcinoma .This product is FDA-approved herbal remedy for actinic keratosis. Immunologic and inflammatory response produced by topical ingenol mebutate application lead to necrotic reaction and finally a recovery for those skin lesions (3).

Garlic allyl sulfides have an anticancer effect on various organs, including the skin.Dialyl trisulfide (DATS), an active ingredient of garlic oil, has received much attention due to its anticancer effect on various types of cancer. Tilli et al demonstrated that garlic organosulfur component reduced the tumor size in a group of patients with basal cell carcinoma (4).

Sinecatechins produced from green tea currently registered for the treatment of anogenital warts have been tried in basal cell carcinoma patients. However,they were suggested as having preventive property in this condition (5).

Hypericum perforatum, is a powerful photosensitizer found in nature. A topical extract produced from this plant provided a modest success in a number of nonmelanoma skin cancer patients. (6). Despite this disappointing result, better outcomes would not be surprising with future preparations that could enhance hypericin delivery.

A well-studied herb,silymarin has significant photoprotective properties for the skin. This is extracted from milk thistle . Fruits and seeds have chemopreventive effects against photocarcinogenesis in experimental models. Topical treatment of silymarin inhibited photocarcinogenesis by influencing tumor incidence, tumor multiplicity and growth of tumors (7).

Curcumin is a natural polyphenol that exhibits several pharmacological actions such as anti-cancer effects. Mirzae et al discussed the role of curcumin effect on melanoma therapy in their study. Although there are preclinical evidences regarding curcumin effect on melanoma, preliminary results are promising (8).

Coffee, taxus brevifolia, pomegranate fruit extract, grape seed, tomatoes, guava, watermelon, pink grapefruit, papaya, rosehips, soy, Greek sage, Greek oregano, and gingko biloba extract have been demonstrated to have protective and therapeutic effect due to their lycopene,polyphenol and genistein contents on skin malignancies ,mostly in experimental studies (9).

In case of incurable conditions such as melanoma and non-melanoma skin cancers , searching for a miracle remedy is inevitable. Patients' tendency to this search can be somewhat normal. However, despite many experimental promising studies, botanicals lack strong clinical evidences so far. Therefore, herbal alternative treatments should be preferred only in well-selected patients.. Unfortunately there are unlucky patients losing their life by using alternative remedies while they have excellent evidence-based option (10).

The best treatment is the treatment with the strongest scientific evidence.This should also include herbal preparations.

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THE "MYSTERY" OF CUTANEOUS SARCOIDOSIS: FACTS AND CONTROVERSIES

Jose Cardoso

Sarcoidosis is a multisystemic granulomatous disease of unknown aetiology that can affect the skin in a significant proportion of cases (ranging from 10 to 35% of cases in different studies). The most accepted theory behind the immunopathogenesis of sarcoidosis states that the disease develops in genetically susceptible individuals following exposure to (as yet unidentified) antigens. The list of potential triggering agents, which have been pointed out in the literature as the possible cause of sarcoidosis, is long and includes both microrganisms (e.g. Mycobacteria, Propionibacterium acnes, viruses) and inorganic materials (e.g. zirconium, aluminium, etc).

From a clinical point of view, the manifestations of cutaneous sarcoidosis are protean, hence the fact that this disease figures in the list of great imitators. These clinical manifestations include specific sarcoidal granulomatous infiltrates but also non-specific manifestations such as erythema nodosum or Sweet's syndrome. There is no single feature or diagnostic test that allows, per se, a diagnosis of sarcoidosis, warranting the need for assessment of a constellation of clinical and histopathological features, as well as laboratorial and imaging studies, in order to establish an accurate definitive diagnosis.

From a histopathological point of view the hallmark of sarcoidosis is the so-called naked granuloma (or sarcoidal granuloma), which is typically well circumscribed, devoid of necrosis, and composed of histiocytes, multinucleated giant cells and a few sparse lymphocytes. Asteroid bodies and Schaumann bodies can be found but they lack sensitivity and specificity. However, some infiltrates may occasionally display atypical features such as focal necrosis, an interstitial granulomatous component or neurotropism, hence these features should not exclude the possibility of sarcoidosis. Foreign body material is occasionally found in granulomas of sarcoidosis patients, which is an interesting finding and makes us wonder about the true role of exogenous particles in the pathogenesis of the disease. On the other hand, sarcoidal/naked granulomas are not pathognomonic of sarcoidosis and can be found in many other situations, such as reactions to foreign materials (zirconium, beryllium, silica, tattoo pigments), orofacial granulomatosis, cutaneous Crohn's disease, secondary syphilis, granuloma annulare (sarcoidal type), herpes zoster scars, primary immunodeficiencies (e.g. common variable immunodeficiency) and neoplasms (e.g. systemic lymphomas, Sézary syndrome, breast cancer).

One of the main difficulties and controversy regarding a significant proportion of cases of cutaneous sarcoidal granulomatous infiltrates is to determine whether the patient actually has sarcoidosis or a form of sarcoidal reaction secondary to a specific underlying trigger or condition (such as neoplasm, infection, primary immunodeficiency or foreign particles, among others). Definitive diagnosis ultimately relies on clinicopathological correlation and assessment of a constellation of features, including those based on laboratorial and imaging studies.

The objective of this presentation is to discuss sarcoidosis and sarcoid-like reactions in the skin, focusing in some of the difficulties and uncertainties regarding the pathogenesis and management of these cases. Many years after its first description, sarcoidosis remains a fascinating and intriguing disease due to the complexity and variability of its presentation, and due to the many uncertainties that surround its aetiology and immunopathogenesis.

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POLUTION AND SKIN

Ivana Binic

The WHO defines pollution as contamination of the indoor or outdoor environment by any chemical, physical or biological agent that modifies the natural characteristics of the atmosphere. Pollution is usually related to either an internal or an external environment. Ambient pollution refers to air pollution in outdoor environments. Outdoor pollution comes from fixed, usually industrial sources, and mobile sources such as diffrent kinds of traffic. These sources produce primary pollutants of which there are two main groups; particulate matter (PM) and gases (CO2, CO, SO2, NO, NO2, NOx2). Air particles are commonly referred to as fine particles (PM2.5) and coarse particles (PM10).

In recent years, the health effects associated with air pollution have been intensively studied, but most studies focus on air pollution effects on the respiratory and the cardiovascular system. However, more recently, epidemiological and mechanistic studies suggest that air pollution also affects skin integrity

Skin is the largest organ in body, and acts as the first and most important barrier against environmental contaminants. Skin is always exposed to the contaminants, and various industrial chemicals can be absorbed into the skin. These absorbed compounds can cause local toxicity in the skin and systemic toxicity in other organs, although it may enter by percutaneous penetration. The severity of these toxicities depends on the age and medical history of skin diseases. Percutaneous penetration is significantly related with the integrity of the barrier, anatomic site, age, and properties of the contaminants. Therefore, children and patients with impaired skin barriers are easily affected by dermal exposure due to the increased absorption.

Recent epidemiological investigations into the effect of environmental contamination, especially ambient air pollution, on several skin diseases indicate that some PM affects the progression of inflammatory skin diseases, such as atopic dermatitis (AD), acne, and psoriasis.

Ambient air pollutants such as PM are involved in the pathogenesis of inflammatory skin diseases via the enhancement of oxidative stress and pro-inflammatory cytokines. These findings indicate the increased PM concentration may play an important role in the increased incidence of inflammatory diseases.

Also, there are many certain evidences that the increase of PM in the ambient air is likely to cause damage to the skin although there is no direct evidence that PM can penetrate into skin regardless of smaller size. PM exposure induces many adverse effects in the skin, including the formation of pigmented spots, generation of reactive oxygen species(ROS) , and the production of pro-inflammatory cytokines, leading to extrinsic skin aging.

TRANEXAMIC ACID IN AESTHETIC DERMATOLOGY

Belma Türsen

Introduction: Tranexamic acid (trans-4-Aminomethylcyclohexanecarboxylic acid, TA) is an antiplasmin and hemostatic drug to treat abnormal fibrinolysis to prevent excessive bleeding. It is a synthetic derivative of the amino acid lysine and exerts its effect by competitively inhibiting the activation of plasminogen activator (PA) through reversible interactions with its lysine-binding sites, thus inhibiting PA from converting plasminogen to plasmin.

Side Effects: Adverse-events of oral TA include gastrointestinal reaction such as heartburn, nausea, abdominal pain, epigastric discomfort, oligomenorrhoea, hypopigmentation, urticarial rash with angioedema, moderate myalgias, transient headache, anxiety, and depression; topical TA includes skin irritation, xerosis, scaling, transient oedema, injection site pain and erythema.

Contraindications: TA therapies must not use in renal dysfunction, cancer, cardiovascular, respiratory disease, current anticoagulant therapy, and history of thromboembolic disease, including DVT, PE, arterial thrombosis, stroke and subarachnoid hemorrhage. Other risk factors for thromboembolism such as pregnancy, hormonal contraception or replacement therapy, smoking, and long-distance travel should also be taken into account when assessing suitability and should be considered as an exclusion criteria if present.

Melasma: TA is a relatively new drug for melasma and was first reported in 1979 when Nijo Sadako tried to use it to treat a patient with chronic urticaria. This was an accidental finding but prompted studies of TA on melasma patients. As a skin-lightening agent, TA has been used as topically, intradermally, and orally. Although TA has emerged as a potential treatment for melasma, it has not been approved by FDA for melasma and treatment still remains controversial. According to teta-analysis of 1563 adults, single and adjuvant TA found a highly significant reduction in MASI (melasma area and severity index) and MI (melanin index) scores, but not in EI (erythema index) score. Subgroup analysis suggested benefit in oral, topical, and injectional TA alone and adjuvant oral TA; among whom there were highly significant reductions in MASI score. However, adjuvant topical TA did not show a significant difference in MASI score. UV radiation induces the synthesis of PA by keratinocytes, which results in increased conversion of plasminogen to plasmin. TA can suppress UV induced epidermal melanocyte tyrosinase activity by blocking the interaction of melanocytes and keratinocytes through the inhibition of the plasminogen/plasmin system. TA also displays both anti-inflammatory and antiallergic properties. Maeda and colleagues suggested that the inhibition of plasminogen binding to keratinocytes decreases the production of inflammatory mediators arachidonic acid and prostaglandin, which are known melanocyte stimulators. TA also prevents UV light–induced plasmin activity, decreases mast cell activity, and inhibits fibroblast growth factor, subsequently decreasing vascularity and mast cell numbers in the dermis**.** Due to the similarity between TA and tyrosinase structurally, TA also competitively antagonises the enzyme, adding further to the lightening effect. Doses of TXA used for melasma in studies to date have ranged from 500 to 1,500 mg daily. A typical dose is 250 mg twice daily for 8 to 12 weeks. This is in contrast to menorrhagia for which the dose is 3.9 to 4 g daily for up to 5 days per month. Due to the potential for serious side effects of oral TA, there has been interest in evaluating injection or topical TA for melasma. Topical TA has been applied alone and in conjunction with intradermal injection, microneedling, fractionated CO_2 laser to increase the bioavailability. However, TA treatment for melasma remains controversial. Tranexamic acid is the first systemic therapy to be studied for melasma. Its efficacy has been demonstrated for melasma in Asian skin, even in low doses over short periods. It is a safe and efficient drug, which is easy to administer with rare, reversible and mild side effects. Studies have shown that TA does not increase thromboembolic risk**,** although patients should be screened carefully for the contraindications and risk factors prior to therapy.

Based on the available data in the literature, it is recommended that oral TA should only be used only in cases of melasma that are unresponsive to topical hydroquinone and combination topical therapy over a period of approximately 12 weeks and if there are no contraindications to oral TA. Despite the plethora of studies now published on the successful use of oral TXA for the treatment of melasma, randomized, double-blinded, controlled trials and data from centers outside Asia are clearly needed to document safety and efficacy in non-Asian patients.

Prevention of Postinflammatory Hyperpigmentation After Q-Switched 532-nm Nd:YAG Laser: Fourty patients with solar lentigo treated with QS 532-nm Nd:YAG laser were enrolled in this prospective randomized controlled trial. They were randomly assigned to be receive oral TA 1,500 mg daily or placebo for 6 weeks. Oral TA therapy starting at the first day postlaser treatment is not effective for PIH prevention after QS 532-nm Nd:YAG laser in SL. However, PIH clearance, as assessed dermatoscopically, is significantly improved by oral TA at 6th and 12th week.

Topical 3% tranexamic acid enhances the efficacy of 1064-nm Q-switched neodymium-doped yttrium aluminum garnet laser in the treatment of melasma: A randomized, prospective, split-face controlled trial was conducted. 25 participants were randomly selected for application of topical 3% TA on one side of the face and the vehicle treatment on the other side of the face for 8 weeks. At the end of the study, the mMASI score significantly decreased in the combination treatment. More than 80% of the participants noticed a >50% improvement on the side with combination therapy at every follow-up visit. Topical TA could be considered as a promising adjuvant to the laser for the treatment of melasma by enhancing the speed of pigment reduction.

Intralesional tranexamic acid in treatment of telangiectasia: Ayhan reported two patients with telangiectasia in two different regions who were treated with intralesional TA. He believed that in this study, the success of TXA in the first application to the lesions led to vasoconstriction with the activation of ET-A instead of ET-B, which is normally active and relaxes.

Controlling oral haemorrhage in Steven Johnson syndrome/ Toxic Epidermal Necrolysis: Adams and Creamer used a solution of 5% tranexamic acid in the buccal cavity as to manage oral haemorrhage in an intubated patient associated with SJS/TEN to excellent effect. The 5 % solution can be made by diluting the intravenous preparation (500 mg in 5ml) with 5 ml of sterile water. They recommend this as a safe, easily obtainable solution to the problem of oral bleeding in SJS/TEN. Dental surgery, even in patients with coagulopathies without increasing the thromboembolic events.

Rosacea: It is a chronic inflammatory skin disease characterized by immune system anomalies and vascular hyperreactivity. Li et al. defined a treatment mechanism by which TA ameliorates rosacea symptoms by regulating the immune response and angiogenesis. TA represses the angiogenesis by reducing the number of CD 31 + cell and downregulating the expression of VEGF. The first experimental study for TA on rosacea and the exact mechanism still remains to be defined. Kwon et al. started to treat the patient with an oral combination of propranolol (40 mg daily), minocycline (50 mg daily), and TA (250 mg daily) for 1 month. Just 1 week after the start of treatment, they observed noticeable improvement of her erythema and subjective symptoms. The improved state has persisted for 2 months. Kwon et al. suggested that inhibition of plasmin by TA accelerates barrier recovery and prevents the epidermal hyperplasia induced by repeated barrier disruption. Plasmin is contributing to the inflammatory component of rosacea and the impaired epidermal barrier function noted in sensitive skin of rosacea. Topical 5% TA can also work for acne-related post inflammatory erythema according to Jakhar and Kaur report.

Riehl's melanosis: Xu et al. evaluated the efficacy and safety of a novel combination therapy with oral TA and Glycyrrhizin for recalcitrant Riehl's melanosis. 10 patients were treated with 500 mg TA together with 150 mg Glycyrrhizin compound per day orally for 3 months, followed by 500 mg TA per day orally alone for

another 3 months. Seven out of ten patients received "marked improvement", while two received "moderate improvement" and one "minimal improvement" at the final visit. Oral TA with Glycyrrhizin compound may be an effective and safe therapy for Asian patients with recalcitrant cases. Triple combination therapy with a low-fluence 1064 nm Q-switched Nd:YAG laser, hydroquinone cream and oral TA can be a viable option for Asian patients having Riehl's melanosis with high risk of post-inflammatory hyperpigmentation, maintaining low-dose laser irradiation.

Post-inflammatory hyperpigmentation: Combination treatment of low-fluence Q-switched Nd:YAG laser and oral TA for post-inflammatory hyperpigmentation due to allergic contact dermatitis to henna hair dye could be useful method.

Bleeding in Congenital Hemangiomas (CH): Powell et al. presented two case reports of CH in which severe bleeding episodes occurred during the first weeks of life and report the use of topical tranexamic acid to control bleeding in this setting. Tranexamic acid with compressive dressing helps to stabilize the clot by limiting endogenous fibrinolysis when used topically**.** Topical tranexamic acid can be useful and safe in controlling the bleeding from these lesions and in avoiding more aggressive treatment, especially in RICH.

Reduce Bleeding During Dermatologic Surgery: 131 patients were randomized to subcutaneous injection of lidocaine 2% diluted 1:1 with either saline (placebo) or TA 100 mg/1 mL before surgery. Subcutaneous injection of TA was safe, reduced bleeding during dermatologic surgery, and particularly effective for patients receiving anticoagulation treatment.

Conclusion: TA may be useful to the clinician. As reported previously, it can work for melasma, rosacea, postinflammatory hyperpigmentation, acne, telangiectasia, hemangioma and Mohs surgery. However, large-scale randomized controlled trials are needed to better characterize the role of oral / topical / intralesional TXA in the therapeutic ladder of some skin diseases.

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INNOVATIVE PDT FOR NON-MELANOMA SKIN CANCER

Leonardo Marini

Photodynamic therapy has moved quite far from its first description by Kennedy and Pottier in 1990.[1] New PDT activating light sources, new photosensitizer precursors, new trans-cutaneous delivery strategies, innovative vehicles, and thorough analysis and understanding of each sequential steps of the complex series of events characterizing this fascinating kind of treatment are opening interesting scenarios in advanced management of selected Dermatological alterations including non- melanoma skin cancer. The Rotterdam fractionated light PDT activating approach published in 2008 by de Haas et al. first introduced the concept of enhanced PDT effect induced by two consecutive 630-nm LED exposures spaced by a dark interval of 2 hours after a single application of photosensitizer precursor.[2] 98% AK clearance was observed after 2 years. Nodular BCC and Bowen's disease cleared by a percentage of 80% and 84%. The advent of fractional laser beam technology presented by Manstein et al in 2004 [3] revolutionized dermatological laser treatments to the point that even the beneficial effects of selected topical therapies could be incredibly improved as presented by Haedersdal et. al in 2010.[4] Almost inevitably this innovative approach was applied to PDT with the aim of optimizing trans-epidermal penetration of photosensitizer precursors, reducing their incubation time, increasing their diffusion uniformity, finally paving the way to what is now known as fractional laser-mediated photodynamic therapy. [5]

The potential of this new therapeutic approach did not go unobserved by researchers who started to try it more bravely on a number of new indications. Presently there are many variables that need to be properly studied and carefully positioned within innovative PDT sequences, like fractionated irradiation using different PDT activating wavelengths, variable dark intervals, different exposure times, full and fractional laser beam tissue priming, photosensitizer precursors' incubation times, enhanced intra-lesional oxygen perfusion strategies.[6] It will be like working on a complicated puzzle, but quite surely, advanced PDT could become e very effective treatment option for non-melanoma skin cancer as well as LM.[7]

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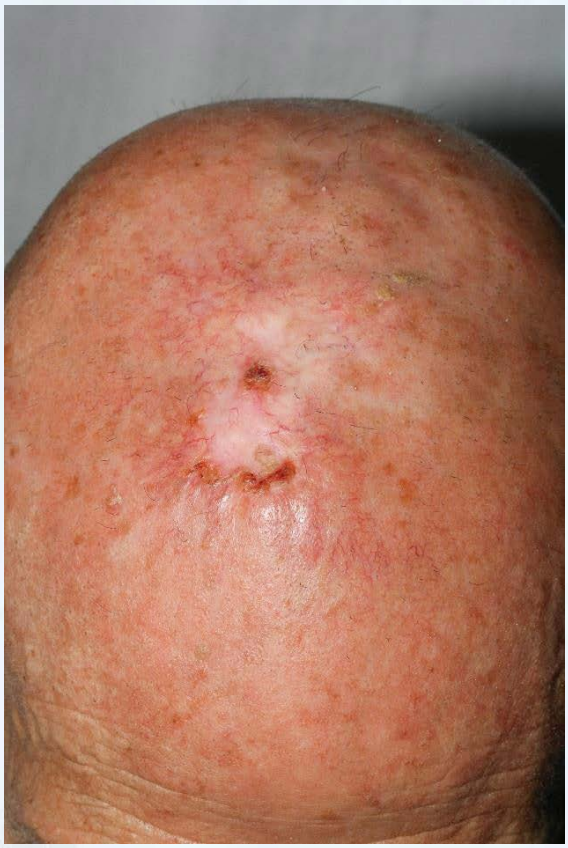

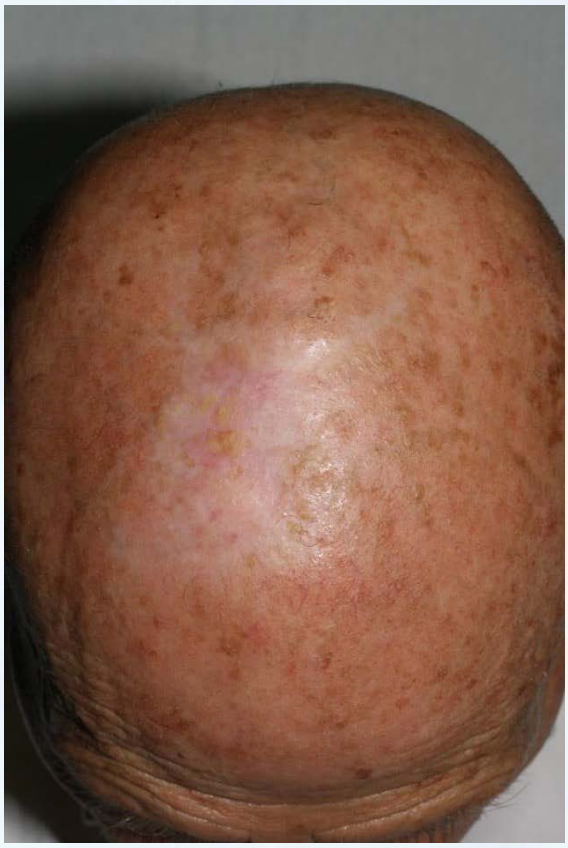

IMMUNOGENETICS IN NMSC AND MELANOMA

Tuğba Kevser Uzuncakmak

The immune system has a complex role in tumorogenesis that significantly can influence the face of malignancy with respect to predisposition, nature, prognosis, and response to treatment in each individual. The immune system is the target subject to variability due to different environmental factors and most importantly due to an uncountable number of polymorphisms in genes governing the immune system elements and cells. Immunogenetics, as the meeting point of two exciting fields of immunology and genetics, is a new but rapidly expanding field of science studying this immune polymorphism in order to understand the genetics on the immune system.

In this lecture, we will review the importance of immunogenetics in human skin cancers, its ups and downs through the history, its tools, their major limitations and definition of immune polymorphisms, especially of the two most important groups of immune-related genes (i.e., human leukocyte antigen and cytokines) which were under the focus of researchers in the fields of immunogenetics and skin cancers.

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ARTIFICIAL INTELLIGENCE: Friend or foe of dermatology?

Ömer Faruk Elmas

Artificial intelligence describes the ability of a machine to communicate and operate independently in different clinical scenarios in a similar manner to a human. Utilization of artificial intelligence in dermatology practice has many benefits and studies have reported comparable accuracy between artifical intelligence and dermatology specialists. In the clinical setting, artificial intelligence can be integrated into routine diagnosis processes to help the clinician to reach a diagnosis. From a global perspective, artificial intelligence may fill an important gap in resource-poor settings. However, artificial intelligence systems have also some significant limitations. Cutaneous conditions can be associated with psychosocial comorbidities, especially in possible cases of skin cancer, which cannot be addressed by artificial intelligence. Holistic patient assessment and accurate management can only be provided by physicians. It should also be kept in mind that data comparing diagnoses from large numbers of dermatology specialists to those from artifical intelligence are lacking. Artificial intelligence systems may serve as adjunctive tools in the diagnosis of difficult lesions but concerns regarding the inaccurate diagnoses made by artificial intelligence should be considered. Large prospective studies are required to collect generalizable data for the diagnostic accuracy of artificial intelligence in different skin conditions.

SOCIAL MEDIA IN DERMATOLOGY

Ömer Faruk Elmas

Social media is a type of communication using computers and interactive web-based technologies. Social media tools provide momentary connection and intercommunication among people regardless of the distance and allow easy sharing of information and ideas. Twitter and Facebook, the most-used social media tools, are highly efficient in online communication. Recently, the use of social media tools in medicine has provided unique opportunities for healthcare providers to interact with their patients and colleagues.

Advertising, education, and research are three main reasons that may motivate a dermatologist to use social media tools. With a large number of patients who share their personal experiences on social media, dermatologists who do not take a place in social media are missing a significant opportunity to interact with their patients and influence conversations about their practice.

The educational purposes of social media may include discussing challenging cases, sharing interesting or rare cases, and providing information about meetings and conferences. It should always be kept in mind that when posting a case, the ethical rights of the patient must be protected and identifiable facial images must not be shared without the patient's informed consent.

The use of standardized #hashtags is another interesting utilization of social media tools. #Hashtags may facilitate scientific dialogue among dermatologists. For example, a search for well-known dermatologic terms like #dermpath or #mohssurgery directs users to dermatology-specific discussions.

To sum up, social media in dermatology provide innovative opportunities to dermatologists for social networking, dissemination of health information. Regular and proper use of social media tools may help to a dermatologist to contribute to the scientific and personal development and to adapt to technological innovations of the future.

AUTOLOGOUS SERUM AND PLASMA SKIN TESTS IN DERMATOLOGY

Oktay Taşkapan

Autologous serum skin test (ASST) positivity, first described by Grattan et al.,has been suggested to indicate the presence of functional histamine-releasing autoantibodies or histamine-releasing factors in some chronic spontaneous urticaria (CSU) patients. The sensitivity and specificity of ASST have been reported that 70% and 80%, repectively. ASST should be regarded as a test for "autoreactivity" rather than a specific test for autoimmune urticaria. It has been shown to elicit positivity in about 35% to 45% of patients with CSU. It has only moderate specificity as a marker for functional autoantibodies detected by the "basophil histamine release assay" (BHRA), but high negative predictive value for CSU patients without them. In clinical practice, a negative ASST can be used as a clinical tool to exclude the presence of functional autoantibodies detectable in the BHRA. There are some studies suggesting that ASST positivity in CSU may be a one of the markers of more severe disease, antihistamine resistance and slower response to omalizumab. On the other hand, the data indicate that ASST shows a high rate of reactivity not only in CSU, but also in cases with non-allergic rhinitis and asthma, multiple intolerances to NSAIDs and multiple drug allergy syndrome. ASST may also show high rate of reactivity even in healthy people.

The specificity of ASST have been questioned suggesting that it might produce false-positive results because of the generation of large quantities of bradykinin during the clotting process and the direct cleavage of C5 by tryptase-like plasma proteases secreted by neutrophils. On the basis of these data, "autologous plasma skin test" (APST) was developed and it was asserted to be more sensitive and specific than ASST by some authors. However, most of the recent studies suggest that the specificity and sensitivity of the two tests was similar, and there is no need to use autologous plasma instead of autologous serum for intradermal testing in CSU patients.

As a result, ASST is a simple and practical screening test for autoreactivity in CSU patients. However, more studies are needed to reveal its role in the management and monitorization of the therapeutic approaches in CSU.

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ANTI-AGING GENES

Özgür Timurkaynak

Great attention has been devoted to the analysis of the role played by the genetic factors in determining healthy aging and longevity nowadays.

Unlike oncogenes that were discovered in the 1970's and that have given us a good target for going battle against cancer; no single gene, causing aging has been found. Human lifespan and many other aging, health and longevity related traits are multifactorial phenotypes, that is, they are affected by many genetic and non-genetic factors.

Caenorhabditis elegans (C. elegans) was the first multicellular organism to have its whole genome sequenced which provided a perfect model for aging research. Since then a great effort has been on this field to discover new genes and genes related pathways with flies, mice, rat and finally human nonagenarian and centenarian studies.

The result of the studies should be carefully interpreted due to the fact that, many genome-wide association studies (GWAS) of complex traits suffer from a lack of replication.

The differences in genetic structures in distinct populations may be responsible for the low level of replicability of GWAS of human aging, health, and longevity related traits.

A summary of a number of promising genetic associations with human longevity related traits that were detected in GWAS and confirmed in other populations will be given in this talk; mainly focusing on SIRT1, APOE, FOXO3A, and others.

HISTONE MODIFIERS IN DERMATOLOGY

Özgür Timurkaynak

The study of chromatin, the changes it undergoes, and how these changes effect transcription fall under the umbrella of epigenetics, which refers to changes in gene expression caused by factors other than alterations in the nucleotide sequence. The fundamental unit of chromatin consists of DNA wrapped around protein octamers, termed histones, in 147 base pair segments to form nucleosome subunits.
These histones have positively charged amino (N)- terminal tails, which extend from the nucleosome and can undergo several modifications, which in turn affect chromatin accessibility and gene expression. These modifications, include acetylation, methylation, ubiquitination, phosphorylation and sumoylation.
Skin provides an excellent model system for investigating epigenetic control in embryonic and adult stem cell regulation and in tissue regeneration.
The outcomes of the distruption of these epigenetic writers and erasers on promoting diseases of the skin is summarized and targeting histone modifications and histone modifiers to provide substantial opportunities for innovation and the development of new therapies for skin disease is discussed in this talk.

INDUCIBLE URTICARIA TESTS

Zafer Türkoğlu, Andaç Salman

Chronic inducible urticaria (CIndU) is a subgroup of chronic urticaria which is characterized by the apperance of the wheals upon a specific trigger. CIndUs include physical urticarias (Symptomatic dermographism, Cold urticaria, Delayed pressure urticaria, Solar urticaria, Heat urticaria, Vibratory angioedema) and other inducible urticaria such as cholinergic urticaria, contact urticaria and aquagenic urticaria. A detailed patient history and provocation testing play a major role in the diagnosis of CIndUs. Standardized provocation tests are available for different types of CIndUs and not only help to confirm the diagnosis but also useful for determining the threshold levels for triggers and monitor the response to treatment. Various methods provocation testing in CIndU through real life clinical cases will be discussed.

UAS7, UCT AND OTHER TOOLS FOR EVALUATION OF DISEASE ACTIVITY

Kemal Özyurt, Ragıp Ertaş

Chronic spontaneous urticaria (CSU) is a common disease. In patients with CSU it is difficult to evaluate the disease activity and treatment response due to it's own unique symptom characteristic of urticaria. it is known that life of qualiy of the patients with CSU are also impaired and need to be assess. During the visits, it is important to use valid and reliable tools. The most important of these are UAS (Urticaria activity score), UAS 7, UAS 30, UCT (Urticaria Control Test), DLQI (Dermatology Life Quality Index) and Cu-Qol (Chronic Urticaria Quality of Life Questionnaire).

UAS is used for the evaluation of disease severity and activity. UAS indicates wheal count (0-3 points) and itching severity (0-3points) based on previous day. UCT is used for assessing the disease control (0-16 points) with asking four simple questions and high scores indicate a controlled disease.

One of the important Qol questionnaire is DLQI, which consists of ten questions, is used to evaluate the impact of the skin diseases. CU-QoL is a urticaria specific questionnaire which is consist of 23-questions about pruritus, swelling, impact on life activities, sleep problems, limits and looks.

STEM CELLS IN DERMATOLOGY

Erdal Karaöz

Recent insights into stem cell (SC) biology promise the regeneration of damaged organs. Stem cells (SCs) have the capability of self-renewal and differentiation into a wide range of cell types with various potential clinical and therapeutic applications. SCs are providing hope for many diseases that are currently in need of effective therapeutic methods, including neurodegenerative disorders like; stroke, amyotrophic lateral sclerosis, Alzheimer's disease, Parkinson's disease and as well as muscular dystrophy disorders like Duchene Muscular Dystrophy and Facio-scapulo-humeral Muscular Dystrophy. For this aim, numerous pre-clinical studies have been achieved and\or in progress on different types of stem cells including, induced pluripotent stem cell (IPS), embryonic stem cell (ESC) and neural stem cells. But there are some complications on the clinical utilization of these cells, due to the reason of ethical issues and especially because of the potential of formation of teratomas via IPSs and ESCs. For this reason, as we glance to the clinical trials ongoing nowadays, we see that mesenchymal stem cells (MSCs) are studied intensely on clinical applications. MSCs attracted particular interest because of their ease of isolation, characterization, apparent multipotency and pleiotropic effects. MSCs are capable of self-renewal and differentiation into specialized cell types and thus have the potential to promote organogenesis, tissue regeneration, maintenance and repair. With the main goal of regeneration or sustained genetic correction of damaged tissue, advanced tissue-engineering techniques are especially applicable for many dermatological diseases including wound healing, genodermatoses (like the severe blistering disorder epidermolysis bullosa) and chronic (auto-)inflammatory diseases. The current and future perspectives of stem cell therapy in dermatology will be introduced in this presentation.

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CURRENT AND FUTURE TREATMENTS ON VITILIGO

Marcel Bekkenk

Although we are on the brink of potentially new and more effective therapies for vitiligo, treatment with UV-therapy, (topical) immune inhibitors and surgical therapies are for now still the standard therapies. Depending on the diagnosis (segmental versus non-segmental vitiligo), patients are preferably treated with anti-inflammatory regimens or surgical treatments. UVB narrowband therapy can be an effective therapy in vitiligo and although results of this therapy can vary from patient to patient and even from site to site in the same patient, the role of UV therapy is likely to stay important even in combination with new therapies. I will discuss the potential benefits and side-effects of the different therapies that are now standard therapies in vitiligo. Also I will discuss the (lack of) evidence for the different types of therapies: topical steroids, topical calcineurin inhibitors, UV therapy and surgical therapies. Finally I will describe how we now think vitiligo occurs and what factors are contributing to it. By knowing this we can identify potential agents that could work as treatment for vitiligo and what is known of these agents at this moment.

PATCH TEST: EVALUATION OF POSITIVE AND IRRITANT REACTIONS

Esen Özkaya

Patch testing is the gold standard diagnostic method for diagnosing allergic contact dermatitis. It includes various steps, ie, determination of the allergens to be tested (Step 1), preparation and application of the allergens (Step 2), reading of the test results (Step 3), and interpretation of the clinical relevance (Step 4). It is recommended to read the test results at 48, 72, 96 hours and on the 7th day of patch testing. In our recent study, we found that late readings on 96 hours and on the 7-10th days were of particular importance.1

Readings are performed according to ESCD (European Society of Contact Dermatitis) guidelines,2 and aims the evaluation of positive and irritant patch test reactions. The presence of erythema and infiltration in the patch test area is consistent with + positive reaction, whereas additional vesicles and coalescing vesicles mean a ++ positive and a +++ positive reaction, respectively. The reaction is questionable if there is only erythema in the test area. There are additional clues for a positive reaction such as the crescendo pattern of the reaction, itch in the test area, outgrowing reaction beyond the borders of the test area and rounded edges, and ill-defined borders.

Irritant patch test reactions (erythema with sharp-defined borders, isolated follicular/poral pustules, edge effect, soap effect, purpuric reaction, erosion/bullae, and a decrescendo pattern) might also occur and it might be challenging to diferentiate irritant from positive reactions. There are additional methods for differentiation such as testing with dilution series, or repeated open application tests, or control tests.

A dermatologist is expected to gain the knowledge and skills for patch testing after a training period of 12 months with 250-300 patients being seen during this period. And afterwards, to maintain competence, it was recommended to investigate at least 200 cases pro year.

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TRANEXAMIC ACID IN GENERAL DERMATOLOGY

Pelin Üstüner

Tranexamic Acid (TA) is an anti-fibrinolytic agent commonly used for heavy menstrual bleeding (1). Trans-4-amino-methylcyclohexanecarboxylic acid; is a synthetic lysine analogue that inhibits the plasmin/plasminogen system; blocks the conversion of plasminogen to plasmin by inhibiting plasminogen activator. The reversible blockade of lysine-binding sites on plasminogen molecules, reduces the amount of plasmin formation (1). It has well-known hemostatic effects; enhances blood clotting (haemophilia) and has been used to prevent blood loss during surgery as a procoagulant agent approved by the US FDA for treatment of menorrhagia and to prevent hemorrhage in hemophilia (2).

TA exhibits anti-allergic and anti-inflammatory effects on various skin diseases such as angioedema (3). It has inhibitory effects in melanogenesis, decreases melanin content and reduces tyrosinase activity (4). TA reduces free arachidonic acid and the ability to produce prostaglandins. It also blocks the effects of single-chain urokinase-type activator (sc-uPA) generated by keratinocytes (1). It induces microphthalmia-associated transcription factor (MITF) degradation, decreases melanogenesis, decreases the acitivity of mast cells (abolishs the ischaemia and reperfusion injury), reverses melasma related dermal changes such as vessel proliferation, decreases angiogenesis and vascular proliferation via lowering VEGF, FGF-2, TGF-β, decreases CD31+ blood vessels (4). Moreover, TA lowers degradement of Type-4 collagen and ET-1 (endothelin) secreted from melanocytes (4).

Maintaince treatment of hereditary angioedema, urticaria and refractory melasma are off label uses of TA in dermatology (3,4). The shrinkage of dermal vasculature, reduced melanin synthesis by altering the interaction of keratinocytes and melanocytes, reduced tyrosinase activity are some of the hypothesized mechanism of action of TA in melasma (4). Bradykinin production in the body is linked to the protein plasmin, which in turn is derived from plasminogen (3). TA works by stopping the action of plasminogen, ultimately resulting in lower levels of bradykinin responsible for the etiopathogenesis of hereditary angioedema (3).

2% or 5% TA use twice a day for at least 1 month; may be efficient for melasma (4). Oral TA; in 250-500-750mg or 1gr, 2gr up to 2.5 gr twice daily is recommended for up to 6 months for melasma (5). Oral treatment's onset of efficacy on melasma is mosty seen in the first month. TA infusion; 20-50 mg/kg/day split bid or tid (up to 3-6 gr/day) is commonly used for the hereditary angioedema short term or preprocedural prophylaxis (6). Intradermal TA injections; either 4mg/ml or 10 mg/ml every 2- weeks are usually preferred for 6 sessions for 3 months for melasma (7).

Treatment with oral and topical TA agents decreases epidermal pigmentation as well as vascularity and mast cell numbers (4). The intradermal injection of 4 mg/ml TA for 8 weeks with 2 weeks intervals was found to be more effective than topical hydroquinone cream 4% in 8th and 12th weeks (7). In another study oral TA 250mg twice daily and intradermal 4 mg/ml TA injections in every 4 weeks were found to be equally effective and safe (8).

TA has been reported to lead to a 2% reduction in the risk of developing wound complications compared to the control group (8). TA, as an anti-fibrinolytic agent also helps to stabilize the clot, ao it has been proved to be useful topically in controlling bleeding in congenital hemangiomas (9).

Icatibant, C1INH, TA, and FFP often leads to symptom relief within 2 h, in addition to a good safety profile in acute attacks of ACE induced angioedema and idiopathic angioedema (3). Omalizumab, TA, and C1INH were effective and safe in a majority of patients in need of prophylactic treatment of refractory idiopathic AE or

AE with wheals (3).

TA has been shown to suppress the angiogenesis by reducing the number of CD31+ cells and downregulate the expression levels of VEGF and endothelin 1,2 in a rosacea mouse model study thus it ameliorates the rosacea symptoms (10).

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CHALLENGING CASES WITH POSITIVE PATCH TEST RESULTS

Esen Özkaya

The interpretation of the clinical relevance of the test results is the most important step of patch testing. To establish the current clinical relevance of a positive patch test result, there must be an existing exposure with the allergen. The verification that the suspected allergen is included in patient's products is based on different methods such as reading the product label, knowledge on its synonyms, and simple (for example, nickel spot test) or advanced chemical analysis (gas chromatography-mass spectrometry).1 However, there might be various problems that interfere with the determination of clinical relevance. Herein, a series of challenging cases are presented as examples for this confounding aspect of diagnosing ACD.2

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GUIDELINES FOR AUTOIMMUNE BULLOUS DISEASES IN TURKEY

Ayşe Akman Karakaş

Autoimmune bullous diseases (AIBDs) are a group of chronic inflammatory disorders caused by autoantibodies targeted against structural proteins of the desmosomal and hemidesmosomal plaques in the skin and mucosa, leading to intra-epithelial or subepithelial blistering.

AIBDs can be categorized by intraepidermal and subepidermal groups. The classification and management is usually based on clinical, histological and direct and indirect immunofluorescence findings and ELISAs. This lecture gives an overview of the diagnosis and management of AIBDs for daily practice in our clinical experience with guidelines in Turkey.

MAST CELL STABILIZING AGENTS, DERMATOLOGICAL MEDICATIONS AND IMPAIRED DRIVING

Tekden Karapınar

The mast cell is a tissue resident granulocyte, active in the allergic response. (1). It was first described by Paul Ehrlich in 1878. It may be activated by the binding of allergens to receptor-bound specific IgE or by multiple other non-specific stimuli (1). Mast cell stabilizers block Ca2+ influx into the mast cells and are suspected to block mainly IgE-regulated calcium channels inducing a blockage of both the release of mediators (histamine and related mediators) and their activation (2). Cromons which are mast cell stabilizators are used in the treatment of persistant allergic asthma, seasonal allergic rhinitis and rhinoconjuctivitis and food allergy and systemic mastositosis. Cromolyn sodium, nedocromil sodium and ketotifen are used as mast cell stabilizators (3).

Mast cells have also been shown to represent key effector cells of acute atopic dermatitis lesions and contribute significantly to chronic atopic dermatitis (4). Recent studies have demonstrated the beneficial effect of omalizumab in atopic dermatitis patients (4). 4% sodium cromoglicate was found to be effective, well-tolerated and steroid-sparing treatment for atopic dermatitis in children (5). Oral disodium cromolyn has proven to be effective in controlling diarrhea, abdominal pain, nausea, and vomiting of mastocytosis (6). Despite its low absorption, disodium cromolyn may be useful for the treatment of cutaneous symptoms including pruritus (6). In the literatüre, there are several case reports and several small controlled studies evaluating the efficacy of ketotifen in the management of chronic urticaria (7). Ketotifen has been shown to be beneficial and is a cost effective and safe additional therapy in the treatment of refractory chronic urticaria (7).

Some medical disorders can impair performance, increasing the risk of driving safety errors that can lead to vehicle crashes (8). A variety of systemic, neurological, psychiatric, and developmental disorders put drivers at potential increased risk of a car crash in the short or long term (8). Some medications may affect the visual, cognitive, and/or motor abilities and associated with motor vehicle crashes may also be characterized as having the potential to impair driving performance (9). First- and second-generation antihistamines which are used commonly in dermatology, may significantly impair driving performance (10). Clinicians should be aware of the increased risk of impaired driving with specific populations and classes of medications when prescribing these agents, educate their patients, and/or consider safer alternatives (9).

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DIFFERENTIAL DIAGNOSIS OF ORAL LEUKOPLAKIAS

Eckart Haneke

The World Health Organization has defined a leukoplakia as a white spot on the mucosa that cannot be ascribed to another diagnosis.1 This definition requires to be able to exclude all other mucosal diseases that potentially may cause a white alteration.2

A white colour in the oral mucosa can be due to

1. Thickening of the mucosal epithelium
2. Necrosis of the epithelium
3. White substances directly under the epithelium
4. Appearance of keratin.

The oral mucosal epithelium is thickened in leukoedema and white sponge naevus. Whereas leukoedema is easily made to disappear just by stretching out the mucosa it remains unchanged in white sponge naevus.

Necrotic oral epithelium is characteristically seen as the blister roof in erythema multiforme and a variety of bullous oral disease. The blister roof usually is lost very soon leaving a bright red erosion that soon turns into a shallow ulcer covered with fibrin, which is also whitish-greyish. Necrotic epithelium is also produced by leucocyte invasion such as in geographic tongue or by habitual cheek biting.

A diffusely white oral mucosa may be seen in diffuse scleroderma with oral involvement, in oral submucous fibrosis and hyalinosis cutis et mucosae. The immediate subepithelial tissue is either collagen or a hyaline basement membrane-like substance.

Hydrated and macerated keratin takes on a white colour. This is the substrate of oral leukoplakias, but also of a variety of dermatoses with oral involvement such as lichen planus or lupus erythematosus. They form characteristic net-like patterns and may be associated with mucosal atrophy and finally erosions and ulcerations. Chronic atrophic-erosive oral lesions have to be considered as potentially precancerous.3,4 Repeated physical trauma such as rubbing of the mucosa against defective or malpositioned teeth causes a frictional hyperkeratosis that is white. Skin grafted into the mouth also turns white as its epidermis continues to keratinize normally. “True” leukoplakias get their white colour from their hyperkeratotic surface, which may be either ortho- or parakeratotic. They are common in smokers and some other addictions such as betel chewing where the leukoplakic keratin may take on the brown colour the betel. These true leukoplakias may degenerate to invasive oral carcinoma. Particular risk factors for oral leukoplakias are smoking, heavy alcohol abuse, betel chewing and localization in the lower oral cavity, i.e. the floor of the mouth. Since 20 years, the role of high-risk human papillomaviruses for oral carcinoma development has been recognized. A simple method to differentiate benign from potentially premalignant leukoplakias is the toluidine blue test: The leukoplakia is painted with 1% toluidine blue which is then wiped off after a minute with diluted vinegar. Nucleated areas that are suspicious, remain blue. The diagnostic method of choice is biopsy with histopathological examination. This is often difficult and may require immunohistochemistry and other methods for an exact diagnosis.5,6.

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MAST CELLS SECRETORY DRUGS AND FOODS

Kansu Büyükafşar

Mast Cells: Mast cells are granule-rich immune cells that are distributed throughout the body, especially at the boundaries between tissues and the external environment. This cell is generated from $CD34^{+}/CD117^{+}$ compatibility pluripotent progenitor cells mobilized from the bone marrow (Komi and Bjermer, 2019). They migrate into virtually all vascularized tissues, where they complete tissue-specific maturation (Anogeianaki et al., 2010). They are present in all classes of vertebrates including, amphibians, reptiles, birds and mammals, and it is estimated that the storage of histamine in vertebrate mast cells as an inflammatory mediator was established in primitive reptiles approximately 276 million years ago.

Distribution and Heterogeneity: Mast cells are present in all human tissues, both within connective tissues and at mucosal surfaces. Roughly, two populations of mast cells are available. **Mucosal type**, which is considered immature, and contain only tryptase **(MC_T)**, found predominantly at mucosal surfaces. They store and secrete a vast arsenal of biological substances (histamine, PGD_2, LTC_4, proteases and cytokines, etc.). **Connective tissue type**, which is more mature, and contain tryptase, chymase, carboxypeptidase A and cathepsin G, **(MC_{TC})** located within connective tissues including skin. Total tryptase level in blood is used as an indirect parameter of mast cell burden and activation

Functions of Mast Cells: These cells have an important role in host defense to promote pathogen clearance. They are also important in many inflammatory diseases including allergies, food-induced anaphylaxis, asthma, coronary artery disease, cardiac events, atherosclerosis, and psoriasis. (Anogeianaki et al., 2010; Valent et al., 2017). Mast cells also contribute to carcinogenesis (Biswas et al., 2014; Hu et al., 2018; Saadalla et al., 2018). In GIT mucosal they play an important role in gut homeostasis (*e.g.,* epithelial secretion and permeability, smooth muscle contractility, wound healing and fibrosis), immune function, neural functions and inflammation (Conti et al., 2007).

Mast Cell Activation and Degranulation: There are three activation mechanisms of mast cells.

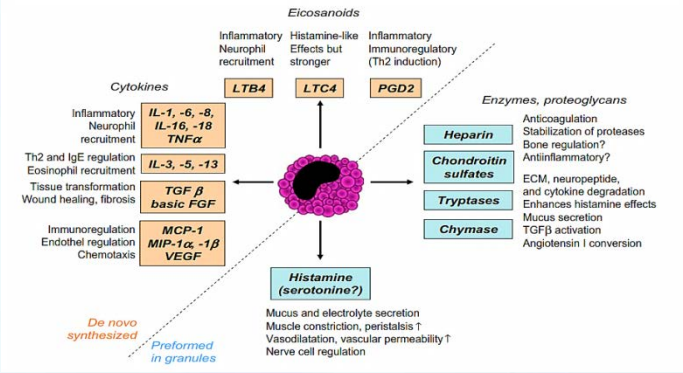
1. IgE-dependent activation
2. Monomeric IgE-dependent activation
3. Non-immunological activation *(through MRGPRX2, for instance)* Bradding & Saito, 2013; Muñoz-Cano R, et al.2016.

Allergens cause mast cell activation via the high affinity IgE receptors (**FceRI**), which are coupled with the elevation of intracellular free Ca^{2+}, causing mast cell degranulation. Mast cells can also be activated IgE-independently by a numerous classes of receptors to release inflammatory mediators which are pre-formed and newly synthesized.

Mast Cell Activating Mediators		
Allergens *(Ig E through FcεRI)*	**Acetylcholine**	**Adenosin** *(through A3 receptors)*
Substance P	**Nerve growth factor**	**Cytokines** *(SCF, TNF-α, IFN-c, IL-33)*
Bradykinin	**Kallidin**	**CRH**
Complement components	**VIP**	**Endo. phenylepthylamines**
Stress	**Pseudoallergens**	**Bacterial products** *(TLRs)*
Interleukins	**Hormones**	**Tryptase** *(through PAR-2 receptors)*
Neuropeptides	**Th2 inflammation**	**Hyperosmolality**
Thrombin *(PARs)*	**β-defensins and cathelicidin**	**Mas-related G protein coupled X2 receptor (MRGPRX2) ligands**

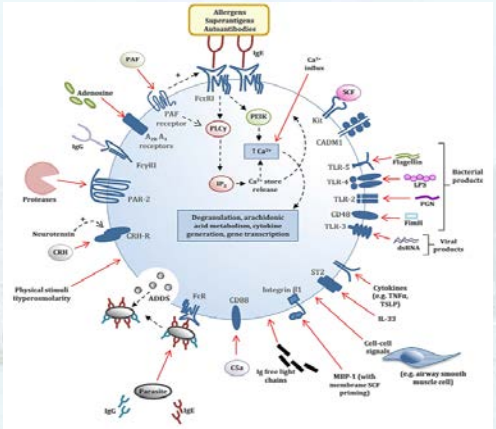
Church et al., 2018; Horigome et al., 1993; Kulka et al., 2008; Siiskonen & Harvima, 2019; Subramanian et al., 2016

Upon activation, mast cell release both preformed mediators and newly synthesized compounds.



Bischoff SC, 2009

Mast Cell Activating Mediators: There are autocrine, paracrine, neural and hormonal mediators causing the release of histamine and other proinflammatory substances. Mast cells express a plethora of receptors, the post receptor downstream signaling of which are not completely understood but ultimately may mediate mast cell degranulation.



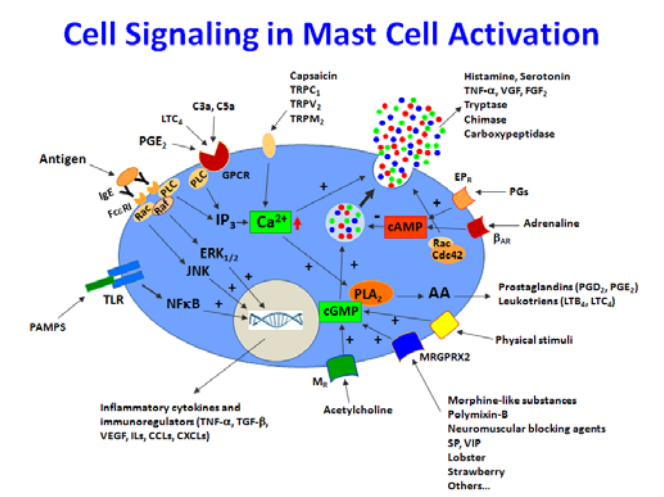
Bradding & Arthur, 2015

These are the receptors capable of modulating human mast cell activation. Mast cells express a broad range of receptors, allowing them to respond to a diverse range of stimuli, including via IgE-independent mechanisms.

Mast Cell Activating/Degranulating Drugs: A number of therapeutic agents can cause the release of histamine from mast cells directly or indirectly. Some factors induce degranulation but some regulate its threshold of activation. The followings are the drugs that have been reported to cause mast cell degranulation: Compound 48/80, neuromuscular blocking agents (*e.g.,* tubocurarine, cisatracurium rocuronium, etc and succinylcholine), opioids/opiates (morphine, remifentanil, etc.- not mediated by opioid receptors), certain antibiotics (polymyxin-B, b-lactam antibiotics, vancomycin, teicoplanin and amoxicillin-clavulanic acid- probably mediated by **MRGPRX2**), iodinated contrast agents (meglumine amidotrizoate, iohexol, iomeprol), non-steroidal anti-inflammatory drugs (aspirin, diclofenac, etc.- NSAIDs exacerbate food allergy), angiotensin converting enzyme inhibitors (ACEIs, quinapril, perindopril, ramipril, trandolapril, (Muñoz-Cano et al., 2016), anesthetics (like propofol), plasma extending agents (hyperosmality?), estrogens, b-blocker drugs (Nassiri et al., 2015), venoms (hornet and other bees and insects), capsaicin (hot paper-through substance P release), calcineurin inhibitors (pimecrolimus and tacrolimus through the release of substance P and CGRP from primary afferent nerve endings, leading to mast cell degranulation (Ständer et al., 2007), alcohol (by increasing intestinal allergen absorption and extracellular adenosine level), cetuximab, oversulfated chondroitin sulfate-contaminated heparin, lipid-lowering drugs (statins through the increased $t_{1/2}$ of PAF) (Caslake et al., 2000), proton-pump inhibitors (omeprazole, lansoprazole, etc.) (Niggemann & Beyer. 2014).

Mast Cell Degranulating Foods: Some foods cause mast cell degranulation either through IgE receptors or MAS-related G protein coupled receptors (MRGPRX2) or unknown pathways. Exercise, menstruation, hyperosmolarity may also cause degranulation of mast cell.

Mast Cell Activating/Degranulating Foods	
Peanut and other nuts	Eggs
Shellfish (e.g. lobster etc).	Milk
Spoiled fish	Vegetables (e.g., tomato)
Proteins	Fruits (e.g., strawberry)
Cheese	Wheat *(through by ω-5 gliadin)*
Wines	Red meat *(trough α-1,3-alphagalactose)*
Alcohol- *by increasing intestinal allergen absorption and extracellular adenosine level-*	Dietary aluminum
Hot paper *(trough capsaicin-SP)*	Food dyes and preservatives



Within mast cells, three major second messengers namely **Ca^{2+}, cGMP and cAMP**, seem to have an important role in the degranulation of these cells. $Ca^{2+}$and cGMP have promoting role for degranulation; while cAMP has an inhibitory role.

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LOZENGES IN DERMATOLOGY

Mehmet Demirel

Lozenges are pleasant usage form of drugs use for oral cavity diseases and some systemic disease. Lozenges are used in dermatology for some disease like oral lichen planus, recurrent aphthous ulcers, oral ulcers of Behçet's syndrome, burning mouth syndrome, oral mucositis. Cause of easy to use, lozenges are still popular form of drug in the community. They dissolve in mouth or pharynx and show local or systemic effect. Lozenge tablets have several advantages as pharmaceutical formulations with some disadvantages. In this presentation, we explained in which dermatological diseases the lozenges can be used and what benefits they can provide.

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SARCOIDOSIS: AS A GREAT IMITATOR

Ayse Serap Karadag

Sarcoidosis is an idiopathic multisystem granulomatous disease that can involve almost any organ system.As lesions presume a variety of morphologies, cutaneous sarcoidosis is known as one of the “great imitators” in dermatology. Skin involvement is a significant contributor to the diagnosis of the disease because it eliminates the requirement of more invasive evaluation and more invasive tissue biopsies. And it provides clues for the discovery of asymptomatic systemic findings, clinical course and prognosis.

The reason underlying the disease is still unknown. Immunopathologically and histologically, cutaneous sarcoidosis is characterized by a macrophage/T helper-1 cell-mediated, non-caseating, granulomatous inflammation process. An imbalance between proinflammatory and anti-inflammatory cytokines has an important impact on the development of cutaneous granulomas.

The disease is usually seen at about 40s and females consist nearly two-thirds of the cases. The skin is involved in 20-35% of cases, where patients have a systemic disease.

Cutaneous lesions can be categorized into two groups as a specific and nonspecific lesions depending on the appearance of non-caseating epithelioid granuloma. Specific cutaneous lesions may show different presentations including papules, plaques, nodules, infiltrative scars, annular, angiolupoid, psoriasiform, hypopigmented, atrophic, subcutaneous, ulcerative lesions, scarring and nonscarring alopecia, erythroderma, and ichthyosiform lesions. Nonspecific lesions include erythema nodosum, erythema multiforme, prurigo, and calcinosis cutis. The range of differential diagnosis is based on the clinical type and according the lesion type, several diseases must be eliminated from simple infectious disease to tumoral lesions.

The lungs, lymph nodes, liver, eyes, bones and skin are commonly affected parts by sarcoidosis as well as exocrine glands, spleen, musculoskeletal system, neurologic system, cardiovascular system and renal system.

Histopathologic examination is the most valuable diagnostic method. Naked or sarcoidal noncaseating granulomas are seen when histopathologic examination is applied on the specific sarcoidosis lesions. The dermatopathology is usually not different for all the clinical presentations; however, variations in the cutaneous findings cause confusion when a clinical course, therapeutic approach, or prognosis is followed.

The treatment of cutaneous limited sarcoidosis is often successful, however some of the skin lesions may be refractory to treatment or may recur after successful treatment. The most effective treatments for cutaneous sarcoidosis are systemic and topical corticosteroids. Antimalarials, retinoids, and immunosuppressive treatment modalities are other alternatives that can bechosen for thetreatment of generalized and refractory disease.

Missed diagnosis due to lack of clinical suspicion, better understanding and newer investigative modalities have also contributed.Dermatologistsplay a significant role in the recognition of the cutaneous findings which give a clue for multisystemic disease.

In this speech, I will focus on the cutaneous different lesions of sarcoidosis which are confused with several diseases.

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HAİR GRAYİNG: WHAT'S NEW?

Berna Aksoy

Hair pigmentation process consists of melanin formation and transfer to keratinocytes in the hair shaft. Hair follicle melanogenesis is under cyclical control and concurrently coupled to hair growth.

Premature graying of hair (PGH) is defined as graying of hair before the age of 20 years in Caucasians and before 30 years in African Americans. Canities is an aging sign which can severely affect the self-esteem of an individual.

Though many studies have been conducted to identify the pathogenesis and regulation of hair pigmentation, the exact etiopathogenesis of hair graying remains incompletely understood. The traditional pathogenesis of canities is believed to occur either from insufficient melanin formation due to melanocyte degeneration or a defect in melanosomal transfer. Perhaps the role of reactive oxygen species (ROS) in this melanocyte dysfunction hypothesis of hair graying is the most studied. Copper, zinc and iron deficiency, vitamin B12 deficiency, certain chemotherapeutic drugs and antimalarials, smoking can lead to hair graying. Reversible hypopigmentation of the hair can be seen in nutritional deficiencies, protein-energy malnutrition and diseases of chronic loss of protein. Studies revealed underlying anemia and thyroid dysfunction, lower serum levels of ferritin, calcium, vitamins B12 and D3, folic acid, biotin, high-density lipoprotein cholesterol (HDL-C) levels and higher low-density lipoprotein-cholesterol (LDL-C) levels in patients with canities.

Recent studies suggest that bulge melanocyte stem cells (MSCs) are the key cells in hair graying. Graying may be caused by defective MSC self-maintenance, not by any deficiency in bulbar melanocytes. And hence hair graying may be principally attributable to active hair growth. Active hair growth may produce oxidative or genotoxic stress in hair bulge. These internal stress may cause eventual depletion of MSC in the bulge region of actively growing hair follicles. As a result, hair graying may be caused by MSC depletion by genotoxic stress in the hair bulge.

Gene studies revealed global downregulation of pigmentation-associated genes in human PGH. Potential candidate genes have been described that are involved in melanocyte stem cell biology in mice predisposed for hair graying. Heterozygosity for the melanogenesis associated transcription factor, MITF, exacerbates MSC differentiation and hair graying in mice. MITF also has a role in the regulation of systemic innate immune gene expression. Increased Wnt/β-catenin signaling promotes excessive differentiation of melanocytes, leading to exhaustion of melanocyte stem cells and eventually hair graying in aged mice.

Melanosomes display enlargement in minor axis with aging and this seems to be a cause of the age-related color change in pigmented hairs. Histopathological examinations reveal a decrease in the number and activity of the melanocytes of the hair bulb, which eventually completely disappear from the bulb of the white hair. Residual non-active melanocytes remain in the outer root sheath and in the bulge.

Positive family history, smoking, alcohol consumption, emotional stress, depression, vegetarian diet preference, atopy history, higher body mass index (BMI), a sedentary lifestyle and irregular eating habits are among the risk factors for hair graying.

PGH can occur as an autosomal dominant primary disease. On the other hand, PGH correlate with premature aging disorders such as progeria and pangeria, atopy, autoimmune diseases, osteopenia, hearing loss and cardiovascular disease. Patients, who present with PGH, should be assessed for syndromes and metabolism diseases. Visible aging signs such as androgenic alopecia, PGH, the degree of hair graying, premature hair thinning, facial wrinkles, arcus corneae, xanthelasma, and earlobe crease are found as independent predictors of coronary artery disease.

Camouflage techniques are still used as the primary treatment of canities after nutritional supplementation. New treatments for canities like topical Melitane 5%, topical Bixin, Polygonum multiflorum root extract are being developed to achieve the reversal of hair pigmentation.

LEPROSY: A GREAT IMITATOR

Cengizhan Erdem

Leprosy is often described as an ancient disease in many cultures.

It is not known where leprosy was first recognized, because it was often confused with other dermatologic and infectious diseases, justifying the description “the great imitator” 1.

In Turkey, multidrug treatment of WHO is being implemented since 1982, and the prevalence of the disease is below 1 in 10,000 cases.

The etiologic agent, Mycobacterium leprae, first shown by the Norwegian physician Gerhard Armauer Hansen (1841-1912) in 1873, is an intracellular obligate parasitic organism that can grow and divide inside macrophages and Schwann cells 2.

The main port of entry is the upper respiratory tract and the skin lesions, but M. leprae can be spread through sweat, sebaceous secretions, and lepromatous skin ulcers.

Current classification of leprosy is Ridley-Jobling classification. The disease has a mean incubation period of 2-4 years. Following this incubation period, an initial lesion, called indeterminate leprosy, appears. In most cases, indeterminate leprosy heals spontaneously, but few cases advance, into tuberculoid or lepromatous leprosy, that coincides with the immunologic status of the patient. Between these two polar forms, there is a borderline group which consists of borderline tuberculoid, mid-borderline and borderline lepromatous leprosy 3.

In indeterminate leprosy the lesions are few centimeters in size, few in number, hypopigmented and asymptomatic. They usually have normal or slightly decreased thermal and tactile sensitivity.

In tuberculoid leprosy the lesions are few in number or solitary and have an asymmetrical distribution. The surface is dry, hairless, usually scaly, and insensitive. Nerve damage occurs in early stages in tuberculoid leprosy, but the number of nerves involved is few, or even single, and asymmetrical. Bacilli cannot be shown in skin smears, and lepromin test is positive.

Early signs of lepromatous leprosy are widespread, symmetrical, hypopigmented macules with indistinct edges. In early lesions, there is no loss of sensation, but sweating may slightly be impaired. Subsequently infiltrated papules, tubercles, and nodules (lepromas) develop. The lepromas located on the face, lead to a diffuse infiltration (“lion face”), and madarosis. Lesions contain abundant bacilli, and lepromin test is negative. Those located in the nasal mucosa cause nasal obstruction, bleeding, septum perforation, and resorption of the nasal cartilage (trilobed nose, or “clover nose”)4.

Borderline spectrum of leprosy falls between tuberculoid and lepromatous leprosy. Patients develop severe deformities due to intense and widespread nerve lesions. There are large macules of circinate lesions showing central healing (immune areas) 4.

Nerve involvement in leprosy is always of the peripheral type. Central nervous system is unaffected. Tuberculoid and borderline tuberculoid leprosy patients have earlier and more severe nerve involvement. Autonomic, sensory and motor fibers are involved in priority order. Ulnar nerve is generally the first affected one. Then median nerve, radial nerve, facial nerve, posterior tibial nerve and common peroneal nerve may also affected 5.

For instance when motor fibers are involved in ulnar nerve injury, hypothenar atrophy and flexion contracture of the fourth and fifth fingers occur. “Facies antonina”, facial paralysis and lagophthalmos are the result of

facial nerve injury.

Diagnosis depends on the clinical and laboratory findings; namely patient history, investigation of sensorial impairment, palpation of peripheral nerves, skin smear microscopy, dermatopathologic examinations, radiologic examinations and specific serological tests 6.

Multidrug therapy is of WHO is the standard therapy for leprosy patients 7. Paucibacillary patients are treated with dapsone 100 mg/daily/unsupervised and rifampicin 600 mg/monthly/supervised, for 6 months.

Multibacillary patients are treated with dapsone 100 mg/daily unsupervised plus rifampicin

600 mg/monthly supervised and clofazimine 100 mg/daily unsupervised, and an

additional dose of clofazimine 300 mg/monthly supervised; for2 years, or until the patient is bacteriologically negative.

Paucibacillary patients require 2 years, and multibacillary patients at least 5 years of monitoring after treatment.

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HAIR MANIFESTATIONS OF ENDOCRINE DISEASES

Pelin Üstüner

Skin lesions may reflect an underlying endocrine disorder such as; thyrotoxicosis, hypothyroidism, Cushing syndrome, Addison disease, acromegaly, hyperandrogenism; polycystic ovary sendrome, hypopituitarism, hyperpituitarism, primary hyperparathyroidism; hypoparathyroidism; pseudohypoparathyroidism and Diabetes mellitus (1). Basically throtoxicosis and hypothyroidism may be presented with hair loss, Cushing syndrome, acromegaly and Addison disease may be accompanied with hypertrichosis, and hyperandrogenism is usually charachterized by hirsutism (1). Patients may have a a lack of hair on the armpits and the genital area as well as a lack of eyebrows and eyelashes in hypopituitarism, and a generalized hair loss of the body in primary hyperpituitarism, respectively (2). Diabetic patients usually complain about a diffuse hair loss on the top of the head and seborrhea. Identifying the endocrinopathy leads patients to receive corrective treatment (3).

Androgens responsible for the convertion of vellus follicles to terminal hairs in the axillae and groin in both males and females, and of the beard area and trunk of males during puberty, leads to progressive miniaturization of scalp hairs (4). In female patterned hair loss the clinical or biochemical evidence of hyperandrogenism is seen in only 38.5% of the patients (4). Growth hormone and insulin potentiate the effect of androgens on sexual hair growth. Insulin induces the 5 alpha reducatase activity thus causes increased production of dihydrotestosterone. Prolactin excess; is associated with hirsutism due to hyperandrogenism (4).

Hypothyroidism leads to decreased frequency of anagen, whereas hyperthyroidism leads to thin hairs (2). Patients with hypothyroidism usually present with dry, brittle, coarse, dull hair, alopecia (diffuse hair loss), increased number of telogen hairs and loss of lateral eyebrows (Hertoghe's sign) (2). In hyperthyroidism patients have fine, thin, silky, glossier hair, an alopecia (alopecia areata or telogen effluvium) generally seen only the forehead area (2). Alopecia does not correlate with the intensity of hyperthyroidism. Alopecia areata or hair thinning in the armpits, the trunk or the pubic area as well as thinning of the eyelashes are also typically seen in hyperthyroidism (2). Alopecia areata is also related to autoimmune diseases of the thyroid gland in nearly 60% of cases (5). In hyperpituitarism due to the excessive secretion of growth hormone (GH, somatothrophine) and insuline like growth factor-1 (IGF-1) scalp hair is initially coarse, and there may be hirsutism (2,4). Later a decrease in gonadothrophin production causes the hair to become finer, with loss of secondary sexual hair. Deep grooves resembling brain convolutions known as cutis vertis gyrata is a typical finding in hyperpituitarism (2). Besides, increased hair growth especially on upper and lower limbs, thicker, greasy hairs due due to increased seborrhea are seen. Straight hairs become curly and pale hairs darken; early graying is also observed (2). On the other hand in hypopituitarism the hairs show no pathological features, but there is a lack of hair in the armpits and in the genital area as well as a lack of eyebrows and eyelashes (2,4). Loss of terminal hair due to decreased gonadotrophin secretion is observed in all patients; first in the axilla and later but not invariably in pubic areas. Moreover, the activity of sebaceous and sweat glands are all typically reduced in hypopituitarism (2). Hair breakage just above the skin surface with generalized hair loss on the whole body are commonly seen in hyper and hypoparathyroidism. Premature hair graying may also be observed in hypoparathyroidism (2). Addison's disease confirmed by determining the lowered level of cortisol and ACTH in the serum is presented with hair darkening and thinning out, especially in the armpits and in the pubic mound (1). Cushing syndrome diagnosed by the presence of elevated serum cortisol is commonly accompanied with hypertrichosis (except the scalp), hair thinning (6). Besides women with Cushing syndrome show excessive male-pattern hair growth (face, chest, belly, vulva) (6).

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CUTANEOUS TUBERCULOSIS: AS A GREAT IMITATOR

WenChieh Chen

Tuberculosis (TB) caused by Mycobacterium tuberculosis is still prevalent in many developing countries and poses a new potential threat to global health due to international migration. First described by Theophile Laennec in 1826, cutaneous TB (CTB) is intricate in clinical manifestation and pathogenesis, and can be classified into two major categories, true CTB and tuberculid, depending on the source of infection (endogenous vs exogenous), route of transmission (inoculation, self-inoculation, hematogenous or lymphatic), amount of bacteria (multibacillary vs paucibacillary), and immune state of the host. True CTB is diagnosed when M tuberculosis is found at the lesion site by smear, culture, or polymerase chain reaction (PCR) examination, such as tuberculous chancre, TB verrucosa cutis, scrofuloderma, orificial TB, lupus vulgaris (LV), tuberculous gumma, and acute military TB. Tuberculids are defined as a hypersensitivity reaction to the bacterial antigens, including papulonecrotic tuberculid (PNT), lichen scrofulosorum (LS), and erythema induratum of Bazin (EI).

Clinical manifestations can mimic diverse skin diseases and changes, including erythema and eczema (LV), patches and plaques (LV, TB verrucosa cutis), macules and papules (acute miliary TB, PNT, LS), nodules, and abscesses (EI, tuberculous gumma), erosions and ulcers (tuberculous chancre, orificial TB, scrofuloderma). Annular LV can be confused with tinea or porokeratosis of Mibelli. Tumorous CTB is rare and should be differentiated from protracted LV associated with squamous cell carcinoma. Uncommon localizations such as ano-genital region, unusual presentations such as nodular granulomatous phlebitis, and coexistence with other morbidities such as Behçet disease and acne inversa/hidradenitis suppurativa deserve special attention.

Both true CTB and tuberculids should be treated following the same drug regimens of the World Health Organization recommendation for treatment of new cases of pulmonary TB, with isoniazid, rifamycin, pyrazinamide and ethambutol as the first-line antituberculous drugs. Longer treatment duration is recommended for EI, with isoniazid maintaining for up to 2 years and combination with adjuvants such as dapsone, potassium iodide, doxycycline, and corticosteroids to tackle inflammation. Recurrence of CTB after medical cure may be a concern, especially in immunocompromised patients, although available data are limited. Misdiagnosis and undertreatment of CTB in daily practice are likely, and contemporary contemplation of this classic great imitator in dermatology is imperatively warranted.

LEISHMANIASIS: AS A GREAT IMITATOR

Ayşe Akman Karakaş

Leishmaniasis is a vector-born protozoan parasitic disease that includes three main clinical presentations (e.g., visceral, mucosal, and cutaneous) due to interaction between parasitic factors and the host immune response. Cutaneous leishmaniasis (CL) typically develops as painless, chronic, single or multiple erythematous papules, nodules, plaques, ulcerated nodules, or plaques on uncovered body areas, especially on the head and extremities. CL is called “the great imitator” because it may closely mimic many dermatoses. Sometimes, this similarity misleads diagnosis, resulting in treatment mistakes and morbidities. CL may show clinical manifestations such as erysipelas, eczema, sporotrichosis, lupus vulgaris, or psoriasis, which may lead to diagnostic difficulties. Indeed, clinical differentiation between leishmaniasis recidivans and lupus vulgaris can be almost impossible. In particular, nodular or nodulo-ulcerative lesions could be confused with malignant tumors. In this lecture, Leishmaniasis: As a great imitator, will be presented with our clinical experience.

THE TRICKY TRICHS IN DERMATOLOGY

Burçe Can Kuru

The word “trich” is derived from the Greek word “thrix” which means pertaining to hair. The terminologies starting with ‘trich’ are related to hair more often than not. The authors classified the diseases which include ‘trich’ in Table 1.

Trichoclasis:

It is the common green stick fracture of the hair shaft, characterized by a transverse fracture of the hair shaft which is splinted partly or completely by intact cuticle. Trichoclasis does not indicate any specific underlying disease.

Trichorrhexis nodosa:

It is a hair shaft disorder characterized by breach in the cuticle with separation and fraying of the exposed cortical fibers which leads to a node-like swelling. It can be inherited or acquired. In rare cases, trichorrhexis nodosa can be associated with argininosuccinic aciduria, Menkes syndrome, trichothiodystrophy.

Trichorrhexis invaginata (bamboo hair):

It is a rare abnormality of hair shaft, in which the defect is in its keratinization allowing intussusception of the fully keratinized and hard distal shaft into the incompletely keratinized and soft proximal portion of the shaft. It leads to the typical “ball and socket” deformity. It is a diagnostic marker of Netherton syndrome although it can be seen in other hair disorders.

Trichoschisis :

It is a clean transverse fracture of the hair shaft in an area of focal absence of the cuticle. It is usually associated with sulfur-deficient hair in trichothiodystrophy.

Trichothiodystrophy :

Photosensitivity, ichthyosis ,brittle hair, intellectual impairment with low IQ,decreased fertility,short stature are seen in trichothiodystrophy. Under light microscopy with polarization, “tiger tail” appearance is seen.It is a rare disorder characterized by sulfur deficient, brittle hair along with wide range of clinical manifestations.

Trichopoliodystrophy (Menke’s disease) :

It is a X linked recessively inherited syndrome characterized by severely retarded mental and physical development, convulsions, abnormalities of the hair, bones and arteries. It is caused by an inborn error of copper metabolism. The hair are light colored and kinky in morphology.

Leukotrichia:

Depigmentation of hair within vitiligo macules. It indicates destruction of the melanocyte reservoir within the hair follicle, therefore predicting a poor therapeutic response.

Trichotillomania:

A compulsive desire to pull out one’s own hair.

Trichophagia :

Compulsive eating of whole hair.

Trichomycosis axillaris:

It is a bacterial infection of hair shaft seen in axillary and pubic area, characterized by asymptomatic nodular thickenings composed of colonies of aerobic Corynebacterium Species.

Trichilemmoma:

A benign tumor derived from external root sheath epithelium of a hair follicle, consisting of cells with pale-staining cytoplasm containing glycogen. Multiple trichilemmomas are present on the face in Cowden's disease.

Trichomatricoma:

It is a tumor derived from hair matrix cells. It presents as a solitary, skin colored or bluish,firm, cystic nodule on head, neck or proximal upper extremities. It displays a "tent-sign" and "teeter totter sign." Multiple lesions are seen in Gardner's syndrome, myotonic dystrophy, Rubinstein–Taybi and Turner syndrome.

Tricho-odonto-onycho-dermal syndrome:

It is a rare form of autosomal recessive ectodermal dysplasia involving hair, teeth, nails and skin characterized by hair anomalies such as hypotrichosis and slow-growing hair, hypodontia, smooth tongue with marked reduction of filiform and fungiform papillae, nail dysplasia, dry skin, palmoplantar keratoderma and hyperhidrosis of palms and soles.

Trichogram :

It is a simple technique to calculate the percentage of hair in telogen and anagen phases.It includes a forced pluck of 60–80 hair that includes the hair roots which are examined under the microscope.

Trichoscopy :

Trichoscopy is the term coined for dermoscopic imaging of the scalp and hair.

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Categories	Trichs
Hair disorders	Trichoclasis, trichorrhexis nodosa, trichorrhexis invaginata, trichoschisis, trichothiodystrophy, trichomalacia, trichonodosis, trichopoliodystrophy, trichoptilosis, trichostasis spinulosa, xanthotrichia, leukotrichia
Psychiatric disorders	Trichodynia, trichopathophobia, trichotillomania (trichotillosis), trichophagia, trichorhizophagia, trichoteiromania, trichotemnomania, trichorrexomania or trichocryptomania, trichodaganomania, trichobezoar, trichophytobezoar
Infections	Trichomycosis axillaris (trichobacteriosis, trichomycosis nodosa) and trichomycosis pubis, trichomycosis nodularis, trichosporosis nodosa, trichodysplasia spinulosa
Tumors, hamartomas, cysts	Trichilemmoma (tricholemmoma), proliferating trichilemmal tumor, trichilemmal carcinoma, trichoadenoma of Nikolowski, trichoblastoma, trichodiscoma, trichoepithelioma, trichofolliculoma, trichilemmal cyst, trichomatricoma
Syndromes	Tricho-dento-osseous syndrome, tricho-hepato-enteric syndrome, tricho-odonto-onycho-dermal syndrome, tricho-retino-dento-digital syndrome, tricho-rhino-phalangeal syndrome, odonto-trichomelic syndrome, oculotrichodysplasia, odonto-tricho-ungual-digital-palmar syndrome, manitoba-oculo-tricho-anal syndrome, tricho-oculo-dermo-vertebral syndrome, trichodental syndrome, trichodysplasia-amelogenic imperfecta, oculo-tricho-dysplasia neutropenic syndrome trichomegaly-retina pigmentary degeneration-dwarfism syndrome
Diagnostic/ procedural	Trichoesthesiometer, trichographism, trichogram, phototrichogram, trichoscopy, trichoscan, cross-sectional trichometry, trichometric index, trichophytic closure
Miscellaneous	Hypertrichosis, hypotrichosis, atrichia, trichomegaly, trichiasis, trichosiderin, trichohyalin, trichology trichorrhea, trichopathophobia, trichopathy, trichomadesis
Not pertaining to hair	Trichophyton, trichophytin test, trichrome stain, trichomoniasis, trichinosis, trichophytic granuloma, trichloroacetic acid, trichrome vitiligo

MYCOSIS FUNGOIDES: AS A GREAT IMITATOR

Ilkin Zindanci

Diseases that can progress with variants that are outside their classical clinical appearance and therefore confused with other dermatoses are called ''great imitators''. They can also be described as multiface dermatoses. In dermatology, diseases such as syphilis, tuberculosis, leprosy, leishmania, sarcoidosis have been described as great imitators in the historical process. Recently Mycosis fungoides(MF) has been the great imitator of our age.

MF is the most common primary cutaneous T cell lymphoma and accounts for about %50 of all cutaneous T cell lymphomas. It is more common in middle-aged adults. Although it is a slow-progressing cutaneous lymphoma, sometimes it may progress aggressively and make visceral organ involvement. The classic form defined by Alibert Bazin is mostly in the form of nonspecific erythematous atrophic patches, infiltrated erythematous plaques and sometimes nodules. The diagnosis is made histopathologically. However, it takes a long time to be diagnosed in some patients because it is located in closed areas and does not give subjective complaints.

In the literature, the term ''great imitator' for MF was first described by Zackheim et al. regarding patients who were diagnosed with MF histopathologically, although they were not in preliminary diagnosis. The diseases that are present in the preliminary diagnoses of these patients have been reported as vitiligo, acanthosis nigricans, alopecia, dissecting cellulitis, dyshidrosis, erythema annular centrifugum, erythema multiforme, pigmented purpuric dermatosis, perioral dermatitis, pitriasis alba, vesiculobullous eruption, ichtiosis, comedons, epidermal cysts, necrosis, gangrene, ischemic foot, sarcoidosis, porokeratosis, palmoplantar pustulosis, psoriasis and invisivle dermatosis.

Recently in the literatüre, atypical-looking clinical cases mimicking dermatoses such as tinea, scarring alopecia, erythema annulare centrifigum, erythema gyratum repens, lepramatous leprosy, tuberculoid leprosy, nevoid hyperkeratosis, granuloma anulare, eryspelas, inflammatory epidermal verrucous nevus etc. have been reported, although diagnosed as MF histopathologically.

In the WHO-EORTC classification, folliculotropic MF, pagetoid reticulosis and granulomatous slack skin, other than the classic MF are grouped as “MF variants”(1,10) However, there are MF forms that mimic other dermatoses with numerous atypical appearances other than classical forms and variants. Therefore, in some publications, these subtypes and variants have been grouped under several main titles. The first of these main titles is ‘clinical variants’, and while typical findings are observed with histopathology, it refers to forms that are clinically different. Hypopigmented, erythrodermic, ichthyosiform, palmoplantar, papillomatous, papular, solitary, and invisible MF can be included in this group. The second main title is ‘clinicopathological variants’. The forms in this group are different from the classical MF in terms of both clinical and histopathological appearance. Folliculotropic, syringotropic, granulomatous slack skin, pagetoid reticulosis, eruptive infindibular cystic, poikilodermic, bullous, dishydrotic, anetodermic, hyperpigmented, purpuric, pigmented purpuric dermatosis-like, pitriasis lichenoides chronica-like, pustular, verrucosis and hyperkeratotic MF can be evaluated in this group. The third and last heading is ‘histopathological variants’’ that identifies forms that are clinically similar to classical MF but have histopathologically different appearance. In this group, interstitial, granulomatous and large cell transformation can be counted within

In conclusion, MF is the great imitator of our age. It can mimic many dermatoses presenting in forms of atypical variants as well as classical lesions. Atypical MF variants should be considered in differential

diagnosis. Repetitive biopsies should not be avoided in lesions that are resistant, unresponsive to treatment, or considered to be incompatible with fully known dermatoses.

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WHAT'S NEW IN ALOPECIA AREATA?

Asja Prohic

Alopecia areata (AA) is a chronic, immune-mediated inflammatory disorder of anagen hair follicles leading to relapsing, nonscarring hair loss.

Despite comprehensive research, the exact etiopathogenesis of AA remains uncler, although it is considered to be the result of loss of immune privilege in hair follicle, autoimmune-mediated hair follicle destruction, and the upregulation of inflammatory pathways.

The disease affects children and adults and is characterized by transient non-scarring hair loss which may last from weeks to decades.

AA has a significant psychological impact, with increased prevalence of psychiatric disorders, particularly depression and generalized anxiety disorder (1).

The aims of treatment of AA are to prevent disease progression and reverse hair loss.

Many therapies are available for the treatment of AA, including topical, systemic, and injectable modalities. However, these treatment possibilities produce variable clinical results and there are no currently available treatments that induce and sustain remission.

In recent years, most attention has been given to Janus kinase (JAK) inhibitors.

The JAK family is a group of four cytoplasmic enzymes: JAK1, JAK2, JAK3 and tyrosine kinase 2 (TYK) 2) that have an important role in host defense and immune responses (2). They act on downstream targets via the signal transducer and activator transcription (STAT) pathway which has effects on tumor necrosis factor (TNF)-α, interferon (INF)-γ, and interleukins, among which IL15 signaling plays a key role in the development of AA and disease maintenance (3).

Genome-wide association studies demonstrated that AA exhibits pathological changes within the JAK-STAT signaling, supporting the hypothesis that dysregulated activation of this pathway or a response to JAK inhibitors have been involved in AA (4).

The studied JAK inhibitors for AA include tofacitinib (mostly inhibiting JAK1 and JAK3), ruxolitinib (selective for JAK1 and JAK2), and to a lesser extent baricitinib (selective for JAK1 and JAK2).

Numerous case reports, case series, open-label studies and a few randomized placebo-controlled trials, evaluating the JAK inhibitors tofacitinib and ruxolitinib in patients with AA, demonstrated clinical eficacy, with response rates of approximately 75% in many studies (4-6).

Topical JAK inhibitors, tofacitinib and ruxolitinib, have been used with limited efficacy for regrowing scalp hair in humans, although they have shown some efficacy in regrowing eyebrow and eyelash hair (7).

Other novel drugs for the treatment of AA, such as apremilast and fumaric acids, have shown variable results; whereas some clinical trials reported a lack of efficacy, several case reports showed good clinical response (2,7).

Drugs under investigation, BNZ-1 (a selective and simultaneus inhibitor of cytokines IL-2, IL-9 and IL-15), tralokinumab (an IgG humanized monoclonal antibody which specifically binds and neutralizes IL-13), dupilumab (a Th2 antagonist that blocks IL-4 receptor, inhibiting IL-4 and IL-13), PF-06651600 (an oral JAK3 inhibitor and PF-06700841 (a TYK2/JAK1 inhibitor), will, hopefully, support the optimism among patients with chronic, treatment-refractory AA and provide some answers regarding an optimal dose, ideal treatment duration and whether maintenance therapy is required (7).

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DRUG ERUPTIONS: AS A GREAT IMITATOR

Esra Pancar Yüksel

The clinical manifestations of drug eruptions can range from mild maculopapular exanthema to severe cutaneous adverse drug reactions including Stevens–Johnson syndrome and toxic epidermal necrolysis. They may mimic other dermatologic or systemic diseases and are considered in the differential diagnosis of a broad range of skin conditions.

Exanthematous drug eruptions are the most common type of cutaneous drug reactions. They consist of erythematous macules and papules that blanch with pressure and show a symmetric distribution most often starting on the trunk. The rash appear 4 to 21 days after the initiation of a new medication. Discontinuation of the offending medication is required for resolution. They may resemble viral exanthems.[1-3]

Cutaneous exanthematous drug eruptions can also present in eczematoid, psoriasiform, or lichenoid-like pattern. Psoriasiform drug eruption was described with the use of TNF alfa inhibitors and anticancer agents. Lichenoid drug reactions most often resemble lichen planus and share similar clinical presentations and histopathologic findings.[4-6]

There are other less common drug reactions considered in differential diagnosis of skin disorders. Acute generalized exanthematous pustulosis is a rare pustular eruption. It is characterized by the development of cutaneous erythema with numerous sterile pustules. The main differential is pustular psoriasis. Drug-induced subacute cutaneous lupus erythematosus is a clinically and immunologically distinct drug reaction with annular or papular, sometimes discoid lesions on sun-exposed skin. The skin lesions are indistinguishable from non-drug-induced subacute cutaneous lupus erythematosus. Commonly associated drugs include diltiazem, hydrochlorothiazide, terbinafine. Drugs should also be considered as a cause in pemphigus. Some medications have been associated with drug induced bullous pemphigoid.[1-3] The recognition of drug induced vasculitis is important, and an increasing number of therapeutic agents have been associated with small vessel vasculitis confined to the skin.[7]

The most severe mucocutaneous blistering reactions are those of the Stevens–Johnson syndrome and toxic epidermal necrolysis. They are characterized by mucous membrane erosions, target lesions, and epidermal necrosis with skin detachment. Skin biopsy is essential to rule out staphylococcal scalded skin syndrome, bullous lupus, pustular psoriasis.

So, the cutaneous drug eruptions may be considered a “great imitator”, due to its extensive clinical morphology.

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SCALP FOLLICULITIS

Asja Prohic

Scalp folliculitis a relatively common condition in dermatological practice but the diagnosis can be challenging because of overlapping diseases, both clinically and histopathologically.
It can manifest as a superficial folliculitis (ostiofolliculitis), with the inflammation confined to the upper part of the hair follicle, or it can be deep folliculitis, with the inflammation involving the deeper aspect of the follicle, but also extending into the surrounding dermis.
Numerous infective agents may cause scalp folliculitis, however, the majority of them are caused by bacteria and fungi, whereas viruses and parasites are less common causes (1).
Bacterial folliculitis is most often caused by Stapylococcus aureus, less frequently by gram-negative bacteria Pseudomonas aeruginosa, Klebsiella, Enterobacter, and Proteus species (2).
The major cause is either contagion or autoinoculation from a carrier focus, usually nasal or perianal region.
Superficial folliculitis is characterized by multiple or single dome–shaped yellow pustules in the center of which hairs are often seen. Deep folliculitis is accompanied by intense inflammatory symptoms and may progress to furuncles or carbuncles in some cases (1).
Both dermatophytes and yeasts can cause fungal folliculitis.
The pustular type of dermatophyte infection of the scalp is most common seen in zoophilic tinea capitis and is characterized by scaly areas of erythema and hair loss, and sometimes pustules may be found in the edge of the lesions.
Deep form of tinea capitis is called kerion. It usually starts as folliculitis and over time a deep suppurative lesion may develop. Pustule formation represents an inflammatory response to the dermatophyte itself rather than a secondary bacterial infection.
Inflammatory type of tinea capitis is often clinically difficult to differentiate from deep bacterial folliculitis, which may lead to unnecessary antibiotic treatment.
The correct diagnosis is done by a simple direct microscopy and/or fungal culture.
Inflammatory disseminated edematous papules, vesicles, or pustules on the scalp may be seen as a dermatophytid reaction which represents an immunologic response to a distant focus of dermatophyte infection (1).
Folliculitis due to Candida may occasionally manifest with pustules on the scalp, however it most frequently occurs as a widely distributed pustular folliculitis, usually in infants or immunocompromised patients (2).
Scalp folliculitis caused by viruses is rare. It is most commonly associated with varicella zoster virus infection appearing as pustules with surrounding erythema which crust and heal without scarring unless complicated by secondary bacterial infection (3).
Folliculitis caused by parasites is most commonly seen in young children affected by scabies, often manifesting as a generalized vesicopustules eruption.
Pediculosis capitis is characterized by intense pruritus, therefore scratches may lead to secondary bacterial infection and impetiginisation.
Besides the infectious causes, numerous noninfectious may causes may cause folliculitis: diabetes mellitus, oily creams, hyperhidrosis, maceration and immunosupression.
Eosinophilic pustular folliculitis (Ofuji's syndrome) resembles bacterial or mycotic folliculitis; however, pustules are sterile and typically smaller than pustules in bacterial folliculitis (4).
Folliculitis in the nuchal and occipital region can be a diagnostic challenge.
Perifolliculitis capitis abscendens et suffodiens, acne keloidalis nuchae and acne conglobata all share similar

clinical features and all lead to permanent alopecia; however, all of these conditions are different and require a specific therapeutic approach (5).

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DIFFERENTIAL DIAGNOSIS OF VIRAL WART

Zoran Nedic

Viral warts are a very common, benign, epidermal proliferation of the skin and mucous membranes that occur in children and adults. They are among the most common diseases. Are mainly caused by human papillomaviruses, rarely by other type of viruses.

Infections with human papilloma viruses are widespread worldwide. The infection is caused by the penetration of the virus through damage to the skin and mucous membranes. Viral warts are easily spread by shaving, scratching, finger-sucking, nail-biting, sexual intercourse and perinatally. They are over 100 types of HPVs that can infect the skin and mucous membranes.

They occur as polymorphic, asymmetric outgrowths : common warts, plantar warts, flat warts, condilomata acuminata, molluscum contagiosum.

The diagnosis of viral warts is most commonly made on the basis of a clinical examination. Immunohistochemical detection, hybridization techniques and polymerase chain reaction are used for laboratory confirmation. Dermoscopy has his place in the diagnosis of warts. Persistent and atypical lesions should be biopsied to establish the correct diagnosis of warts.

In differential diagnosis, it should always be considered: seborrheic warts, cornu cutaneum, actinic keratosis, keratoacanthoma, angiokeratoma, Boven's disease, Darier's disease, skin tags, lichen planus, warty nevus, glomus tumor, syringomas, pigmented papules, xanthelasma, xanthoma dissminatum and more.

Determining the right diagnosis of warts and determining the type of virus is very important for further treatment because certain warts and / or viruses can be associated with numerous benign and malignant tumors of the skin and genital and non-genital mucous membranes.

TEETH AND DERMATOLOGY

Sezgi Sarıkaya Solak

Dermatologic diseases can be associated with various dental manifestations as teeth and skin have the common embryologic ectodermal origin. Changes in teeth may be a useful diagnostic feature so it is crucial for the dermatologists to be aware of dental manifestations. Genetic, inflammatory, immune, infectious skin diseases and systemic drugs used in dermatology can be associated with teeth and surrounding tissue abnormalities.

Genodermatoses presenting with dental findings are; congenital erythropoietic porphyria, ectodermal dysplasias, epidermolysis bullosa, Gardner syndrome, hyperimmunoglobulin E syndrome, incontinentia pigmenti, Naegeli-Franceschetti-Jadassohn syndrome, Papillon-Lefevre syndrome, Nevoid basal cell carcinoma syndrome, Sjögren-Larsson syndrome and tuberous sclerosis.(1, 2) Various dental abnormalities including anodontia, hypodontia, microdontia, polydontia, enamel defects and caries, color and shape changes of teeth, periodontitis, gingivitis, retention of primary teeth, early total loss of teeth, odontogenic cycts and odontomas can be seen in these genodermatoses.(1) These dental findings are important clues for diagnoses which should not be overlooked.

Among the dermatological diseases, one of the most common conditions associated with teeth is desquamative gingivitis. Desquamative gingivitis is a clinical finding to describe the erosions of gingiva. (3) It is characterized by diffuse erythema and varying degrees of erosion and pain. Bleeding is commonly seen. Desquamative gingivitis may be associated with several underlying diseases.(3, 4) The most common causes include lichen planus and autoimmune bullous disorders. The history of the patient, physical examination, histopathologic and immunopathologic examination is needed for diagnosis. The presence of desquamative gingivitis may cause poor oral hygiene which can lead to periodontitis and tooth loss. Due to the pain, oral intake can be decreased causing weight loss and malnutrition. Patients with desquamative gingivitis should be assessed and provided treatment by a dentist and dermatologist.(3)

Gingival hyperplasia is another frequent dermatological finding of gingival disease. It can occur in association with drugs (anticonvulsants, calcium canal blockers, cyclosporine), inflammatory conditions (poor oral hygiene, periodontal disease), granulomatous diseases (Crohn, sarcoidosis), malignancies (leukemia, Kaposi sarcoma, metastases), genetic diseases (tuberous sclerosis, Cowden syndrome), hormonal (pregnancy, acromegaly) and deposition (amyloidosis , Fabry disease). (4, 5) For the treatment of gingival hyperplasia, oral hygiene should be provided, the underlying cause should be eliminated and if necessary excessive gingival tissue should be excised.(5)

The spread of dental infections to the skin is another dermatologic condition that can occur in association with teeth. Periapical abscess, osteomyelitis, cellulitis, intraoral dental sinus and cutaneous sinus may occur. Focus of infection should be eliminated by appropriate treatment.(4)

Tetracyclines, a group of drugs which are commonly used in dermatology may cause discoloration and enamel hypoplasia if administered during the period of teeth development.(6) They are contraindicated during pregnancy and in children up to 8 years. It has also been reported that some tetracyclines may cause staining in adulthood. The discoloration of the teeth varies from yellow to gray to brown depending on the type or dose of the drug and body weight. Treatment options include bleaching and modalities physically covering teeth.(6)

In conclusion; the examination of teeth should be carried out by dermatologists in the routine of dermatologic examinations as teeth abnormalities may be diagnostic signs or coexist with dermatologic disease.

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GABAPENTIN AND PREGABALIN IN DERMATOLOGY

Algün Polat Ekinci

Gabapentin and pregabalin are GABA analogs that diminish glutamat release by binding to the voltage-gated Ca+ channels in the presynaptic neurons. They are FDA approved drugs for epilepsy and postherpetic neuralgia. But not yet approved, they have also been shown to be effective in many dermatologic disorders especially in central sensitization related conditions. Central sensitization is a complex process that describes an amplification in cutaneous sensory signaling that is thought to be play a main role in some dermatologic disorders. Use of gabapentin and pregabalin in dermatology can be reviewed under five headings.

1. Chronic pruritus: Gabapentin is effective in chronic pruritus states including uremic pruritus, pruritus related to hematologic malignancies, burns, opioid induced itch and pruritus of unknown origin. The recommended initial dose is 300 mgs daily and can be increased up to 1200 mgs three times per day. Pregabalin is also found to be effective in uremic pruritus at a dose of 25-75 mgs per day.
2. Neuropathic pruritus: Notalgia paresthetica and brachioradial pruritus, and trigeminal trophic syndrome have been reported to respond to gabapentin 300-600 mgs at bedtime.
3. Cutaneous neuropathic pain: Herpes zoster infection can lead to postherpetic neuralgia in 10-15% of patients. Gabapentin and pregabalin have both been approved for the treatment of postherpetic neuralgia. After treatment, improvements in daily pain, sleep quality and overall quality of life were reported. Pregabalin is started at an initial dose of 150 mg/day and can be increased up to 600 mg/day. The initial dosage of gabapentin is 300 mgs per day and can be increased up to 1200 mgs three times a day.
4. Cutaneous sensory disorder (CSD): CSD presents with disagreeable sensations including pruritus, burning, stinging, crawling, or biting. CSD can be limited to one anatomical region which is described as dynia. The most frequently encountered dynias namely focal pain syndromes are glossodynia, vulvodynia, orchidynia, prostatodynia, and proctodynia. Gabapentin is the best studied antiepileptic drug in treating vulvodynia. It is typically started at 100 mgs daily and than increased up to 3600 mgs daily. Pregabalin is also reported to be effective in vulvodynia at a dose of 150 mg tid. Burning mouth syndrome, glossodynia and scalp dysesthesia are also CSDs that have been reported respond to pregabalin and gabapentin.
5. Self-induced dermatoses: Trichotillomania and skin picking disorder are related to the obsessive-compulsive disorders whereas prurigo nodularis and lichen simplex chronicus are believed to be emotional displays. Gabapentin with a starting dose of 300 mgs daily up to 900 mgs per day or pregabalin dosage at a 150 mgs per day up to 225 mgs daily are reported to show considerable improvement in self-induced dermatoses.

Other conditions where the pregabalin and gabapentin are used include painful tumors, neuropathic ulcers, pain during dressing, and painful hand-foot skin reaction.
The most frequently reported adverse events of pregabalin and gabapentin are neurologic symptoms such as somnolence, dizziness, fatigue, and sedation which are usually seen over the first month of the treatment. To avoid adverse effects, gabapentin and pregabalin should be started at lower doses and gradually be increased. In conclusion, gabapentin and pregabalin are promising drugs in the treatment of various conditions that often are difficult to manage for dermatologists. Although there are multiple reports on the off-label use of these medications, most of them are limited to the small sample sizes. Further studies are required to demonstrate the efficacy of these drugs.

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CLINICAL TRIGGERS OF ROSACEA ARE ENDOPLASMIC RETICULUM STRESSORS

Bodo C. Melnik

Pathological aberrations in rosacea epidermis are increased epidermal expression of cathelicidin antimicrobial peptide (CAMP), toll-like receptor 2 (TLR2) and the CAMP cleaving protease kallikrein 5 (KLK5) resulting in enhanced release of the antimicrobial, proinflammatory and angiogenic peptide LL-37 [1-2]. The -helical peptide LL-37 plays a most important role in antimicrobial host defense, operates against a broad spectrum of bacterial, viral and fungal pathogens and is a critical component of neutrophil extracellular traps. Furthermore, LL-37 functions as an alarmin of the immune system that activates mast cells, promotes Th17 cell polarization, angiogenesis, and fibrosis, common hallmarks of rosacea. LL-37 is produced by cleavage of CAMP catalyzed by KLK5, whose expression is upregulated by the activation of TLR2 [2].

At the promoter level, the expression of CAMP is regulated by two independent pathways: 1) via vitamin D/vitamin D receptor (VDR) and 2) via increased endoplasmic reticulum (ER) stress that elevates the transcription factors C/EBP, p50, and p65 [3,4]. Notably, there is no increased VDR expression in rosacea epidermis compared to healthy epidermis [5], which supports the concept that the alternative VDR-independent pathway, i.e., increased ER stress signaling, promotes enhanced CAMP expression in rosacea epidermis [6,7]. ER stress also induces the expression and function of TLR2 in epithelial cells.

Rosacea skin is very sensitive. Well-known clinical triggers of rosacea are heat, cold, ultraviolet (UV) irradiation, acidity, spicy food (capsaicin), alcohol intake, and psychological stress. At the molecular level, all these signals are sensed by transient receptor potential vanilloid type 1 (TRPV1), which is upregulated in rosacea skin compared to healthy controls [8]. The vanilloid capsaicin is the classical activating agent of the TRPV1 (capsaicin receptor), which is a nociceptor that is also activated by high temperature, protons (pH <5.9), UV radiation and reactive oxygen species (ROS) (Fig. 1). Furthermore, ethanol increases TRPV1 sensitivity, which may explain the reported link between alcohol consumption and rosacea. In addition, adrenergic sensitization upregulates TRPV1, a possible relationship between psychological stress and rosacea flares.

TRPV1 is not only expressed on sensitive nerve fibers but is also located on keratinocytes and outer ER membranes supporting its role in sensitive skin. Recent evidence confirms that activation of TRPV1 induces ER stress [9], linking clinical rosacea triggers to ER-stress-mediated upregulation of CAMP. Notably, ER stress-dependent upregulation of activation transcription factor 4 (ATF4) promotes the expression of TLR2, which activates KLK5-mediated release of LL-37 [2].

A lowered activation threshold of TRPV1 may explain higher ER stress signaling in rosacea patients. This may have evolved in the Celtic population under the selection pressure of low vitamin D/VDR signaling during Nordic winter time with activation of an alternative, vitamin D-independent pathway for the production and maintenance of the important antimicrobial peptide CAMP. In this regard, increased TRPV1-mediated ER stress signaling in rosacea represents an evolutionary adaptation to improve antimicrobial defense and survival of Nordic vitamin D-deficient populations [10].

The progression of rosacea with age may correlate with the reported overexpression of TRPV1 in aged and photo-aged human skin. Preliminary evidence indicates that the TRPV1 antagonist trans-t-butylcyclohexanol has beneficial effects in subjects with sensitive skin prone to redness and rosacea.

Taken together, accumulated translational evidence supports the concept that clinical triggers of rosacea are ER stressors [6]. In contrast, UV-protection, avoidance of heat exposure and spicy food reduce TRPV1 activation. Remarkably, all clinical anti-rosacea agents interfere with the ER stress signaling cascade. They either quench ROS, inhibit phosphorylation-mediated activation of C/EBP, or diminish the expression of CAMP or KLK5 (Fig. 2).

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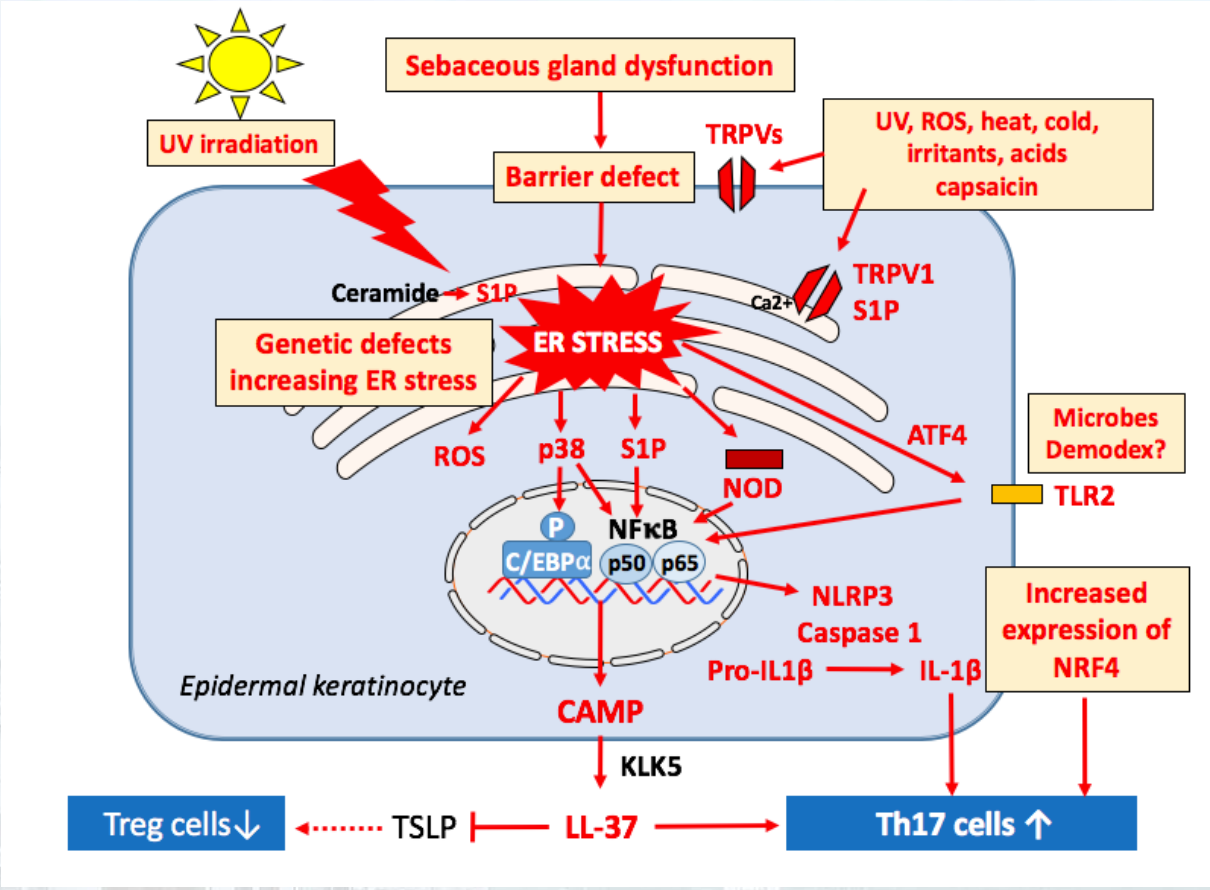

Figure 1. ER stress model of rosacea pathogenesis. Clinical trigger factors in rosacea induce TRPV1-mediated ER stress, release sphingosine-1-phosphate (S1P), activate MAP kinase p38 and nuclear factor κB (NFκB), which promote the expression of cathelicidin (CAMP). CAMP is cleaved by the protease kallikrein 5 (KLK5) to its bioactive fragment LL-37. Alterations of sebum lipids and UV irradiation disturb epidermal barrier function promoting ER stress. Activation of transient receptor potential vanilloid type 1(TRPV1) by rosacea trigger factors activate ER stress resulting in increased expression of Toll-like receptor-2 (TLR2), nucleotide-binding oligomerization domain protein (NOD), NLRP3 inflam-

masome, and reactive oxygen species (ROS). ER stress-mediated release of S1P and ROS further sensitize TRPVs thereby enhancing TRPV1 agonist activity. NLRP3-mediated activation of caspase 1 promotes the generation of interleukin 1β (IL-β), a critical driver for Th17 cell differentiation. LL-37 inhibits thymic stromal lymphopoietin (TSLP), a critical stimulus for the expansion of regulatory T-cells (Tregs), which are crucial antagonists of Th17 cells. Modified according to Plewig G, Melnik B, Chen W (eds) Rosacea Pathogenesis. Plewig and Kligman´s Acne and Rosacea, Springer Nature Switzerland 2019, chapter 13, pp 509-516.

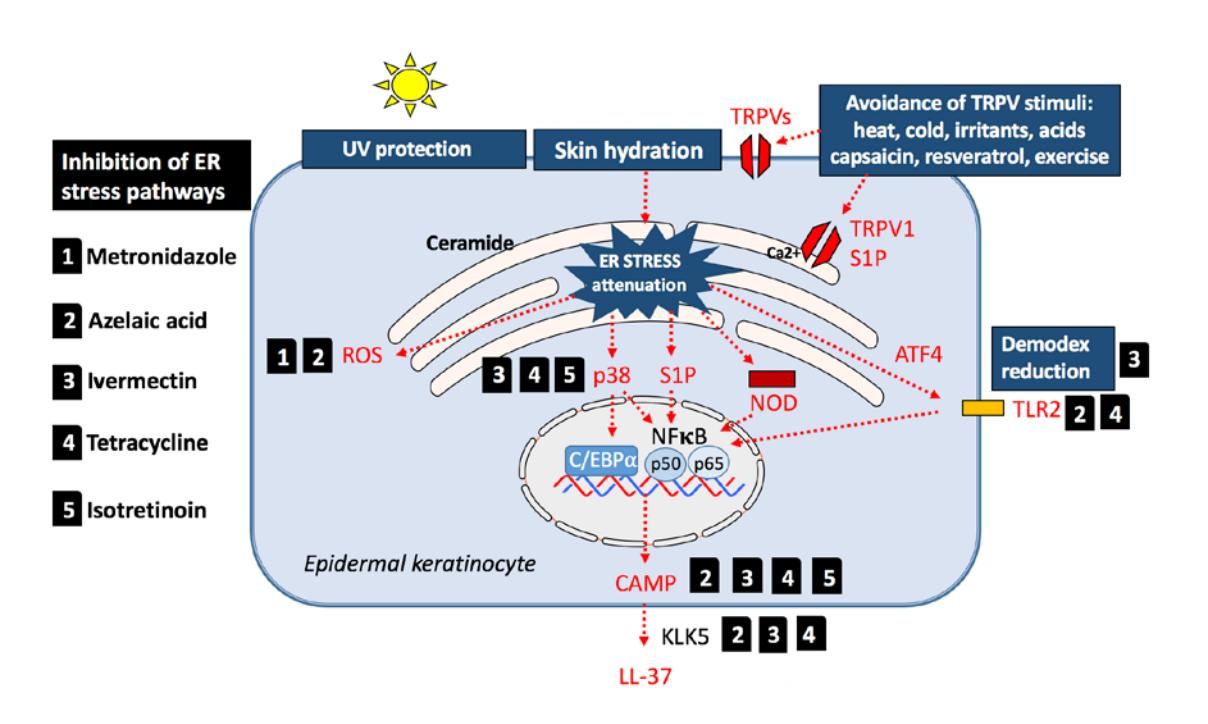

Figure 2. Rosacea therapy reduces ER stress. Prevention of ER stress by avoiding external and internal trigger factors of rosacea that activate TRPV1. Pharmacological agents reduce the expression of cathelicidin antimicrobial peptide (CAMP), decrease the expression of kallikrein 5 (KLK5), Toll-like receptor 2 (TLR2) and LL-37. Abbreviations: ATF4, activating transcription factor 4; C/EBPα, CCAAT enhancer-binding protein-α; LL-37, bioactive proteolytic cleavage product of cathelicidin; NOD, nucleotide-binding oligomerization domain protein; NFκB, nuclear factor κB; p38, mitogen-activated protein kinase p38; p50/p65, components of nuclear factor κB; ROS, reactive oxygen species; S1P, sphingosine-1-phosphate; TRPV1, transient receptor potential vanilloid type 1. Modified according to Plewig G, Melnik B, Chen W (eds) Plewig and Kligman´s Acne and Rosacea, Springer Nature Switzerland 2019, pp 559-572.

OCULAR FINDINGS OF SKIN DISEASES

Nazan Emiroğlu

There are lots of cutaneous dermatoses associated with ocular disease in the dermatologic literature. In this presentation, I want to talk about important oculocutaneous disease associationswith recommendations for the diagnosis and management. My presentation focuses on the infectious, inflammatory, neoplastic and genetic relationships of oculocutaneous diseases, and drug related oculocutaneous conditions.

Oculocutaneous viral infections are herpes simplex virüs, , herpes zoster virus, molluscum contagiosum. Oculocutaneous bacterial infection diseases are cat-scratch disease, reactive arthritis, arthritis, Lyme disease, periorbital cellulitis, orbital cellulitis, syphilis. Mycobacterial oculocutaneous infections are tuberculosis, leprosy. Parasitic oculocutaneous infections are onchocerciasis and schistosomiasis (1).

Common inflammatory oculocutaneous diseases are rosacea, atopic dermatitis, contact dermatitis,and psoriasis (2,3).

Bullous (mucous membrane pemphigoid, pemphigus vulgaris, linear immunoglobulin A disease, epidermolysis bullosa acquisita, paraneoplastic pemphigus, and Behcet disease), connective tissue diseases

(systemic lupus erythematosus, systemic sclerosis, sjogren syndrome), sarcoidosis , amyloidosis , graft versus host disease (acute/chronic) are other diseases with oculocutaneous involvement (4).

Incontinentia pigmenti, Hermanskye-Pudlak syndrome, Chediake-Higashi syndrome, oculocutaneous albinism, Waardenburg syndrome are oculocutaneous genodermatoses (1).

Disorders of keratinization (Ichthyosis, X-linked ichthyosis, KID syndrome, IFAP syndrome, Refsum), pseudoxanthoma elasticum , Fabry disease are other oculocutaneous diseases (1).

Squamous cell papilloma of the eyelid, Sturgee Weber syndrome PHACES syndrome are benign neoplastic disease with oculocutaneous involvement. Malignant neoplastic diseases with oculocutaneous involvement are cutaneous T-cell Lymphoma, multiple myeloma, basal cell carcinoma ,basal cell nevus syndrome, periocular squamous cell carcinoma, periocular sebaceous carcinoma, melanoma, Xeroderma pigmentosum (5).

StevenseJohnson syndrome and toxic epidermal necrolysis are drug reactions affecting both the skin and mucous membranes (5).

Drug-related oculocutaneous side effects with dermatologic therapy are observed with retinoids, TNF-alfa inhibitors, GCSs, IFN-alfa, EGFR inhibitörs. Cyclosporine and antimalarial drugs also have some ocular side effects (6).

Lots of oculocutaneous disease processes exist either in isolation or as part of more widespread systemic disease. It is important that dermatologists have an understanding of the disorders—especially those with devastating sequelae, such as blindness. The dermatologic community can play an important role in helping prevent the multitude of ocular complications associated with the host of diseases discussed.

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4. A review of scoring systems for ocular involvement in chronic cutaneous bullous diseases
5. The spectrum of oculocutaneous disease: Part II. Neoplastic and drug-related causes of oculocutaneous disease.
6. Review of drug-related causes of oculocutaneous disease.

CLINICAL PRESENTATIONS OF HUMAN DEMODICOSIS

WenChieh Chen

First discovered by Henle in 1841, then correctly classified by Simon in 1842, more than 140 Demodex species or subspecies have since been identified. Different species of Demodex mites exist in animals and behave more aggressively or even fatally to mammals, such as canine generalized demodicosis. Demodex folliculorum and Demodex brevis are the only permanent human ectoparasites and can cause human demodicosis of unclear pathogenesis. Primary human demodicosis as a disease sui generis is defined by the absence of preexisting or concurrent inflammatory dermatoses, abnormal increase in mite colonization identified from active lesions, and remission only after adequate treatment with topical or systemic acaricides/arachidicides. It is characterized by grouping asymmetric distribution of lesions, usually asymptomatic but sometimes very itchy, typically on the face involving periorificial (periorbital, perioral, periauricular) areas. The prevalence is unknown but very likely underestimated. Secondary demodicosis associated with local or systemic diseases is not uncommon, the best examples of which are rosacea and steroid or calcineurin inhibitors-induced rosacea-like dermatitis. Patients with significant immunosuppression are particularly vulnerable, such as hematologic malignancies, HIV-infections or dialysis. Although primary papulopustular demodicosis and papulopustular rosacea with secondary demodicosis may look similar at the first glance, the lack of facial flushing-blushing and diffuse background erythema as well as the asymmetrical distribution in the former can help to make a differential diagnosis.

The clinical manifestations of both primary and secondary human demodicosis can be divided into spinulate, papulopustular, granulomatous, plaque, nodular, conglobate, crusted, fulminant and ocular form. Spinulate demodicosis, formerly named as pityriasis folliculorum, is probably the first event and usually underdiagnosed. It represents the caudal part (opisthosoma) of the Demodex mites protruding out of the sebaceous follicles, displaying multiple tiny follicular hyperkeratotic spicules clinically, with no or just mild erythema. Little is known about the way leading to subsequent inflammation, whereas the number of mites does not correlate with the degree of inflammation. Demodicosis fulminans is defined when numerous lesions appear explosively in a disseminated pattern. Ocular demodicosis is not uncommon and can present as chronic blepharitis, meibomian gland dysfunction, recurrent chalazia, and refractory keratoconjunctivitis. Demodex folliculorum usually causes chronic anterior blepharitis whereas Demodex brevis posterior blepharitis. Scalp and ears are rarely affected.

The skin surface biopsy technique is currently the standard method recommended for detection of the mites, with more than 5 mites/cm2 identified from the lesions as arbitrary diagnostic criterion. Histology is rarely needed, except for the diagnosis of chronic granulomatous demodicosis. Modern in vivo techniques such as reflectance confocal microscopy and optical coherence tomography usually demonstrate a much higher number of Demodex mites. Treatment of choice is acaricides, such as topical permethrin or ivermectin. Oral ivermectin at 0.2 mg/kg singly, and if needed, repeated in 7-10 days, is reserved for extensive or recalcitrant cases. Low-dose oral isotretinoin at 0.3 mg/kg/day for 4-6 weeks can be considered as a promising alternative, supposedly through sebostasis and narrowing of the follicular infundibulum. Well-controlled studies are lacking. The role of endosymbionts and consequently antibiotic treatment remains to be confirmed.

RHINO-LARINGOLOGICAL FINDINGS OF SKIN DISEASES

Fatma Pelin Cengiz

Skin diseases may have involvement of other organs, such as nose and larynx. The rheumatological disorders, infectious diseases, bullous diaseases, types of dermatitis, skin cancers can have varied systemic and head and neck related manifestations. Common ear, nose, throat (ENT) manifestations of these disorders include bilateral parotid enlargement, excessive dryness of oral cavity, inflammation of cartilage of pinna & nose, recurrent sinusitis, sensorineural hearing loss, recurrent oral ulcers, spontaneous septal and palatal perforations, ulcers. These patients sometimes visit an otolaryngologist even before any specialist because of various ENT related problems. ENT symptoms may represent an early sign of an undiagnosed skin disease, that often requires an immediate and aggressive treatment. An Otolaryngologist should maintain a high index of suspicion to identify the underlying disease as these may be the only manifestations of the skin disease in early stages. Early and accurate diagnosis with referral to dermatologist may prevent morbidity and mortality related to these diseases. This presentation was designed to assess the understanding and practice about various ENT problems of skin diseases.

TOPICAL TREATMENT OF ROSACEA

Jelena Stojkovic-Filipovic

Rosacea is an inflammatory dermatosis that affects face and eye whose specific pathogenesis is still unknown. Also, the exact prevalence of rosacea is unknown, but still, it is among the most common facial skin conditions with significant impact on quality of life. Rosacea can have a wide range of presentations, but according to clinical features, it is classified into four subtypes. This classification of rosacea is still currently in use and aided the development of significant advancements in rosacea management, but its failure to accurately address the broader scope of clinical presentations. The management of rosacea is critically important for the patient's life quality and treatment decisions have to be based on the patient's current clinical manifestations. A phenotype approach or phenotype-based treatment recommendations allows management according to a patient's presenting disease features and symptoms, thus individualizing care and optimizing treatment outcomes. When choosing a treatment plan, different treatment options can be combined instead of being limited to four clinical types of treatments. Topical regimens either as monotherapy or as part of a combination regimen are first-line choice and often sufficient for the patients not severely affected. Also, often there is patient preference regarding topical versus oral treatment that should be considered. Along the guidelines stated treatment agents, proper daily skin care is very important and beneficial for the treatment success. Because the severity of rosacea increases over time, it is important to educate patients about seeking early treatment. Working together with the patient to develop a treatment plan that can be followed is necessary for long-term control of rosacea symptoms.

BIOMIMICRY (ENDOCRINE MIMICRY) IN DERMATOLOGY

Ömer Kutlu

Biomimetic is the practice of making technological and industrial copy natural processes. Endocrine mimicry in dermatology can be explained as the practice of making hormones by the skin.

It is supposed to exist of the “A Grand Unified Theory ” in physics which is known as the theory that explains the combination of forces in the universe. The human body is also mimicking this theory in which all systems of the body interacting and combine with each other.

There are numerous hormones including prolactin, CRH, urocortin, steroid, vitamin D, POMC cleavage products such as ACTH, MSH isotypes and Beta-endorphin can be produced from the skin.

To effectively deal with damaging signals from environmental exposures, the skin exhibits a highly organized CRH/POMC system which is analogous to the hypothalamic-pituitary-adrenal axis. CRH is released from epidermal and follicular keratinocytes, melanocytes, endothelial cells and increase the production and the secretion of the POMC peptides such as alfa MSH, ACTH and beta-endorphin. MSH plays a role for pigmentation, while beta-endorphin leading to increased nociceptive thresholds and provide an analgesic effect.

The skin is the unique site of cholecalciferol production and the liver is considered to be the main site of conversion to 25(OH)D3. To date, more than 500 studies support the role of vitamin D in immune health, which shows another importance of the endocrine effect of the skin.

Steroidogenesis is another endocrinologic function of the skin as in the adrenal cortex. It has been showed that fibroblasts, melanocytes and also keratinocytes, found in the layers of the epidermis and in the hair follicles are able to produce glucocorticoids. Cutaneous steroid metabolism is associated with the pathogenesis of many skin diseases including acne, psoriasis, and androgenic alopecia.

In conclusion, skin is much more complex than has been previously thought and plays an important role in many endocrinological functions.

COFFEE-RELATED SKIN DISEASES

Berna Aksoy

Caffeine, an active ingredient in coffee, is the most commonly consumed psychoactive substance in the world. Coffee's caffeine content is highly variable, ranging from 50 to over 400 mg per cup. Several sources suggest that 400 mg of caffeine per day — the equivalent of 4 cups (945 ml) of coffee — is safe for most healthy adults.

Meta-analyses published reveal that caffeinated coffee seems to protect against various cancers (including total cancer, as well as liver cancer, colorectal cancers, advanced prostate cancer, endometrial cancer, postmenauposal breast cancer), malignant melanoma and nonmelanoma skin cancer (principally Basal Cell Carcinoma) in a dose-dependent manner. In the majority of the studies, there was no association between intake of decaffeinated coffee or tea and cancer development. Potential mechanisms for chemopreventive effects of coffee phytochemicals includes inhibition of oxidative stress and oxidative damage, regulation of DNA repair, phase II enzymatic activity, apoptosis, inflammation, as well as having antiproliferative, antiangiogenic and antimetastatic effects.

Coffee also seems to protect against cardiovascular disease, type 2 diabetes, chronic liver disease, Parkinson disease, Alzheimer disease, depression and from all-cause mortality. Improved insulin sensitivity and reduced inflammation are among the hypothesized mechanisms for these effects in coffee drinkers. For all these health effects, only coffee itself seemed to be protective and there is no decreased association with decaffeinated coffee, suggesting caffeine matters.

Increased caffeine intake from coffee was found to be inversely associated with the risk of incident rosacea. It was hypothesized that caffeine's vaso-constrictive and immune suppressive effects might decrease the risk of rosacea. A negative association between coffee intake (best 3 cups of coffee/day) and metabolic syndrome prevalence along with clinical severity of psoriasis does exist. The anti-inflammatory effect of coffee on clinical severity of psoriasis also attenuates the concurrent metabolic risk. But there is no association between coffee and caffeine intake and risk of psoriasis. Coffee compounds have preventive effect on erythema, dermatitis, epidermal pigmentation and photoaging after UV irradiation. Oral or topical caffeine promotes elimination of UV-damaged keratinocytes through apoptosis and markedly inhibits subsequent skin cancer development in laboratory studies. Ingestion of coffee polyphenols improve skin scaliness and play a role in cutaneous blood flow regulation after cold stress.

Pregnancy is one of the few times in which higher coffee consumption is a risk factor for adverse outcomes. Coffee intake may be associated with pruritus ani or genital skin pain. There may be occupational coffee worker's allergy (asthma, rhinitis, conjunctivitis, pruritus or contact dermatitis).

IMMUNOGENETICS OF HIV INFECTION

Pelin Eşme

Human immunodeficiency virus (HIV) infection continues to be a major global public health issue with more than 25 million deaths over the past three decades and approximately 34 million people living with HIV(1). Since HIV has long been associated with so many inflammatory, infectious, and neoplastic skin conditions, it has became one of the major concerns for dermatologists, because of the mortality and morbidity of the disease.

Nowadays, however the global mortality from HIV infections has significantly declined due to highly active antiretroviral therapy, there has been a concurrent increase in the incidence of cutaneous drug reactions in HIV-infected individuals. Therefore, the role of dermatology and consultations to us in the management of patients with HIV infection is becoming increasingly important (2). So dermatologists should be aware of both cutaneous signs of HIV related dermatologic conditions and also adverse cutaneous drug reactions in these patients. Dermatologists also need to have adequate knowledge not only about the treatment, progression, follow-up of HIV infection and but also immunogenetics of the disease (3).

As already known, HIV-1 is the causative agent of the acquired immunodeficiency syndrome (AIDS) pandemic and a member of the lentivirus genus of the family Retroviridae. Multiple longitudinal studies have showed that while some individuals will progress to AIDS quickly, others are able to control the disease without any treatment. Furthermore, a minor group of these individuals are found resistant to HIV infection and/or progression (4). All of these observations emphasizes the role of immunogenetics in HIV infection. Evident variation in response to HIV probably is a result of a complex interactions between virus, host and environmental factors (5).

Recent studies provided that HIV/AIDS is one of the few infectious diseases which have certain associations with human leukocyte antigen (HLA). Nowadays, the fact that HLA class I loci strongly leading to accelerated disease progression showed by high-throughput technologies on human genome. Additionally, because of HLA-B is the most polymorphic loci, ıt has more differantial effects on HIV outcomes (1). For instance, HLA B*27, *51, *57, *13 is found to have associations with slow disease progression, while HLA B*35-Px and B*58:02 locis are found to more prone for accelerated disease progression. In addition, due to their important roles in innate immune system, the alteration in killer cell immunoglobulin-like receptors (KIR), and also natural killer cells (NK) have been observed in HIV infections.

This lecture aims to primarily discuss the immunogenetic aspects of HIV infection according to the literature and also impress its importance for dermatologists by emphasizing its relationship with deramtological conditions.

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SKIN PROBLEMS and EGFR-TYROSINE KINASE INHIBITOR

Neslihan Fişek Izci

Epidermal growth factor receptor (EGFR) inhibition has now been well established as an effective treatment for various cancers. EGFR inhibitors (EGFRIs) have been approved by regulatory agencies since 2004. Presently, they are used in monotherapy or in combination with chemo/radiotherapy for the treatment of metastatic epithelial cancers including non-small-cell lung cancer, squamous cell carcinoma of the head and neck, colorectal cancer and pancreatic cancer (1,2).

EGFR belongs to a family (ErbB) of tyrosine kinase receptor. Tyrosine kinases are enzymes that catalyze the phosphorylation of tyrosine residues on protein substrates. They are key components of signaling pathways that drive an array of cellular responses including proliferation, differentiation, migration, and survival (3). Tyrosine kinase inhibitors differ from each other in the spectrum of targeted kinases, their pharmocokinetics as well as substance- spesific adverse effects. With variatons from drug to drug, tyrosine kinase inhibitors cause skin toxicity, including folliculitis, in more than 50% of patients. The dermatologic side effects are the most common adverse effects associated with Epidermal Growth Factor Receptor tyrosine kinase inhibitors. The agents that target EGFR, erlotinib and, gefitinib, display the broadest spectrum of adverse effects on skin and hair, including folliculitis, paronychia, facial hair growth, facial erythema, and varying forms of frontal alopecia (4) The major side effect of EGFR inhibition is a papulopustular (also described as maculopapular or acneiform) rash which occurs in about two thirds of the patients (1). Although the mechanisms underlying the development of the skin toxicity remain unclear, immunological mechanisms are considered to be involved (4). In this session, we discuss about the dermatologic toxicities associated with EGFR inhibitors.

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Keywords: EGFR- tyrosine kinase inhibitors, dermatologic side effects, erlotinib, gefitinib, rash.

IMMUNOGENETIC AND PREVENTIVE ASPECTS OF THE HPV INFECTION

Mihael Skerlev

Anogenital warts (condylomata acuminata) are the most common clinical manifestation of the Human papillomavirus (HPV) infection, however, during the last decade the other HPV-associated exaggerated lesions such as condylomata plana, penile, scrotal, and anal intraepithelial neoplasias, as well as the penile, oral, pharyngeal etc. cancers have been studied a little bit more extensively. Consistent studies are still sparse for male population.

More than 35 types of HPV infect the genital tract; types 16 and 18 inducing about 70% of high-grade intraepithelial genital neoplasias, such as penile, anal, scrotal, vulvar, vaginal, oral, pharyngeal, laryngeal etc. (thus not only cervical…and not only "genital sensu stricto"), and HPV 6, 11, 42 etc. causing 90% of anogenital warts. However, the "banality" of anogenital warts should not be underestimated providing that the high risk HPV DNA 16 and 18 can be isolated (PCR) from "benign" HPV-associated genital lesions (anogenital warts) in 10-20% of patients, i.e. more than it is usually expected. On the other hand, the presence and the recalcitrant course of HPV DNA 6 and 11 associated diseases represent a significant physical and psychological problem for both patients and doctors.

A prophylactic (sometimes event therapeutic, to limited extent) vaccine that targets these types should thus substantially reduce the burden of HPV-associated clinical diseases. Ultimately, within the spectrum of therapeutic options for condylomata, no method is really superior to others; recurrences occurred in 30-70% of cases. We definitely need the HPV vaccination programme to get rid of one of the oldest and up to now unsolved problems of mankind. Since HPV is transmitted by sexual contact, managing both partners is necessary in order to eliminate the virus in the population. Approaches to this include prophylactic vaccines such as nonavalent (9v) HPV vaccine for both men and women. This should be the only way to significantly decrease the numbers of infected persons. Besides, a proper dermatological training is required as the clinical criterion is still very important and the HPV-induced lesions get quite often misdiagnosed unless managed by the skilled professional. It can be thus concluded that the HPV-genital infections represent a significant dermato-venereological issue, and the dermatovenereologists should definitely be the part of the HPV vaccine programme team despite some barriers that might still exist.

HPV VACCİNES

Bilal Doğan

HPV vaccines are produced from virus-like proteins (VLP). They are highly purified from major capsid L1 proteins specific to each HPV type. VLPs are non-infectious, because they do not contain viral DNA. There are three types of HPV vaccives:

- Quadrivalent (qHPVv)
  - HPV 6,11,16,18
- Nonavalent (nHPVv), (not in Turkey)
  - HPV 6,11,16,18,31,33,45,52,58
- Bivalent (bHPVv)
  - HPV16,18
- The table below shows general knowledge about the vaccines.

Usage	Prevention of genital verrue with HPV 6, 11 Prevention of cervical, vaginal, vulvar cancer and precancers caused by HPV 16, 18,31,33,45,52,58 (Not to be used in active treatment)
Patient group	9-26y men and women 9-26y yaş kadın ve erkekler
Screening before vaccination	No need… The vaccination advisory committee reported that there was no need for a "pap-smear" or HPV test before vaccination.
Application way	im 3 injections to the upper arm or upper thigh
Dosing schedule	1st day, 2nd month, 6th month
Side effects	Pain, swelling, erythema, fever, itching
Contrendications	Those allergic to vaccine content

qHPVv (Gardasil®); nHPVv (Gardasil® 9) are 90–98% effective in CIN-2/3, %96-100% effective in condyloma, and %91-100 effective inVIN-2/3 veya VaIN-2/3 . 11 years of protection of these vaccines has been shown.* Quadri- / Bivalan vaccines have an excellent safety profile as of March 2014 (GACVS).

In men, 90,4% effective in genital warts, and %77,5% protective from anal intraepithelial neoplasia The risk of oropharyngeal cancer is higher in men and is also related to HPV, 50%.

The vaccine can be used regardless of immunity status because they are not infectious (free of live biological products or viral DNA) And the pregnancy category is “B”.

Other doses should not be administered in pregnant women who have accidentally been vaccinated. Not contraindicated when breastfeeding, but should be careful in anyway.

Covered by many insurances in the USA. They are not covered in Turkey and the price in Turkey: 525 TL/doz (19.04.2019).

Vaccines are in disposable vials. It should be stored at 2-8 ° C. Shelf life is 36 months. They are 0,5 ml/ shot, and applied intramuscularly on 0, 2nd, 6th months. (Between 1st and 2nd shots, there should be min. 4weeks, and between 2nd ve 3rd shots, there should be min. 12 weeks). If the vaccination scheme fails, there is no need to vaccinate again, it is recommended to continue as soon as possible. Booster is not recommended after primary vaccination schedule. In a model study, the detectable antibody level will continue for life in 99% of the vaccinated women.

The antibody level peaks after the third dose, then begins to drop and reaches the lowest level after 24 months. It is higher than that obtained after natural infection. It has no interaction with other vaccines.

Where should HPV9 be in those who have been vaccinated or completed before? It can be added as a complement to the vaccination scheme that has already begun. Or it can be added to the previously completed vaccination scheme to increase and extend protection (2 or 3 dose)

Serious SEs are the same as controls. Death directly linked to the vaccine has not been reported. In the USA and Scandinavia, the rate of serious SEs in 600,000 doses of vaccine is the same as in non-vaccineds.

Side effects: Headache (most often), local reactions (Pain, erythema), hypersensitivity (Urticaria 2,6/100.000-within an average of 17 days, does not prevent subsequent vaccinations!, Anaphylaxis 0,1/100.000, autoimmune diseases 0,2/100.000)

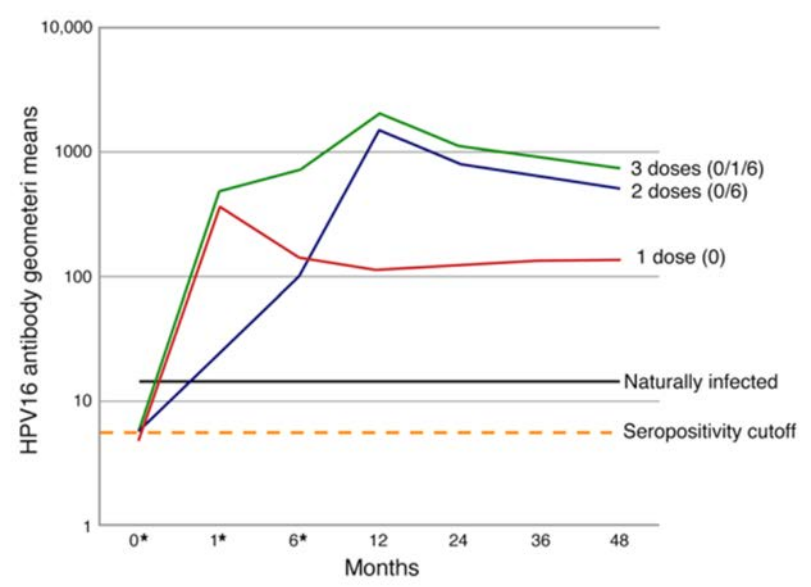
Reliability: Recent scientific data show that both types of vaccines are safe. However, **rumors** about social sensitivity and side effects still continue to be an obstacle to the spread of vaccination

Indeed, the HPV vaccine is the only vaccine alongside hepatitis B-virus (HBV) vaccine for which the WHO uses the term "**extremely safe**" to describe the level of vaccine safety'*

There also are vaccination studies with HPV minor capsid protein L2, which can be produced cheaper.

2-dose vaccine: There are recommendations to apply HPV vaccine as 2 doses (0 and 6th month) below <15y. The EMA(European Medicines Agency) approved (2) dose regimen of bHPVv in 9-14y women and that of qHPVv in 9-13y women and men in.

1-dose vaccine: J It has been suggested that a single dose of vaccine in Latin America may also be sufficient to protect against HPV and can help spread the vaccination in low-income countries. The table below shows the antibody titer after a single dose is still very above the titer with natural infection.



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CUPPING IN DERMATOLOGY: REAPPRAISAL OF ITS INDICATIONS

Amor Khachemoune

Cupping is an ancient procedure that has been practiced for thousands of years. It has been used to treat a variety of medical conditions, including dermatological ones. In the literature, cupping has been proposed as a treatment option for conditions such as acne and eczema. The procedure is fundamentally divided into dry cupping and wet cupping; however, there are several modern adaptations. Adverse events related to the procedure have been reported in the literature and should be considered by patients. Regardless, cupping has a promising role in helping manage dermatological conditions, therefore I will appraise its indications in dermatology.

VACCINES RELATED SKIN DISEASES

Ömer Kutlu

Severe allergic reactions to vaccines are rare. There is numerous type of generalized hypersensitivity skin reactions to vaccine including Stevens-Johnson syndrome, erythema multiforme urticaria, acute generalized exanthematous pustulosis, and DRESS syndrome. Lichen planus, granuloma annulare, and pemphigoid were also reported to occur after vaccine administration.

The most common reaction to the vaccines is a local injection site reaction such as erythema, swelling, and tenderness. Nicolau's syndrome is a specific local site reaction characterized by the necrosis of the skin following any intramuscular vaccine injection. Eczema vaccinatum is an acute onset of disseminated painful vesicles and pustules within eczematous lesions in a patient with atopic dermatitis receiving the smallpox vaccine. Angioedema, erythema multiforme, urticarial and morbilliform eruption has been reported in association with HPV vaccines. Gianotti-Crosti syndrome, lichen planus-like eruptions, erythema nodosum and cutaneous lupus erythematosus have been reported in association with hepatitis B vaccines. Although toxic epidermal necrosis has been reported after Hantavirus, MMR and measles vaccines in the literature in the last 50 years, it is a rare complication of vaccination.

This section presents a brief summary of vaccine-related skin diseases which is similar to drug-related skin diseases.

IDENTIFICATION OF NEW HERPESVIRUS GENE HOMOLOGS IN THE HUMAN GENOME

Betül Şereflican

Viruses are intracellular parasites that use many cellular pathways during their replication. Large DNA viruses, such as herpesviruses, have captured a range of cellular genes to block or mimic host immune responses, cell proliferation, apoptosis control (1,2). Herpesviruses consist of a linear dsDNA molecule 125-229 kbp. Their hosts range from lower vertebrates to humans. Herpesviridae, is divided into three subfamilies (Alpha-, Beta-, and Gamma-herpesvirinae), all herpesviruses share common features in their structurejk, replication style, etc. The herpesvirus family includes at least eight members that infect humans: Herpes simplex virus type 1 (HSV-1) and type 2 (HSV-2), varicella-zoster virus (VZV), Epstein Barr virus (EBV), Human herpesvirus 5 (human cytomegalovirus; HCMV) human herpesviruses 6 (HHV-6), 7 (HHV-7) and 8 (HHV-8, Kaposi's sarcoma–associated herpesvirus; KSHV) (3).

Herpes simplex virus types 1 and 2 are prevalent human pathogens which cause a variety of diseases ranging from various skin disorders to encephalitis. HSV-1 and HSV-2 share about 50% of base sequence homology and their genetic maps are very similar (3). HSV-1 and -2 and VZV are associated with lifelong latency (4).

EBV and HHV-8 are associated with human malignancy. Malignancies such as nasopharyngeal carcinoma, Hodgkin's disease, cutaneous leiomyosarcoma have been associated with EBV infection as a result of the viral latency. Hypermethylation of p16ink4a has been demonstrated in the EBV-induced tumors. HHV-8 differs from EBV in that it does not have an immortalizing function and has a tropism for lymphatic endothelial cells. HHV-8 can convert hemogenic endothelial cells into lymphatic endothelial cells via the induction of the transcription factor Prox1. (4).

The HSV genome (about 100 X 106 Da) includes two regions designated long (L) and short (S). Terminal repeat (TRL and TRS) and internal repeat (IRL and IRS) sequences bracket unique sequences (UL and US) of both L and S. (3).

Typically, each herpesvirus genome contains between 70 and 120 open reading frames (ORFs), with the exception of HCMV, which codes for up to 220 ORFs (5).

Analyzes have ensued in the identification of protein families or singleton proteins that show clear homology with gene products in the human genome, including new host-virus homologs in HHV-5 and HHV-8.

New herpesvirus/human protein families were found for the US12 (unique short) HCMV protein family, the UL1 (unique long) HCMV protein, the gallid/meleagrid herpesvirus UL45 protein family, and the K3/K5 HHV-8 family. HCMV US21 is a distant member of a larger HCMV protein family, the US12 protein family, encompassing gene products US12 to US21. The US21 showed significant overall sequence similarity to three human proteins: lifeguard, CGI-119, and PP1201 (5).

Four human homologs are known to be present in all HHVs (i.e., DNA-dependent DNA polymerase, helicase/primase, uracil-DNA glycosylase, and ribonucleotide reductase large subunit). An additional protein family, protein kinase HHV-1 UL13, is present in all HHVs except in HHV-4. One of the human homologs, ribonucleotide reductase small subunit, is found in the alpha- and gammaherpesviruses, but not in the betaherpesviruses (5).

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IMMUNOGENETICS OF ACNE

Filiz Topaloğlu Demir

Acne is a common skin disorder of pilosebaceous unit with a complex pathogenesis, characterized by hyperproliferation and abnormal differentiation of the follicular epithelium; excess sebum production; infammation; and proliferation and biofilm formation of Cutibacterium acnes (C. acnes)(1).

Familial preponderance suggests a genetic basis for acne. Several genes that may influence the occurrence of acne have been identified in the literature. The maturation of the sebaceous gland (SG) is critical in the acne pathogenesis, failure in biological processes, results in the abnormal morphogenesis of the SG that produces a keratinized comedonal plug. Genes and pathways implicated in the pilosebaceous unit development and maturation are transforming

growth factor receptor (TGF)- β, TP63, WNT, fibroblast growth factor (FGF), phosphoinositol-3-kinase pathways in genome-wide association studies (GWASs), NEK9, podosomerelated genes, c-MYC and Notch signalling (2). Polymorphisms occurring in the CYP1A1, CYP17 and tumor necrosis factor (TNF- α)genes affect the hyperkeratinization process, sebum production and inflammation in acne . CYP 1A1 gene polymorphisms may cause the lack of an active natural retinoids resulting in follicular hiperkeratinization, CYP 17 gene polymorphism may affect the levels of androgen, progesterone and estrogen hormones results as sebum production and follicular keratosis and TNF-α gene polymorphism can increase the production of TNF-α (3). Inflammation has an important role in the progression of acne lesions and is present in all stages of acne. The inflammatory response in acne is complex and includes both innate and adaptive immunity (4). Inflammasomes, helper (Th)17 cell immunology and C. acnes sequence type are the new factors that may contribute to acne physiopathology. C. acnes activates the innate immunity through expression of protease-activated receptors (PARs), TNF- α, and toll-like receptors (TLRs), and the production of interferon (INF) γ, interleukins (IL-8, IL12, IL-1), TNF, and matrix metalloproteinases (MMPs) by keratinocytes, resulting in the hyperkeratinization of the pilosebaceous unit (4).

The main hormones involved in the development of acne are androgens, insulin and insulin-like growth factor-1. Other factors playing an important role in this process are corticotropin-releasing hormone, α-melanocyte-stimulating hormone and substance P. Wnt/β-catenin signaling pathway, phosphoinositide 3-kinase (PI3K)/ Akt pathway, mitogen-activated protein kinase pathway, adenosine 5'-monophosphate-activated protein kinase pathway and nuclear factor kappa B pathway participate in the modulation of sebocyte, keratinocyte and inflammatory cell (e.g. lymphocytes, monocytes, macrophages, neutrophils) activity (1).

Nutrition, medication, occupational factors, pollutants, climatic factors, and psychosocial and lifestyle factors are the exposome factors associated with acne . They effect the natural skin barrier and microorganisms, cause the loss of the skin microbial diversity ,hyperseborrhea, altered keratinization of the pilosebaceous duct and inflammation. As a result a chronic inflammatory response occur in the pilosebaceous units (1).

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SLEEPING BEAUTY IS IT ANTIAGING

Kansu Büyükafşar

Description and functions of sleep: Sleep is a dynamic and regulated physiological state during which vital processes have taken place. It is essential for maintaining physical, mental, emotional and cognitive functions. A lack of sleep can disrupt whole-body functioning and decrease the quality of life and hazardous to health.

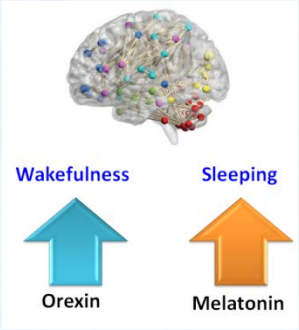
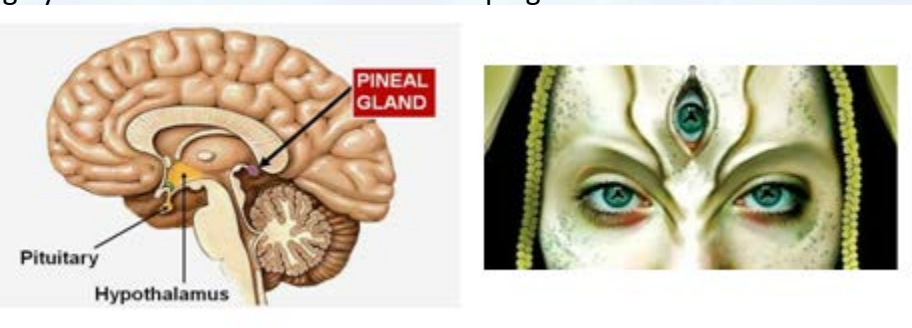


Figure 1. Central orexinergic nerves induce wakefulness; while, melatonergic activity causes sleeping.

Sleep Demands: It has been reported that different ages need different sleep duration. For example,

- Newborn: Total 16-17 hours
- Children (1-12 years): 10-13 hours
- Adolescents: 9 hours
- Adulthood: 7.5-8 hours
- Elderly (65+): Still need 7-8 hours but decrease as little as 6 h a night with naps common during day

Humans spend roughly one-third of their lifetime in sleeping.



Stages of Sleep: There are two major stages types: Rapid eye movement (REM) and non-rapid eye movement (NREM)

1. Rapid eye movement (REM): REM is characterized by the presence of quick eye movements and dreaming. It accounts for about 25% of the total sleep time. During REM sleep, awareness of external events is dramatically reduced and muscles shut down, and this probably protects the human being from hurting or trying to act out the scenes that are playing in their dreams.

2. Non-rapid eye movement (non-REM): A deep sleep, characterized by very slow brainwaves, that is further subdivided into three stages: **N1, N2, and N3.** 75% of total sleep duration (Atienza et al., 2004).

Each of the sleep stages has its own distinct pattern of brain activity (Dement & Kleitman, 1957).

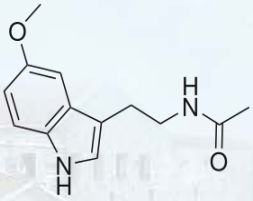
Why Sleep is Important? Exact reason is unknown. Based on evolutionary theory, sleeping may conserve energy after day-light hunting for food. It is required for the restoration of body and brain. Without enough sleep, physical, emotional and mental symptoms occur, which become worse over time. Sleep deficit leads to various health conditions such as cardiovascular diseases, obesity, diabetes, immune system dysfunction, and much cognitive and emotional impairment. Sleep deprivation triggers mood alterations in negative emotional appraisal, including irritability, emotional volatility, aggression, anxiety, accelerated senescence, and even early mortality (Rogers et al., 2003; Goel et al., 2009; Gamaldo et al., 2012; Tobaldini et al., 2017; Reutrakul and Van Cauter, 2018; Dinges et al., 1997; Anderson and Platten, 2011). Insufficient sleeping may lead to drooping eyelids, puffy eyes, dark circles under the eyes, dull-looking skin as well as the appearance of more wrinkles. A good night's sleep has been known as the fastest way to a youthful complexion. It is the time when the body repairs itself, increasing blood flow to the skin to help rebuild collagen and repair.

Possible Antiaging Mechanism of Sleep

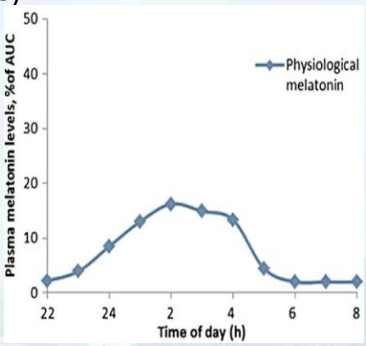
1. Melatonin release
2. Growth hormone release
3. Decrease in stress hormones (CRH/ACTH/Cortizol) secretion
4. Alteration of sympathetic/parasympathetic activities
5. Less oxygen consumption (resting-decreased activity of muscles), so less production of superoxide anions.
6. Enhancement of antioxidant capacity during sleeping

Many restorative functions of sleep occur in NREM sleep.

1. Melatonin Release: Melatonin is a hormone that regulates the sleep-wake cycle. It is released by the pineal gland into the third ventricle and subsequently the circulation. Most of the melatonin effects are through activation of the melatonin receptors, while others are due to its role as a chemical antioxidant. It was first reported as a potent antioxidant and free radical scavenger in 1993 (Auld et al., 2017; Faraone, 2014; Reiter et al., 2016, 2017; Tan et al., 1993; Zisapel N, 2018).



..... **Melatonin**



Melatonin promotes the expression of **antioxidant enzymes** such as superoxide dismutase, glutathione peroxidase, glutathione reductase, and catalase. In vitro, melatonin acts as a direct scavenger of oxygen radicals and reactive nitrogen species including OH•, O_2^-•, and NO•. Melatonin has been proven to be twice as active as vitamin E, believed to be the most effective lipophilic antioxidant. More importantly, melatonin occurs at high concentrations within **mitochondrial** fluid which greatly exceed its plasma concentration. It stimulates the growth of fibroblasts that produce collagen and elastin in the epidermis. Also exerts antiinflammatory

activity (Day 2018; Jockers et al. 2016; Manchester et al., 2015; Pandi-Perumal et al.2005; Pieri et al. 1994; Reiter et al., 2016 & 2017; Sharafati-Chaleshtori et al., 1995). Apart from melatonin, another chemically similar compound is serotonin, which functions as an anxiolytic neurochemical and sleep regulator in the brain. It functions as an antianxiety neurotransmitter which help the organism battle to stress, that may become catastrophic to the body. N-acetylserotonin (NAS), a melatonin precursor and metabolite, might exert antiaging action as well. Another important neurotransmitter is nitric oxide (NO), which is released from nitrergic nerves and serotonergic nerves as a co-transmitter of serotonin. NO functions as a scavenger of superoxide anions, so promoting antioxidant capacity of sleeping. Reductions in central serotonin activity with aging might be involved in sleep-related disorders in later life (Cespuglio, 2018; Melancon et al. 2014).

2. Growth Hormon (GH) Release: A peptide hormone secreted from anterior pituitary gland that stimulates growth, cell reproduction, and cell regeneration in humans and other animals. It is thus important in human development. GH also stimulates production of IGF-1. Although growth hormone has **not** been approved for antiaging purposes, its use for this indication is widespread and increasing. But the clinical use of GH or its secretagogues in older adults, alone or in combination with testosterone cannot be recommended. Inactivation of the GH/insulin/IGF-1 and its associated mTOR signaling increases life span in animals (Anisimov VN., 2015). GH is expected to upregulate collagen I and collagen III genes. Also it can stimulate fibroblast growth and division. Fibroblasts are the most important cells involved in collagen synthesis, skin aging and wound healing (Azimi et al., 2019.). So release of GH during sleeping is expected to be antiaging for the skin.

3. Alteration of Sympathetic/Parasympathetic Activities: During sleeping parasympathetic system is activated, and hence acetylcholine release is taken place. There are some effects in favor of antiaging activity under the influence of parasympathetic system during sleeping. For example, increased blood flow in the skin and mucosa helps these tissues clean up by supplying oxygenated blood bringing nutrition and getting waste materials and metabolites out of the tissue. A rise in blood flow into specific organs also occurs. This allows even after waking up from the nap of a good night. Vital organs are re-loaded by blood during resting, leading cleaning-up and rejuvenation.

4. Less Oxygene Consumption in Sleeping (decreased activity of muscles): During resting/sleeping muscle activity as well as O_2 consumption decreases. Therefore less oxygen-derived hazardous reactive species (such as superoxide anions-$O^{-}_{2}\bullet$) is produced.

5. Enhancement of antioxidant capacity during sleeping: GSH level and the activity of glutathione peroxidase increases. NO is also released (alone and/or, as a co-transmitter of 5-HT), which scavenges $O^{-}_{2}\bullet$ anions and inhibits leukocyte infiltration, so exerts antioxidant and anti-inflammatory activities.

Summary of Beneficial Effects of Sleeping

- Boosts the immune system
- Helps mental wellbeing
- Cleaning-up and rejuvenation of cells, tissues and organs
- Supports brain function
- Promotes longer lifespan
- Increases healing
- Boosts fertility
- Prevents weight gain

- ❖ Acts in favor of healthy health
- ❖ Reduces inflammation
- ❖ Exerts antiaging activity

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THE EFFECT OF MILK CONSUMPTION ON ACNE

Bodo C. Melnik

There is accumulating evidence that Western diet is a critical factor of the acne exposome [1].
The high prevalence rates of adolescent acne vulgaris cannot be explained by the predominance of genetic factors but by the influence of Western diet that overstimulates the key conductor of metabolism, the nutrient- and growth factor-sensitive kinase mTORC1 [2]. Increased mTORC1 activity has been detected in lesional skin and sebaceous glands of acne patients compared with acne-free controls [3]. Two major food components of Western diet promote acne pathogenesis: milk/dairy as well as hyperglycemic carbohydrates [2]. Increased insulin-like growth factor 1 (IGF-1) concentrations in serum and sebaceous glands of acne patients have been reported [1]. Insulin and IGF-1 both activate the kinase AKT, which together with essential branched-chain amino acids (BCAAs) activates mTORC1, the key driver of sebaceous lipogenesis [2] (Fig. 1). In addition, AKT phosphorylates and activates mouse double minute (MDM2), the key negative regulator of p53 promoting proteasomal degradation of p53.
Milk is not only insulinotropic but also enhances serum levels of IGF-1 and thus increases the somatotropic axis [4]. Therefore, milk is not "just food" but represents an endocrine signaling system that activates mTORC1 to stimulate anabolism, translation and lipogenesis [5,6]. During the climax of puberty, highest serum levels of IGF-1 are further elevated by milk consumption.
The effect of milk consumption on acne has recently been confirmed by three independent meta-analysis of observational studies [7-9]. Juhl and coworkers [7] included 14 studies (n = 78,529; 23,046 acne-cases/55,483 controls) aged 7-30 years. Odds ratios (ORs) for acne were 1.25 (95% CI: 1.15-1.36; $p = 6.13 \times 10^{-8}$) for any dairy, 1.22 (1.08-1.38; $p = 1.62 \times 10^{-3}$) for full-fat dairy, 1.28 (1.13-1.44; $p = 8.23 \times 10^{-5}$) for any milk, 1.22 (1.06-1.41; $p = 6.66 \times 10^{-3}$) for whole milk, 1.32 (1.16-1.52; $p = 4.33 \times 10^{-5}$) for low-fat/skim milk, 1.22 (1.00-1.50; $p = 5.21 \times 10^{-2}$) for cheese, and 1.36 (1.05-1.77; $p = 2.21 \times 10^{-2}$) for yogurt compared to no intake. ORs per frequency of any milk intake were 1.24 (0.95-1.62) by 2-6 glasses per week, 1.41 (1.05-1.90) by 1 glass per day, and 1.43 (1.09-1.88) by ≥2 glasses per day compared to intake less than weekly [7].
In contrast to fermented milk and milk products, pasteurized fresh milk contains bioactive exosomes that transfer gene-regulatory microRNAs to the milk recipient [5,6]. Major microRNAs of milk are microRNA-125b andmicroRNA-148a, which inhibit the expression of p53 and DNA methyltransferase 1 (DNMT1), respectively. p53 and DNMT1 play a critical role in the pathogenesis of acne vulgaris and prostate cancer [10]. p53 attenuates the expression of androgen receptor (AR) and IGF-1 receptor (IGF1R). Furthermore, promoter demethylation of *IGF1* gene increases IGF-1 expression. DNMT1 is a negative regulator of androgen signaling, a further link for the pathogenic role of milk consumption acne and prostate cancer. Remarkably, an enhanced incidence of acne and prostate cancer has been related to daily milk consumption during adolescence. In addition, acne during late adolescence has been associated with an increased risk of prostate cancer in adulthood.
Epidemiological and translational evidence allows the conclusion that the endocrine signaling system milk is of critical importance in the pathogenesis of acne and prostate cancer.

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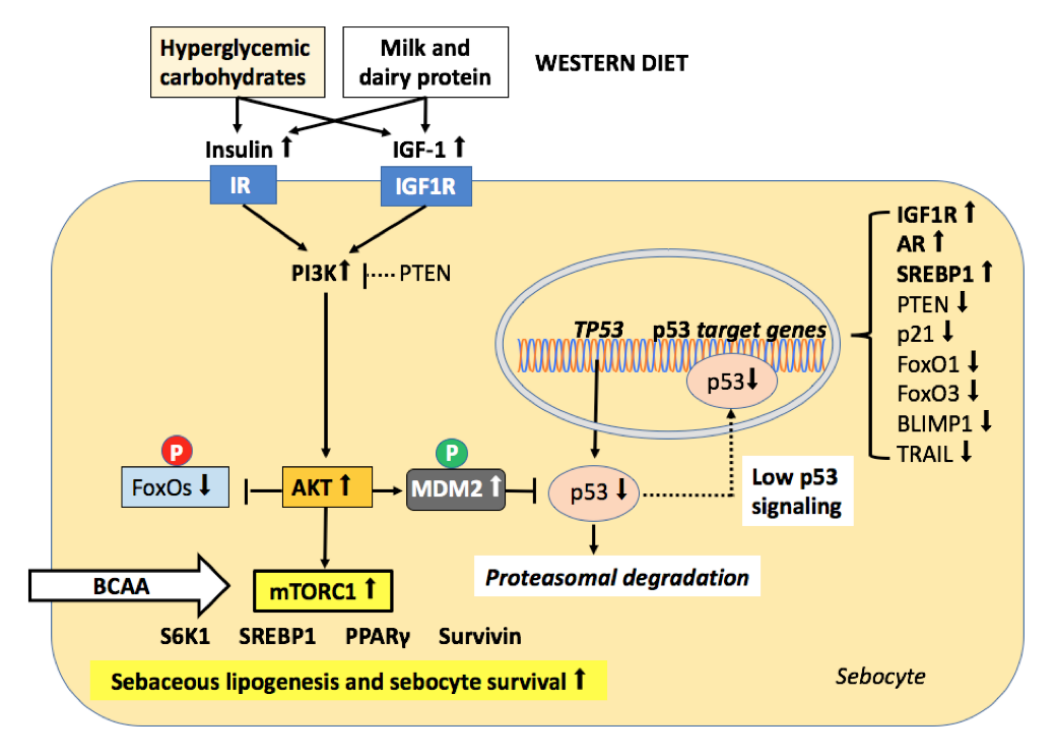
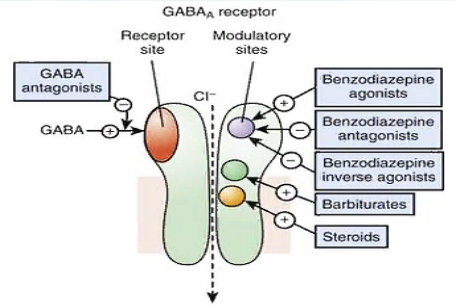


Figure 1. Role of milk consumption in the pathogenesis of acne vulgaris. Milk and hyperglycemic carbohydrates, prototypical components of Western diets, enhance insulin/IGF-1 signaling associated with activation of AKT and mTORC1. Milk protein-derived branched-chain amino acids (BCAAs) directly activate mTORC1 promoting cell anabolism, sebaceous lipogenesis and sebocyte survival. AKT-mediated phosphorylation of mouse double minute 2 (MDM2) enhances proteasomal degradation of p53, thereby modifying p53 target gene expression. Abbreviations: IR, insulin receptor; IGF1R, IGF-1 receptor; AR, androgen receptor; PI3K, phosphinositide-3 kinase; PTEN, phosphatase and tensin homolog; p21, cell cycle inhibitor p21; FoxO, forkhead box class O; BLIMP1, B lymphocyte-induced maturation protein 1; TRAIL, tumor necrosis factor-related apoptosis-inducing ligand. Modified according to Plewig G, Melnik B, Chen W (eds) Acne and Nutrition. Plewig and Kligman´s Acne and Rosacea, Springer Nature Switzerland 2019, chapter 8, pp 293-298.

STRESS AND AGING

Kansu Büyükafşar

Stress: Stress is any intrinsic or extrinsic stimulus that induces a biological response. The body reacts to these stimuli with physical, mental, and emotional responses. Actually, stress response begins beneficial for the body to cope with the burden; however when it becomes persistent then it turns into catastrophic one, even fatal based on its type, duration and severity. Healthy level of anxiety and stress seems to be required for the maintenance of life. Accordingly, availability of inverse agonist (b-carbolines) within central nervous system inhibiting GABA/benzodiazepine receptor complex, causing healthy level of anxiety and stress may point out the necessity of stress and anxiety a little bit to continue life.



In the case of emergency, if the intensity of stress is high enough, the body's autonomic nervous system induced a stress response, known as the "**fight or flight response**".

Aging: Aging is a natural and inevitable process caused by various genetic and biochemical factors as well as other systems. The cause of normal aging seems to be multifactorial with no single mechanism explains all aspects. Aging is not only an esthetic and functional problem but it is also the most important risk factor for the most common diseases such as neurodegenerative and cardiovascular system as well as cancer.
Psychological stress is usually a precursor of anxiety, which is usually a precursor of depression. Chronic stress results in elevated stress hormones such as **cortisol, endogenous opioids and adrenaline** etc. Persistent stress activates the hypothalamus, which secretes the corticotropin-releasing hormone (CRH). Subsequently, the CRH activates the pituitary gland to release adrenocorticotropic hormone (ACTH) into the bloodstream, which then activates the adrenal glands to secrete cortisol. In the mean time, cortisol penetrates to the adrenal medulla to promote adrenalin as well as enkephaline release into the blood stream. Cortisol and adrenaline cause a rise in blood pressure, while cortisol and opioids induced immunosuppression (Craddock, 1978).

Effects of stress on health: Long term stress increases risk of cardiovascular diseases, metabolic disorders (due to high blood glucose), neurodegeneration, central events (e.g., stroke), GIT disorders (digestive problems), sleep and mood disorders, immunosuppression as well as skin reactions, etc. Here are some stress-related disorders namely, cognitive, immune, endocrine, cardiovascular, skin and GIT disorders causing accelerated senescence.

Stress and the cognitive function: Excess release of cortisol as in the patients with Cushing's syndrome or exogenous application of glucocorticoids has been reported to cause hippocampus atrophy and associated memory disorder (Lupien et al., 1998).It has an acute (through catecholamines mainly by beta-adrenergic receptor activation) and chronic (through glucocorticosteroids by changes in gene expression) effects on cog-

nition (McEwen and Sapolsky, 1995). Furthermore, the secretion of growth hormone will be halted during severe stress. A long-term administration of corticotrophin releasing hormone (CRH) into the brain ventricles leads to a cessation in the release of growth hormone (Rivier and Vale, 1985), which seemingly has restorative and anabolic activities.

Stress and the immune system: It has been long known that people under stress are more likely to have an impaired immune system and, as a result, suffer from more frequent illness (Khansari et al., 1990). In response to stressful stimuli, apart from cortisol, opioid peptides and catecholamines are also co-released, which have also suppressive effects on immune system. Severe stress can lead to malignancy by suppressing the immune system. In fact, stress can decrease the activity of cytotoxic T lymphocytes and natural killer cells and lead to growth of malignant cells, genetic instability, and tumor expansion (Reiche et al., 2004).

Figure1. Sympathoadrenal system boosted the release of cortisol, adrenaline as well as enkephalin from the adrenal gland cells, which cause immunosuppression.

Stress and the cardiovascular System: Stress can modulate vascular endothelial cell function and increases platelet aggregation, which may cause thrombosis and ischemia (Rozanski et al., 1999). Stress can also stimulates the autonomic sympathetic nervous system and adrenal medulla to release adrenaline and noradrenaline, which can sharply increase blood pressure, and cause an increase in blood lipids, disorders in blood clotting, vascular changes, atherogenesis, all of which, can cause cardiac arrhythmias and subsequent myocardial infarction (Rozanski et al., 1999; Vrijkotte et al., 2000; Sgoifo et al., 1998).

Stress and the endocrine system: There is a broad and mutual relationship between stress and the endocrine system. It can either activate, or change the activity of, many endocrine processes associated with the hypothalamus, pituitary and adrenal glands, the adrenergic system, gonads, thyroid, and the pancreas (Tilbrook et al., 2000; Thierry et al., 1968; Lupien and McEwen, 1997).

Stress and the gastrointestinal system: Appetite can be influenced by stress (Halataei et al., 2011; Ranjbaran et al., 2013). It adversely affects the normal function of GI tract such as absorption process, intestinal permeability, mucus and stomach acid secretion (Collins, 2001; Jing et al., 2017). Moreover it accelerates the inflammation process by secretion of mediators like substance P, a proinflammatory neuromediator (Collins, 2001). In addition, several inflammatory diseases, such as Crohn's disease and other ulcerative-based diseases of the GI tract, have been reported to be associated with stress (Hommes et al., 2002). Stress also induces GI mast cells activation and thus releasing a number of mediators that affect the function of the GI motor and secretory functions (Konturek et al., 2011).

Stress and skin: Skin plays important barrier and immune functions, maintaining homeostasis between external environment and internal tissues. Skin is the primary sensing organ for external stressors, including heat, cold, pain, and mechanical tension. Under the influence of stress, in addition to catecholamines, α-MSH, β-endorphin, and ACTH followed by cortisol and corticosterone secretions are triggered. Immune system is negatively affected by cortisol (immunosuppressive). Skin HPA system also exists where CRH, ACTH, and their receptors are expressed. CRH is produced by epidermal and hair follicle keratinocytes, melanocytes, sebocytes, and mast cells by stress. In epidermal keratinocytes, CRH inhibits proliferation. In dermal fibroblasts and melanocytes CRH acts as growth factor stimulating proliferation. In mast cells, CRH induces degranulation and increases vascular permeability, demonstrating pro-inflammatory functions. Skin mast

cells have emerged as a central player of the skin stress responses. Corticosteroids cause skin atrophy by decreasing epidermal thickness, reducing number of fibroblasts, and disruption of the dermal fibrous network, which are also hallmarks of skin aging (Yaribeygi et al., 2017). Corticosteroids and epinephrine have a negative impact on wound healing. By vasoconstriction in small arteries within mucosa and the skin, adrenaline decreases skin blood flow. It also altered immune and inflammation functions including lymphocyte trafficking, circulation, proliferation, and cytokine production. The skin itself also synthesizes catecholamines, and adrenergic receptors are present in both epidermal keratinocytes and melanocytes. In keratinocytes, adrenaline can regulate both epidermal proliferation and differentiation by the activation of β2-adrenoceptor. Furthermore, the adrenaline produced by surrounding keratinocytes can promote melanogenesis in melanocytes. Fibroblasts functions are also influenced by adrenaline, including migration and collagen production, both being important steps in wound healing. Local stress responders such as neurotrophins, substance P, and prolactin mediate neurogenic inflammation, allergic inflammation and cutaneous stress responsiveness (Chen and Lyga 2014).

Conclusion: Finally, stress may induce both beneficial and harmful effects. The beneficial effects of stress involve preserving homeostasis of cells/species, which leads to continued survival. However, in many cases, the harmful effects of stress may receive more attention due to its role in various pathological conditions and diseases. Various factors, for example, hormones, neuroendocrine mediators, peptides, and neurotransmitters are involved in the body's response to stress. Many disorders originate from stress, especially if the stress is severe and prolonged. Stress can cause detrimental physiological and functional consequences in the skin. In experimental studies, excess stress caused higher transepidermal water loss, lower water retention property and impaired barrier function, leading to moderate exfoliation and slight wrinkle formation. A decrease in ceramide and pyrrolidone carboxylic acid was observed. Similar effects were also observed in human subjects. Skin aging is characterized by formation of lines and wrinkles, increased pigmentation, loss of elasticity and firmness, and dull skin. Interestingly, chronic stress and depression may result in the shortage of telomere. For that reason the control of stress is of fundamental importance not only for life quality but also for aging. It is obvious that stress has a detrimental impact on the health. So, in order to cope with the sustained and hazardous stress, a number of particular approaches need to be performed including avoid any stressors, if not, trying to ameliorate its negative effects by using pharmacological (medications and/or nutraceuticals) and non-pharmacological therapeutic interventions such as changes in lifestyle, daily exercise, healthy nutrition, and stress reduction programs, etc.

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ANTIBIOTICS IN ACNE

WenChieh Chen

The present-day use of tetracyclines for systemic treatment of acne was developed by Marion Baldur Sulzberger and coworkers in 1960s, following the report of George Clinton Andrews, Jr. and his team in 1951. After the US Food and Drug Administration (FDA) approval of doxycycline in 1967, the first evidence on anti-inflammatory properties of antimicrobials was presented in a German study in 1974. In an in vivo skin model, the erythema and pustules induced by potassium iodide patch test was notably suppressed by topical application of tetracyclines and erythromycin, likewise by systemically given antibiotics, but not by topical diaminodiphenyl sulfone/dapsone.

Antibiotics remain as an important treatment for acne, but its significance and limitation demand reassessment in the advanced understanding of skin microbiota, biofilm formation and acne pathogenesis. Topical treatment is the mainstay for mild to moderate acne. Topical antibiotics accumulate in the sebaceous follicle, exerting antimicrobial and anti-inflammatory effects. Monotherapy with topical antibiotics is not recommended due to growing antibiotic resistance. Topical erythromycin or clindamycin in combination with retinoids, benzoyl peroxide and azelaic acid, either simultaneously, sequentially or periodically, can enhance therapeutic efficacy meanwhile prevent development of antibiotic resistance. Topical dapsone gel is approved by the FDA but does not convince German dermatologists of its efficacy in acne.

Systemic antibiotics reduce the population of Propionibacterium acnes (P. acnes), inhibit the synthesis and enzymatic activity of bacterial lipases, leading to decrease in the proportion of free fatty acids in the skin surface lipids. There is evidence that tetracyclines and macrolides suppress all-trans-retinoic acid (ATRA)-catabolizing p450 enzymes, enhancing cellular concentrations of ATRA with inhibition of inflammation and matrix metalloproteinase expression. Doxycycline and minocycline are the first-line therapy in moderate to severe acne, usually given at sub-antimicrobial dosage of 50 mg twice or 100 mg daily, which inhibit bacterial lipases more effectively than macrolides. Minocycline is more lipophilic and penetrates better into sebaceous follicles and microcomedones. Photosensitivity is a major issue for all tetracyclines with doxycycline more phototoxic than minocycline. Doxycycline is more frequently associated with gastrointestinal disturbances, while minocycline more with dizziness, tinnitus, and pigmentation. Drug reaction with eosinophilia and systemic symptoms (DRESS), drug-induced lupus erythematosus, autoimmune hepatitis and pseudotumor cerebri are rare but severe adverse effects more associated with minocycline.

Erythromycin, roxithromycin, azithromycin and clarithromycin are alternatives to tetracyclines in acne treatment, especially with drug hypersensitivity or in pregnancy. Antibiotic resistance of P. acnes is most common with erythromycin, usually with a cross-resistance to clindamycin. In addition to gastrointestinal side effects, macrolides may cause cardiac conduction abnormalities and rarely hepatotoxicity. Antibiotic use should not exceed 3-4 months. Topical non-antibiotic agents should be added to oral antibiotics in the initial phase, and later alone as maintenance treatment of acne. Long-term systemic antibiotics may cause vaginal candidiasis, pharyngitis, inflammatory bowel disease, Clostridium difficile infection, and gram-negative folliculitis.

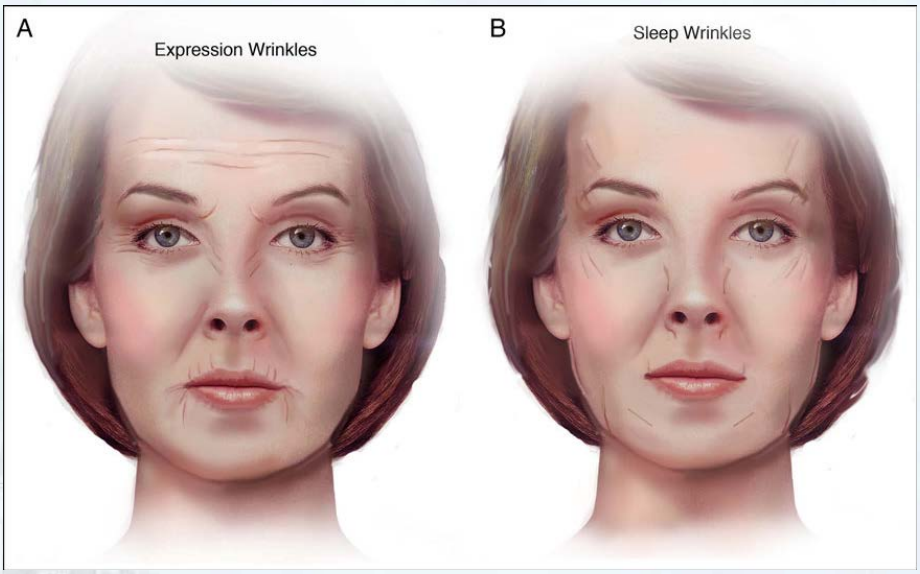
Initially reported in 1976, antibiotic resistance associated with acne treatment can be reexamined in three aspects. The resistant P. acnes strains can cause treatment failure, progression or rapid relapses of acne. Impairment of skin microbiota may induce other skin disorders, whereas resistant skin flora can spread among family members and health care staff through contact. Antibiotic administration also changes the

flora in other body regions and raises concern over emergence of the so-called superbugs or super-resistant bacteria. On the other hand, increased antimicrobial resistance of P. acnes in vitro is not equal to clinically treatment failure in acne. Long-term complications of the altered skin microbiota through antibiotics are unclear. The consequence of development of opportunistic infections or superbugs in association with antibiotic treatment in acne has not yet been proven.

SLEEP WRİNKLES:HOW CAN WE TREAT?

Ayşegül Usta Güney

Wrinkles are just one indicator of facial aging, but an indicator that is of prime importance in our world of facial aesthetics. Wrinkles occur where fault lines develop in aging skin. Wrinkles are only one component of a complex series of changes that occur as we age. Intrinsic and extrinsic factors determine biochemical andcellular aging changes and these, in turn, determine thebiomechanical properties and ability of skin to respond tointernal and external forces. Expression wrinkles and sleep wrinkles differ in etiology, location, and anatomical pattern. Treatment options for sleep wrinkles and improvement in distortion are more limited than those for expression wrinkles. Fillers can temporarily improve wrinkles of any type. Mechanical stress contributes to the progression of temporary to permanent expression lines. Neurotoxin use improves or prevents wrinkles by eliminating mechanicalstress. However, neurotoxins should have no effect on true sleep wrinkles since they are not caused by muscle contraction.The only reliable way to minimize sleep wrinkles is to avoid facial distortion.



(A) Common expression wrinkles. (B) Common sleep wrinkles.

1.SleepWrinkles: Facial Aging and Facial Distortion During Sleep

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ACNE TREATMENT GUIDELINE

Ayşe Serap Karadağ

Acne is a chronic, inflammatory and very common disease. Due to its chronic feature,it has a negative effect on patient's life quality. There are various treatment alternatives, and not all lesions may be treated. Not only the patient and but also physician may be confused about treatment modalities and the guidelines written by experienced physicians are required to be followed.

Recently,both national and international guidelines which provides evidence-based suggectionshave been published. European, American, and Japanese guidelines are among the latest published ones. The other guidelines published in last years were published by French, Spanish, Canadian, and Asian. These guidelines usuallyform an algorithmic approach based on clinical types as comedonal, papulopustular, nodular/conglobate acne or clinical severity such as mild, moderate, severe, and very severe acne.

All guidelines have some common suggestions. Some of them are;

-Retinoids are the mainstain (mainstream?) of the therapies and they correct follicular keratinization, decrease sebum and contribute to the prevention of antibiotic resistance. Moreover, they diminish post inflammatory hyperpigmentation, and scarring slightly.

-Antibiotics have a common usage in acne therapy as topically and systemically. Antibioticsshould not be used alone, and benzoil peroxide or retinoids should be added to prevent antibiotic resistance. Moreover, the use of antibiotics has to be limited to twelve or sixteen weeks.

-Isotretinoin is the best treatment alternative which has an effect on all pathogenetic mechanism. Isotretinoin is advised by all guidelines as a second or third-line therapy. However, the use of isotretinoin is encouraged at an earlier period by some authors if the patient has a scarring risk or has psychosocial problems because of their acne. Interestingly, isotretinoin is not available in Japan.

-Maintenance treatment is increasingly advised in guidelines due to the chronic nature of the disease. Topical retinoids are the best choice for maintenance therapy, subsequently azelaic acid is follows. In severe cases, low dose isotretinoin can be preferredfor a longer period as a maintenance therapy.

- Higher dose of isotretinoin is recommended by American guidelines, rather than European guideline. Isotretinoin therapy hascontinued until the new lesions cease.

Guidelines are a good and practical guiding for physicians, but a physician is like a tailor, and should select the best options depending on the patient's need.

FIBROBLAST CULTURE CELLS DERIVED FILLER

Yasemin Oram

Summary:

Dermal fibroblasts are mesenchymal cells. They play pivotal role in wound healing and skin rejuvenation. They produce collagen and hyaluronic acid, organize epithelial cells, trigger cell migration, proliferation and neovascularization. Hence, in recent years cultured fibroblast cells have been used in skin rejuvenation known as fibroblast cell therapy or autologous fibroblast injections. Fibroblast have been reproduced from a skin biopsy sample and injected superficially to the dermis. However, in fibroblast cell therapy the onset of the effect is late and it is insufficient in deep volume defects.

Recently the literature consists of reports using autologous plasma gel prepared either from PRP (platelet rich plasma) or PPP (platelet poor plasma) for skin rejuvenation. In this procedure the volume effect appears immediately and the growth factors in plasma gel is possibly responsible for the rejenerative effect.

Fibrogel is an autologous filler mainly the combination of fibroblast culture cells and plasma gel. It is a sophisticated autologous fibroblast cell therapy, providing both the generation of matrix proteins and replacement of volume loss, which results in a sustained therapeutic effect. Here we present our Fibrogel filler cases indicating the technique and clinical results.

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WHAT'S NEW İN ACNE SCAR THERAPY

Ahu Birol Kocaalp

Acne scarring remains a stubburn clinical problem. Early treatment of active acne remains the best way to prevent or limit acne-related scarring. There are 2 general categories of acne scars; atrophic and hypertrophic. Atrophic acne scars are categorised as ice pick (narrow, sharply marginated, deep scars), rolling or distensible, boxcar (sharply marginated, wider than deeper) scars.

A variety of treatment modalities have been used for the treatment of acne scarring. The size, type, severity of the scar will be primary considerations in treatment. Prior treatments should be assessed at the patients initial evaluation.

Few treatments have been shown to be definetely effective for this problem. Treatment should begin with targeting erythema. Ablative fractional laser (2940 nm Er-YAG, 10600 nm CO2), light based therapies, radiofrequency, chemical peels, dermabrasion, subscision, microneedling, filler and excision are the treatments to be used.

The chemical reconstruction of skin scars (CROSS) technique is indicated for icepick and narrow boxcar scars. it involves a high-strength trichloroacetic acid (tca) peel (65–100%) applied to the base of the scar to ablate the epithelial wall and to promote dermal remodeling. the degree of clinical improvement is proportional to the number of courses of cross treatment, with good improvement after 3 to 6 courses reported in more than 90 percent of cases.

Non consumable dermal filler is a new treatment option. Polymethylmethacrylate (pmma) is a synthetic permanent filler suspended in bovine collagen and lidocaine. It is a filler approved by FDA for correction of smile lines and for the treatment of acne scars.

Multimodal approaches are effective in treating acne scars. For example the use of a vascular laser for red scars, fillers for depressed, distensible scars, punch excision of icepick scars and ablative lasers for boxcar scars. The best treatment should be individualized for each patient.

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RADIOFREQUENCY DEVICES FOR SKIN WRINKLES AND ACNE SCARS

Yasemin Oram

Summary:

Radiofrequency (RF) is a nonionizing electromagnetic radiation that has been used in medicine for nearly 100 years. RF devices use electric current to biologic tissues, causing motion of charged particles against the tissue's resistance (impedance). This kinetic energy is converted to thermal energy leading to initial collagen contraction and subsequent new collagen synthesis. This repair process results in dermal remodeling and skin thightening.

Several RF devices have been used for facial wrinkles, scars, neck rejuvenation, face and body thightening and, stria treatment. RF devices can be monopolar, bipolar or multipolar according to electrodes and energy flow. Fractional RF and fractional microneedle RF are recent technologies providing better results. As RF is not chromophore dependent it is suitable for every skin type, the procedure is well-tolerated and there is no downtime, compared to light-based systems particularly coventional and fractional ablative lasers.

In this presentation RF devices have been reviewed and the clinical experience in particular devices has been emphasized.

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THE ROLE OF P53 IN ACNE PATHOGENESIS AND ISOTRETINOIN TREATMENT

Bodo C. Melnik

Acne vulgaris is a sebaceous gland disease with increased insulin-like growth factor 1 (IGF-1)-phosphoinositol-3-kinase (PI3K)-AKT-mechanistic target of rapamycin complex 1 (mTORC1) signal transduction [1]. The transcription factor p53, regarded as the guardian of the genome, controls cell cycle progression, apoptosis and multiple regulatory steps of metabolism and lipid homeostasis. Importantly, p53 inhibits IGF-1-mTORC1 signaling as well as androgen receptor expression [2,3]. Increased activity of the kinase AKT activates the E3 ubiquitin-protein ligase *mouse double minute 2* (MDM2), that binds and ubiquitinates p53 facilitating its proteasomal degradation (Fig. 1 A). Therefore, it has been hypothesized that sebaceous glands in acne exhibit reduced expression of p53- and FoxO1, whereas anti-acne agents enhance sebaceous gland p53 and FoxO1 signaling [4]. At the promoter level, p53 stimulates the expression of FoxO1 and FoxO3. Nuclear FoxO1 and FoxO3 are reduced in sebaceous glands of acne patients but upregulated during isotretinoin treatment [5].

p53 is the key transcription factor of apoptosis. Translational evidence supports the view that p53-mediated apoptosis explains isotretinoin´s sebum-suppressive effect (sebocyte apoptosis) and its teratogenicity (neural crest cell apoptosis) (Fig. 1 B) [6-7]. In fact, it has recently been confirmed in primary (not immortalized) human keratinocytes that isotretinoin induces the expression of p53 and its target gene FoxO1 [8].

Whereas isotretinoin treatment of acne patients reduces serum levels of IGF-1 [9] and suppresses sebaceous lipogenesis, immortalized human sebocytes paradoxically respond to isotretinoin treatment with enhanced lipogenesis [10]. To understand this paradox, it should be noted that immortalized sebocytes are transfected with Simian virus (SV). The SV 40 large T antigen forms a complex with p53 and captures the pro-apoptotic p53 resulting in immortalization of SV40 transfected sebocytes. Furthermore, this complex activates the promoter of the *IGF1* gene, which results in increased IGF-1-PI3K-AKT-mTORC1 signaling [10] (Fig. 1C). Thus, the paradoxical lipogenic effect of isotretinoin in immortalized sebocytes unravels the pivotal role of p53 in isotretinoin´s mode of action in the treatment of acne. Obviously, it is impossible to promote adequate p53-mediated apoptotic cell death in immortalized sebocytes with inactivated p53, whereas under in vivo conditions of acne p53-mediated sebocyte apoptosis operates as the key mechanism of isotretinoin´s mode of action.

Future research should compare p53 expression in primary versus immortalized human sebocytes as well as sebaceous glands of acne patients before and during isotretinoin treatment.

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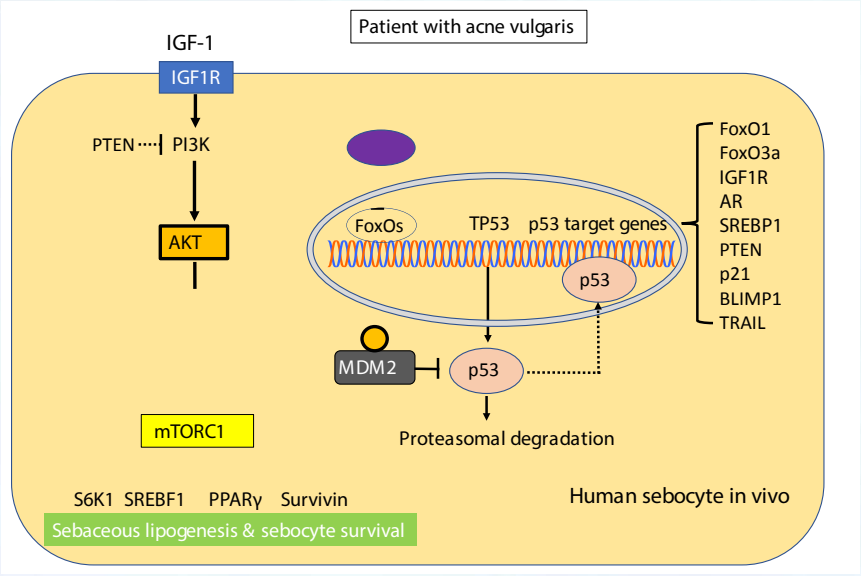

Figure 1 A. Model of p53 sebocyte signaling pathways in acne vulgaris. Increased IGF-1 production during puberty increases PI3K-AKT-mTORC1 signaling. AKT promotes nuclear extrusion of FoxO transcription factors and activates MDM2, which promotes p53 degradation. This increases the expression of cellular survival genes (survivin) and attenuates the expression of p53-induced pro-apoptotic genes (FoxO1, FoxO3A, TRAIL).

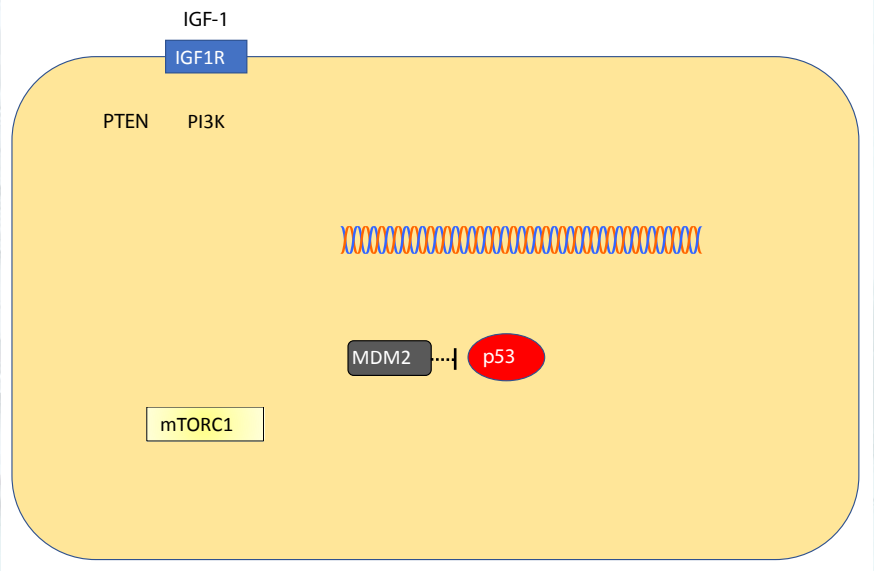

Figure 1 B. Model of p53 signaling in acne patients treated with isotretinoin. Isotretinoin treatment of acne patients

increases the expression of p53, which suppresses the PI3K-AKT-mTORC1 pathway and activates p53-dependent apoptosis-inducing genes including p21, FoxO1, FoxO3A, and TRAIL, which all together promote cell cycle arrest and sebocyte apoptosis, the major sebum-suppressive effect of systemic isotretinoin treatment.

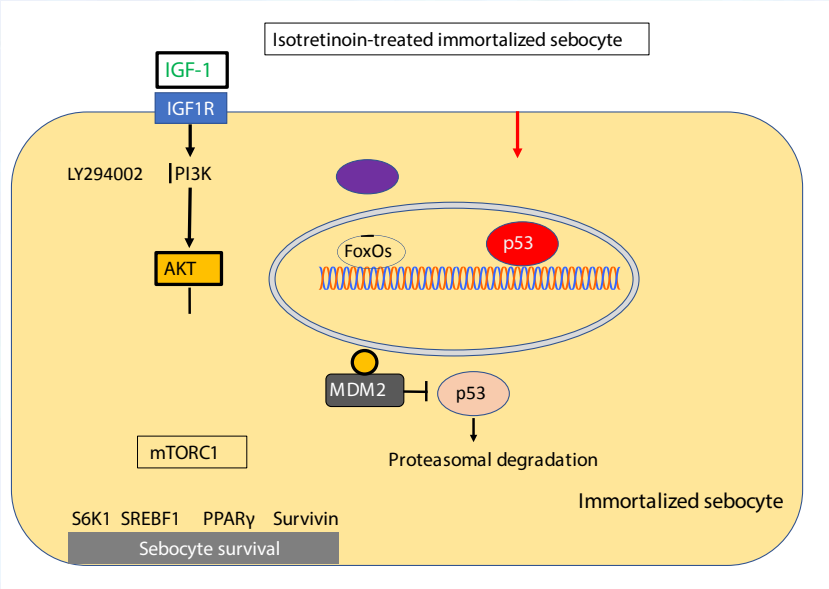

Figure 1 C. Paradoxical increase of IGF-1-PI3K-AKT signaling in isotretinoin-treated SV40 large T antigen-immortalized sebocytes. Increased isotretinoin-mediated expression of p53 enhances the formation of SV40 large T antigen/p53 complexes, which inactivate p53 and stimulate IGF-1 expression. Increased IGF-1 signaling activates PI3K and AKT promoting FoxOs nuclear export. Death signaling is compromised in Simian virus transfected sebocytes.
Abbreviations: AKT, AKT kinase; AMPK, AMP-activated protein kinase; AR, androgen receptor; ATRA, *all-trans* retinoic acid; BLIMP1, B lymphcyte-induced maturation protein 1; FoxO, forkhead box O transcription factor; IGF-1, insulin-like growth factor 1; IGF1R, IGF-1 receptor; isotretinoin, *13-cis* retinoic acid; LY294002, PI3K inhibitor; MDM2, mouse double minute 2 homolog; mTORC1, mechanistic target of rapamycin complex 1; PI3K, phosphoinositide-3 kinase; PPAR, peroxisome-proliferator-activated receptor ; Rheb, Ras homolog enriched in brain; Sesn3, sestrin 3; S6K1, S6 kinase 1; SREBF1, sterol regulatory element binding factor 1; SV40, Simian virus 40 large T antigen; TP53, tumor protein p53; TSC2, tuberin; Illustrations according to Plewig G, Melnik B, Chen W (eds) Acne Research Models. Plewig and Kligman´s Acne and Rosacea, Springer Nature Switzerland 2019, chapter 17, pp 598-600.

SMART PEELING SYSTEMS

Gül Yıldırım

Peelings are the most widespread aesthetic procedures used in aesthetic dermatology worldwide. In Europe more than 50 commercial peelings are available. (1)
Chemical peels cause a chemical ablation of defined skin layers to induce regeneration process. The use of chemical peels has been reported since antiquity, but a standardized and scientifically based technique has emerged only over the past decades. The modern era of peeling began in the 1960s with the development of modified phenol solutions.(2)
The usual classification of chemical peels comprises superficial , medium and deep peels. Superficial peels are used to induce an exfoliation of the epidermis. Medium depth peels cause an epidermal to papillary dermal peel and regeneration. Deep peels reach to the reticular dermis and induce dermal regeneration.
Indications for treatment can be classified into four categories; photoaging, acne, dyspigmentation and premalignant epidermal neoplasms. According to mechanism of action peels can be divide into 3 categories; caustic, metabolic and toxic.(3)
Until recently, applying certain types of peels caused skin discomfort, most frequently in the form of itching, stinging, redness, irritation, as well as later desquamation and time of inactivity, which was rather uncomfortable.
There may be advantages to using superficial chemical peels in combination with other physical treatments, including achieving a faster response, improving patient satisfaction and maintaining results. (4)
There has been a growing emergence of commercial and new generation combination peels on the market.

New generation smart peelings peel with an antioxidising action that tackles the visible affects of skin photoageing while ensuring maximum tolerance and safety.

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Mechanism of action	Peels
Caustic	Trichloroacetic acid
	Croton oil
Metabolic	Arbutin
	l-ascorbic acid (vitamin C)
	Azelaic acid
	Citric acid
	Glutathione
	Glycolic acid
	Kojic acid
	Lactic acid
	Mandelic acid
	Phytic acid
	Pyruvic acid
	Retinol (vitamin A)
Toxic	Hydroquinone
	Phenol
	Resorcinol
	Salicylic acid

ROSACEA AND DIET

Ivana Binic

Rosacea is a chronic inflammatory skin condition that is estimated to affect up to 15% of certain populations, with an increased prevalence in fair-skinned individuals of European descent . It is characterized by recurrent episodes of flushing, along with other skin findings, concentrated to the skin of the central face. In the earlier stages of rosacea, patients may only experience intermittent flushing. In later stages, they may develop persistent erythema and telangiectasias, and/or recurrent papules and pustules. Rosacea is divided into four main subtypes based on these clinical characteristics. These subtypes include erythematotelangiectatic, papulopustular, phymatous, and ocular . Patients may present with symptoms from multiple subtypes concurrently, or with isolated findings that do not fit a specific subtype. These symptoms often fluctuate between intervals of exacerbation and disease-free remission. Although the exact pathogenesis of rosacea is unknown, dysregulation of the innate immune system, overgrowth of commensal skin organisms, and aberrant neurovascular signaling may all have a role in promoting the clinical features of rosacea.

It is well known anecdotally that certain foods may act as rosacea triggers. Research has even suggested certain mechanisms whereby other foods may be helpful. As the understanding of the pathogenesis of rosacea continues to evolve, dietary modifications may become an essential component of rosacea therapy.

Recent genetic and epidemiologic studies have suggested pathogenic links between rosacea and gastrointestinal disorders, but data are limited. Further studies could investigate the association of the gut microbiome and rosacea. It would certainly be beneficial for patients with rosacea to maintain their intestinal flora. A general recommendation is to use a diet rich in vegetable fiber. Many plant fibers are prebiotics. Prebiotics are defined as non-digestible food ingredients that selectively stimulate the growth and / or activity of beneficial gastrointestinal microbes. The growth of beneficial bacteria in the gastrointestinal tract can be fueled by nutrition. Microbes can also be consumed in the form of probiotics. Probiotics are defined as living microorganisms that when added in an adequate amount have a positive effect on the health of the host.

Given the likely pathogenetic mechanisms of rosacea, studies that have demonstrated the importance of triggers in the onset and exacerbation of rosacea symptoms, as well as new research on the association of rosacea and some gastrointestinal diseases, it is possible to advise rosacea patients in addition to prescribed medication therapy , try and change their diet. This would mean eating foods rich in prebiotics and probiotics, foods that have an anti-inflammatory effect, as well as avoiding foods that could trigger their illness.

AESTHETIC DERMATOLOGY AND MEDICAL ETHICS

Şükran Sarıgül

As cosmetic dermatologists we aim to improve our patient's appearance and skin health. We need to advertise, hire public relations specialists, and perform other functions that are traditionally beyond the scope of the medical field in order to attract new patients. Financial motivation can compromise our approach to patients due to high demand and competition in cosmetic field.

Since we are doctors, even if we are dealing with healthy people we should be in line with the main principles of ethics: autonomy (the patient's right to refuse or choose treatments), beneficence (the patient's best interests take priority), nonmaleficence (do no harm), autonomy (informed consent) and justice.

IMMUNOGENETICS OF SUPERFICIAL FUNGAL INFECTIONS

Arzu Karataş

Humankind is exposed to a wide spectrum of fungi via inhalation, digestion, and/or traumatic inoculation. Fungi are ubiquitous in our environment; furthermore they are a part of our normal microbiota. Despite this frequent contact, they do not cause infection in everyone since in most cases our immune system is able to avert the fungal attack via proper antifungal immune responses. The inter-individual variability in the development of superficial fungal infections is thought to depend mainly on genetic predisposition and amount/frequency of pathogen exposure since there is no conclusive evidence for geographical or genomic factors influencing fungal virulence. Both innate and adaptive immunities play a role in human antifungal defence. The discovery of specific primary immune deficiencies manifest with fungal infections and the development of animal models of cutaneous and invasive mycoses have facilitated insight into fungus specific recognition, signalling, effector pathways, and adaptive immune responses. Understanding the role of immunogenetic responses against superficial fungal infections is one of the keys for the development of better preventive (vaccines) and therapeutic (immune reconstruction strategies and drugs) options.

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END OF THE ROAD FOR TERBINAFINE FOR DERMATOPHYTOSIS

Melek Aslan Kayıran

Dermatophytes, comprising of Epidermophyton, Microsporum and Tricophyton are the causative organisms of common fungal skin and nail infections throughout the world.1 The most common members of the anthropophilic subgroup that causes infections in humans are: T. rubrum, T. Mentagrophytes, T. tonsurans, E. Floccosum and M. Canis. Geophilic and zoophilic dermatophytes which are less likely to be causative organisms in humans but present with different fungal infections in immunocompromised patients are added to this subgroup.1 Most common dermatophytic infections are tinea capitis, tinea cruris, tinea pedis and tinea unguium. These infections are contagious with contact and tend to recur. Deep and recalcitrant infections are possible in immunocompromised patients like individuals with organ transplantation or human immunodeficiency virus infection. Thus, proper treatment of dermatophytic infections is crucial.

Terbinafine is a synthetic allylamine derivative for topical and systemic use as an antifungal. It was discovered in 1983 and the first oral administration was in United Kingdom on 1991.2 Its fungicidal effect is due to intracellular accumulation of squalene by the inhibition of squalene epoxidase which synthesizes the ergosterol in the cell walls of the fungi.3

Oral terbinafine dose for the treatment of tinea unguium is 250 mg per day. Continuous treatment for six weeks is recommended for fingernail involvement and 12 weeks for toenail involvement.4 Patients are evaluated for 3-6 months and prolonged treatment may be considered if necessary. Other superficial dermatophyte infections are treated with once daily topical applications for 2-4 weeks and oral treatment may be considered for persistent cases.5 Despite initial success rate of up to 90% with oral terbinafine treatment, lower success rates between 30-43% has been reported recently.6 First case of terbinafine resistance was reported in 2003 in a patient with onychomycosis who was administered 250 mg per day oral terbinafine for six months.7

Resistance to terbinafine is shown to be a result of point mutations in different loci of the squalene epoxidase gene in dermatophytes.8 These mutations reduce the effect of terbinafine by disrupting the binding of the drug to the squalene epoxidase enzyme. Whether the resistance to terbinafine is primary or acquired is still unclear. Lack of efficacy has been reported both in patients naive for terbinafine and the ones that had terbinafine treatment before. Primary prevention and patient education should probably be the first goal to tackle dermatophyte infections which has a prevalence up to 25% today. Verification of the diagnosis with Potassium hydroxide and performing antifungal susceptibility test prior to treatment is crucial. Fungal culture is recommended in chronic, recurrent, recalcitrant, and extensive tinea cases. Topical treatment alone is appropriate for cases of localized tinea corporis and tinea cruris while combined topical and systemic treatment should be considered for resistant and extensive cases. Mild cases should be treated for 2-4 weeks, prolonged treatment more than four weeks should be considered for stubborn cases. Systemic antifungal treatment should be taken into consideration for cases with nail plate involvement more than 50%, more than three nail involvement and cases with dermatophytoma. Minimum administration of combined antifungal and steroid preparations is also important to prevent recalcitrant and resistant cases.9,10

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GRAVITY AND ITS EFFECTS ON AGING HUMAN SKIN

Gülşen Tukenmez Demirci

Gravity is the basic essential force for all living things on earth. Our anatomy and body functions are all related to gravity because neurons, bones, muscles, and the whole support system were all developed in response to the gravity. According to the space flight studies the changes in human body under zero or microgravity forces shows some changes which are similar to changes seen in aging humans. Bones, neuromuscular , cardiovascular system changes are mostly found to be similar to aging changes which suggests that there is a link between aging and gravity. For skin aging we all know intersensic and extrensic factors with many scientific investigations but for gravity effects on skin aging there is still a scarce of scienticif data. Skin aging on fasial signs were studied according to changes on upright and supine positions of humans for proving the effect of gravity with different age groups and they found that the gravity especially expreses its pulling down force on mid and lower part of the face in older humans which is not surprising. But there is also another hypothesis about gravity and skin aging that , volume loss of bones and subcutaneous fat and decrease of elastin and collagen synthesis which are the biological aging facts are more crucial for skin aging than gravity force. The gravity force on biologically aged skin which is atrophic and with less collagen and elastin volume and less capacity of retaining water is estimated to be lower than the gravity force on younger skin according to physical laws of gravity is another hypothesis. Zero or micro gravity is now believed to accelarate aging process for human body system, we need gravity to stay young but gravity effects on human aging skin is still seems to be enlighten with more sciencitific studies.

IMMUNOGENETICS OF PARASITIC SKIN İNFECTIONS

Betül Şereflican

The human immune system is regulated by molecules coded by some genes, among which are the genes of the human histocompatibility system, which code for human leukocyte antigens (HLA) or major histocompatibility complex (MHC).The molecules coded for by the HLA system are responsible for the presentation of antigens. The T lymphocytes only identify antigens when they are linked to HLA molecules (1). MHC is crucial to the adaptive immune reaction of vertebrates and is among the most polymorphic gene families known. Pathogens are thought to evolve to getaway recognition by common immune alleles, and, therefore, novel MHC alleles, introduced through mutation, recombination, or gene flow, are estimated to give hosts superior resistance (2).

Various species of parasites of the genus Leishmania can infect humans. The clinical manifestations are different and these infections can cause an asymptomatic clinical condition, cutaneous and mucocutaneous infection, or visceral disease, depending on the species of parasite and on the host's immune response. This heterogeneity is a response of the parasite-host interaction, influenced by the genetic factors of both species (1). A potent Th1 response with production of interleukin-2 (IL-2) and interferon-γ (IFN-γ) is associated with faster resolution, whereas a lack of a Th1 response and/or the development of a Th2-type response is associated with disease progression. L. donovani has been shown to induce epigenetic changes via macrophage DNA methylation that down-regulate host defense mechanisms, permitting parasitic replication (3). Sensitivity to infection by Leishmania may be associated with some of the genes and haplotypes of the HLA regions. One study about the HLA-cutaneous leishmaniasis association showed the HLA-Cw7 antigen as a marker of susceptibility to this disease. In South America the HLA-A11, -B5, -B7, -Bw2 and -DQw3 antigens were found to be associated with an increased susceptibility to cutaneous leishmaniasis. In North Africa, association with the HLA-A11, -B5 and -B7 antigens was found. In Brazil, it was suggested that the HLA-DQw3 antigen was associated with greater susceptibility, and HLA-DR2, with greater protection (1).

Delayed type IV hypersensitivity ocurs as a reaction against the scabies mite's saliva, eggs, or feces. The reaction can be delayed for up to four weeks, which clarifies for long latency of the disease. Both cell-mediated host immune response and humoral response play roles in the host immune response (4).

Lymphatic filariasis stimulates an innate and adaptive immune response that leads to expression of vascular endothelial growth factors that contribute to lymphangiogenesis and dilation of lymphatic vessels In onchodermatitis, microfilariaes are surrounded by an infiltrate with a lot of eosinophils. Lymphocytes, macrophages, plasma cells, and mast cells may become more pronounced at later stages (3). One study showed an association of the HLA-B5 and –DR3 antigens with schistosomiasis mansoni which causes schistosomiasis. Another study did not find any association with the HLA-A or HLA-B antigens (1). E. histolytica infection results amebiasis. The mechanisms of defense against E. histolytica include mucosal immune responses (e.g. antiamebic IgA antibodies), cell-mediated immune defense (e.g. cytotoxic T lymphocytes and production of lymphokines which activate macrophages to kill the trophozoites) (3). In Lyme disease which is caused by the spirochete Borrelia burgdorferi, genes coding the outer-surface protein C (Osp C) may play a role in the invasiveness of a B. burgdorferi strain. The spirochetes can alter their outer antigenic structure and migrate into the intracellular compartment (5). Multiple demodex mites can be associated with a dense perifollicular infiltrate of mainly CD4 T helper cells. It has been suggested that demodex mites and their associated bacteria upregulate local proteases, thus potentiating dysregulation of the cutaneous innate immune response (6).

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HOW MUCH DOES WORLD PAY FOR COSMETICS?

Serap Öztürkcan

Cosmetics are products used to enhance or change the appearance of the face, fragrance or the texture of the body. In the United States, the Food and Drug Administration (FDA), which regulates cosmetics, defines cosmetics as “intended to be applied to the human body for cleansing, beautifying, promoting attractiveness, or altering the appearance without affecting the body’s structure or functions”. This broad definition includes any material intended for use as an ingredient of a cosmetic product. The FDA specifically excludes pure soap from this category.

The manufacture of cosmetics is dominated by a small number of multinational corporations that originated in the early 20th century, but the distribution and sales of cosmetics is spread among a wide range of businesses. In 2005, the market volume of the cosmetics industry in the US, Europe, and Japan was about EUR 70 Billion/a year.

The worldwide cosmetics and perfume industry currently generates an estimated annual turnover of US$170 billion (according to Eurostaf – May 2007). According to a study done by the Zion Report in 2017, the global cosmetic industry is worth 532 billion, in US dollars. Europe is the leading market, representing approximately €63 billion, while sales in France reached €6.5 billion in 2006, according to FIPAR (Fédération des Industries de la Parfumerie – the French federation for the perfume industry)

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IMMUNOGENETICS OF ANTIBIOTIC RESISTANCE IN SKIN INFECTIONS

Gökçe Işıl Kurmuş

Antibiotics have a significant role in dermatology, treating a wide range of skin diseases, including acne, rosacea, inflammatory skin conditions, and skin structure infections, such as cellulitis, folliculitis, carbuncles, and furuncles. Because of their consistent use, utility, and availability, antibiotics are susceptible to overuse within the medical practice, and, specific to this discussion, in the dermatologic setting. The issue of continuously increasing risk of antibiotic resistance remains an important concern to the dermatologist (1).

Resistance to antimicrobial agents occurs through either intrinsic or acquired resistance mechanisms. Acquired resistance occurs through the efficient transfer of mobile genetic elements, which can carry single, or multiple resistance determinants (2). Drug resistance genes may form part of integrons, transposons and insertions sequences which are capable of intracellular transfer onto plasmids or gene cassettes (3,4). Thereafter, resistance plasmids and gene cassettes mobilize by self-transmission between bacteria, increasing the prevalence of drug resistance determinants in a bacterial population. An accumulation of drug resistance genes through these mechanisms gives rise to multidrug resistant bacteria (2-4).

Two processes explain the emergence of resistance; one is mutation, the other is horizontal gene transfer (HGT). Mutations leading to antibiotic resistance usually occur in three types of genes: those encoding the targets of the antibiotic, those encoding their transporters, and those encoding regulators that repress the expression of transporters or antibiotic-decontaminating elements.

HGT in the bacterial species means the movement of genetic material between bacteria from a similar genus. The HGT plays an important role in evolution, diversity, recombination and multi-drug resistant strains (5). Antibiotic-resistant determinants in resistance bacteria are usually carried on mobile genetic elements (MGEs), such as the plasmids, transposons (TEs), integron (Int), and multidrug resistance genomic islands. Integrons are conserved dsDNA sequences (3'-CS and 5'-CS) of DNA that are able to obtain gene cassettes, which can carry drug resistance genes, by site-specific recombination (5-7). In this session we will discuss immunogenetic pathways of antibiotic resistance in skin infections.

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ANTI AGING SKIN CARE- NEW PERSPECTIVES

Ivana Binic

Skin is a protective layer of the body, the most visible one and most exposed. As the age progresses, certain changes occur in the skin which are influenced by different extrinsic and intrinsic factors. The changes in the skin are among the most visible signs of aging which include wrinkles, sagging skin, age spots and dryness, and also loss in the fat making the skin lose its natural smoothness. In addition, the number of melanocytes decreases, aging skin becomes thinner, paler and clear with large pigment spots, age spots or liver spots. All these signs necessitates the need for the anti-aging treatment. As we age, our body produces less collagen and elastin which plumps our skin and makes it lose its elasticity respectively. By the use of anti-aging products or treatment, either the collagen production can be boosted, or its natural loss can be slowed down. Anti-aging treatments are also necessary to reduce fine lines, wrinkle, acne and it also helps in making the skin firm.

As age progresses, the skin tends to become dry and scaly, especially in the elderly. So it becomes important to use a barrier to preserve this vital layer. Protection against dehydration, preventing the penetration of irritants, microorganisms, allergens, radiation, and protection against the reactive oxygen species requires a healthy and functioning skin barrier. Penetration via the skin can be regulated to allow selective penetration of substances which helps in skin regeneration, maintaining smoothness and elasticity. Degradation of primary structural components, i.e. elastin and collagen results in the formation of wrinkles. So, care should be taken by keeping the skin subtle and moist; this will help the skin look radiant and younger. Personal care products are available from many sources for this purpose.

The regular use of preparations that affect the various pathogenetic mechanisms of skin aging can in many ways maintain its appearance. In addition to the regular use of creams with a photoprotective factor, it is also necessary to use products that contain known anti-aging molecules. The oldest and most famous on the market is retinol, which has also been the most tested. In addition, products that contain vitamins with known antioxidant effects may be used with good efects. In recent years peptides are important in many natural processes with relevance to skin care, such as the modulation of cell proliferation, cell migration, inflammation, angiogenesis, melanogenesis, and protein synthesis and regulation. Despite their costly production, bioactive peptides have found their place in anti-aging products.

As it is important for each skin-applied product to deliver the active substances to the designated site, a major progess in the cosmetic industry is the use of nanotechnology. Novel nanocarriers like liposomes, niosomes, nanoemulsions, microemulsion, solid lipid nanoparticles, nanostructured lipid carrier, and nanospheres have replaced the usage of conventional delivery system.These novel nanocarriers have advantages of enhanced skin penetration, controlled and sustained drug release, higher stability, site specific targeting, and high entrapment efficiency.

IMMUNOGENETICS IN SKIN BACTERIAL INFECTIONS

Gökçe Işıl Kurmuş

A new regulatory terminology – 'acute bacterial skin and skin structure infections' – which includes cellulitis, erysipelas, wound infection, and major cutaneous abscess are recently introduced by the US Food and Drug Administration (FDA). Cellulitis, erysipelas, and abscesses are primarily caused by Gram-positive bacteria, including S. aureus, Streptococcus pyogenes, and other betahemolytic streptococci (1).

Staphylococcal infections mostly originate from colonizing strains. S. aureus and the coagulase-negative Staphylococcus epidermidis are the most common commensal bacteria colonizing the human nose and skin (2,3). Approximately 30% of the population carry S. aureus and 20% are persistent carriers (4,5). Importantly, it has been demonstrated that colonization with S. aureus poses a risk for subsequent infection (6).When the protective layer of the human epithelium is

breached and mechanisms of host immunity fail, staphylococcal infections such as bacteremia or pneumonia can become extremely dangerous and life-threatening (7).The innate immune system plays a major role in fighting off staphylococcal infections. Antimicrobial peptides (AMPs) represent the first line of innate immune defenses on the human skin and also form part of the mechanisms by which bacteria are eliminated in the neutrophil phagosome after phagocytosis. Many different organisms, including humans, produce AMPs; and many human

AMPs have been discovered that are active against staphylococci. AMPs in humans belong to two major groups: defensins and cathelicidins. All of these have a positive net charge and are therefore collectively called cationic antimicrobial peptides (CAMPs). There is one exception in humans with a negative net charge, namely dermcidin, an anionic AMP originally isolated from human sweat (8). As human AMPs have evolved to play a pivotal role in innate immunity, staphylococci as human colonizers have developed versatile strategies to evade AMP activity during both colonization and infection (9). This includes, for example, surface charge alteration, extracellular proteases, exopolymers, and efflux pump proteins, mechanisms that are regulated by specific sensor/regulator systems. In this session, we will discuss immunogenetic pathogenesis of skin bacterial infections.

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DEMODICOSIS NEW TREATMENTS, COMMON MISDIAGNOSIS

Ragıp Ertaş

Demodex mites (Demodex folliculorum and Demodex brevis) are known for about two centuries. These are also known as members of normal skin fauna and can be found in almost in all adults. Previous studies showed that, these mites have important pathogenic role in various dermatologic diseases, such as in papulopustular rosacea, perioral dermatitis, blepharitis and other rosacea-like eruptions when they live in a large number or penetrate the dermis. However, clinicians are still unsure about the pathogenicity of demodex mites and remains poorly understood because of the incomplete correlation between mite numbers and clinical symptoms. Additionally, misdiagnosis is very common in daily clinical practice.

Previous information on treatment alternatives for Demodicosis are limited. Most used treatments are: Topical permethrin cream, topical sulfur, oral ivermectin, oral metronidazole. The efficacy of these treatments remains to be determined.

The presentation aims the promote the recognition of demodicosis and give attention on demodicosis with introducing latest treatments methods.

RATIONAL USE OF MEDİCİNE İN DERMATOLOGY

M. Can Emeksiz

World Health Organization (WHO) has defined rational use of drugs as: “Patients receive medications appropriate to their clinical needs, in doses that meet their own requirements, for an adequate time, and at the lowest cost to them and their community.” This is also referred to, in brief, as the five ‘right’s, i.e., the right drug at the right dose by the right route at the right time for the right patient.

WHO estimates that more than half of all medicines are prescribed, dispensed or sold inappropriately, and that half of all patients fail to take them correctly as prescribed by the doctor.

The overuse, underuse or misuse of medicines results in wastage of scarce resources and widespread health hazards like increased morbidity and even mortality, the drain of resources, drug resistance, etc. Reasons for an irrational prescription could be physician, patient, industry or regulations related.

The ultimate goal in dermatological therapy is to use the safest and least number of drugs to obtain the best possible effect in the shortest period and at a reasonable cost.

Every practitioner should give priority to drugs of proven efficacy. Patient safety, concerning medical error, patient noncompliance, adverse effects, or drug interactions, must be kept in mind, especially in special populations, such as the infants and children or the elderly, etc.

Personalized medicine can lead to significant health and economic improvements for medical professionals and society in general.

The cost-benefit ratio is also essential to protect scarce resources and decrease costs.

In 2013, $15 billion was spent on prescription drugs, $4 billion to vaccines, skin procedures and skin cancer screening, while dermatology related over-the-counter (OTC) products accounted for nearly $10 billion. Nonspecialty drugs (typically non-biologic, long-established drugs) accounted for the majority of the $15 billion total for prescription drugs.

Some examples of commonly encountered irrational dermatological practice:

The use of drugs, when no drug therapy is indicated. For example, where seborrheic dermatitis can be controlled with just shampoo rather than with systemic agents. The use of unnecessary expensive drugs. For example, cyclosporine or biologics versus methotrexate. Unnecessary usage of antibiotics for a long duration may increase costs, increase the incidence of adverse drug reactions, and develop drug resistance, etc.

Polypharmacy, which is defined as the concomitant intake of five or more medications by the patient although WHO has recommended that the average number of drugs per prescription should not be more than two. “a pill for every ill. e.g., methotrexate in the limited extent of psoriasis vulgaris; or oral antifungals for a long duration in elderly patients with onychomycosis instead of offering no treatment; or maintaining a vitiligo patient with several metabolic disorders on oral immunosuppressives rather than just topical medication.

A significant problem in many countries, such as ours, is that people can freely buy medicines over-the-counter that should be prescriptions-only. Potent steroids, antibiotics even retinoids can be encountered by the patient, although opposing governmental policies.

Reusing prescriptions ad nauseam belonging to a neighbour for a different clinical condition and who is of different gender and age-group is a commonplace affair.

There is not a single dermatological condition for which there is any reliable evidence of the efficacy of antioxidants. However, many dermatologists almost routinely prescribe these products for a wide variety of

conditions.

The use of herbal medicines is also common, most of which lack evidence-based support.

It is really hard to change patient beliefs and ongoing practices, but trying to correct the irrational drug use in all steps, including industry and regulatory concerns, must be the goal.

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MUSIC AND DERMATOLOGY

Evren Sarıfakıoğlu

It is an interesting topic and hence there are so few articles in the literature review. The speach will be about the instrument-related skin disorders in Musicians, that will be divided in string section, wind instruments, brass section and miscellaneous instruments. The type of instrument determine the occupational disease that a musician may suffer from. The hours that a musician spent to advance artistic skill may sometime reflect the degree of severity of the skin disease.

Another entity Music box spine keratoderma will be discussed, an entity that the clinical findings resembles to old fashion music box.

Music as an anxiolytic and as a therapy in dermatology will be talked. Lastly, dermatology in opera, in songs will be discussed with examples and the topic will be concluded with a story about a piano that played a special role in dermatology's history.

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FILAGGRIN IN DERMATOLOGY

Gül Yıldırım

Filaggrin (filament aggregating protein) is an important element in the formation of the stratum corneum and thus in terminal differentiation of the epidermis.(1) It's a structural protein and major protein component of the keratohyaline granules in the granular cell layer. After degradation of filaggrin several amino acids play as a moisturizing factor. Antimicrobial effects via reducing skin PH and UV photoprotector effect are the other beneficial roles of filaggrin.(2)

Filaggrin first described in 1981(3) and than in 1985 it is found that filaggrin expression is reduced in Icthiosis Vulgaris. The significant role of filaggrin mutations in Icthıosis Vulgaris and Atopic dermatitis has been proven. Recent studies suggest that carriers of FLG mutations may have a generally altered risks of developing common diseases. (4)

Mechanistic studies have shown increased penetration of allergens and chemicals in filaggrin deficient skin and epidemiological studies have found higher levels of hand egzema, irritant contact dermatitis, nickel sensitization and serum vitamin D levels. In a recent case study , the results indicate that FLG mutation might be involved in the pathogenesis of Food-dependent exercise –induced anaphylaxis (FDEIA) (5).

In this presentation we'll have discuss the role of filaggrin in dermatological diseases. Increased understanding of filaggrin biochemistry will facilitate the novel of therapeutic approaches and identify novel drug targets for these extremely common diseases.

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MEDICAL SHAMPOOS

Melike Kibar Öztürk

The biggest market share of the cosmetic sector belongs to hair care products, with a market share of 59% belonging to shampoos in Turkey. Accordingly, we, dermatologists often face the side effects of this cleaning agent (1).

Hightech shampoos consist of 10 to 30 ingredients including; detergents, i.e., surfactants, conditioning and active ingredients , additives; modifiers of the the surfactant effect (viscosity control agents, foam stabilizers), stabilizing agents (preservatives), agents that increase its appeal (fragrances, dyes), thickeners, sequestering agents and PH adjusters (2). The cleansing ability of a shampoo depends on the surface activity of its detergents (surfactants). Surfactants are classified according to hydrophilic polar group as anionic, cationic, amphoteric (zwitterionic) and nonionic (2).

Combing, brushing and teasing, the effects of UV rays, permanent hair waving and coloring may damage hair shaft that involve cuticle damage and secondary destruction of the cortex. Depletion of specific amino acids in the hair shaft are usually, methionine (–50 %), tryptophan (–50 %) (3). Conditioners that are used for above mentioned conditions include fatty substances such as vegetable oils, wax, lecithin and lanolin derivatives, protein hydrolysates (collagen, silk, animal proteins), quaternary ammonium compounds, cationic polymers (polyquaternium-10, polyquaternium-16), silicones (dimethicone, not as grassy as like fatty substances).

Treatment of dandruff can be summarized as; 1) Agents that inhibit overproduction of keratinizing cells (4), e.g., coal tar, huile de cade in Turkey (a substance from juniper as a coal tar substitute) and ammonium bituminosulfonate (pale sulfonated shale oil as a coal tar substitute), 2) Keratolytic agents (5) that break down cell aggregations, e.g., colloidal sülfür and salicylic acids, 3) Antimicrobial agents (6) that inhibit Malassezia spp. yeasts, e.g., selenium disulfide, zinc pyrithione, piroctoneolamine, ketoconazole, and ciclopiroxolamine.

For mild seborrheic dermatitis of the scalp, over-the-counter dandruff shampoos containing selenium sulfide (7), zinc pyrithione (8), tea tree oil (7) or coal tar (7) can control symptoms. For long-term control, antifungal shampoos containing ketoconazole 2% (9) or ciclopirox 1% (10) can be used daily or at least two or three times per week for several weeks, until remission is achieved. After remission, once-weekly use of these medicated shampoos can prevent relapse.

Tar and imidazole antifungal shampoos have modest, at best, efficacy in scalp psoriasis. Tar's malodor, hair staining and drying, poor efficacy and carcinogenicity limit its use. Imidazole antifungals have been tried since pityrosporon overgrowth has been associated with psoriasis, however, not all studies have shown efficacy. Corticosteroid-based shampoos could be effective but long-term use could be associated with safety and tolerability problems. It presents a superior alternative to coal tar shampoo in terms of efficacy and product appeal and results have shown that it does not produce unwanted corticosteroid effects on the skin, adrenal axis, or eyes in short term. Mellis Cap® shampoo, containing ichthyol 1.2%, mandelic acid 1.2%, zanthalene (< 1%), and honeydew honey (< 1%) is a new alternative choice for scalp psoriasis.

Coal tar, which reduces sebum production, is virtually the only effective active ingredient in medicated shampoos for managing seborrhea of the scalp. Ammonium bituminosulfonate (ichthammol) is comparatively ineffective. Antimicrobial agents that are effective against Malassezia spp. are suited for use in seborrhea and dandruff (Inhibition of microbial lipolysis). The use of plant extracts containing tannin, e.g., oak bark extract, can have a positive influence holding a style by roughening the surface of the hair. Selenium disulfide is contraindicated for managing seborrhea since it increases sebaceous gland excretion. Additional conditioners,

especially moisturizers and cationic polymers, should be avoided in hair that has a tendency to become oily, since they weigh it down.

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DERMATOSES CAUSED BY CULTURAL PRACTICES

Melike Kibar Öztürk

Traditional Chinese medicine, ayurveda, acupuncture, cupping, moxibustion, coining and Dukhan are the most common cultural dermatoses.

Complementary and alternative medicine's prevalence is ranging from 27% to 76% in different populations. Nonvitamin, nonmineral natural products, echinacea, glucosamine, and flaxseed, are the most commonly used medicine.

Traditional Chinese medicine is a multimodal health system that holistically treats. Dermatologic uses include atopic dermatitis, psoriasis, and vitiligo. Complications are highly variable, ranging from minor gastrointestinal upset to serious liver, and cutaneous toxicity. The available literature is limited. In 1 pivotal study, it was shown that ingestion of a 10-herb significantly decreased erythema in adult patients with atopic dermatitis (1). Severe cutaneous adverse reactions, including toxic epidermal necrolysis have been reported with orally intake (2).

Ayurvedic compound medications (3) equally improved the quality of life in patients with psoriasis. Ayurvedic medications were found to be efficacious in the treatment of molluscum contagiosum infection in 3 patients (4). Another mixes were used for vitiligo and lymphedema (5).

Acupuncture has been shown to be efficacious in 3 studies for chronic urticaria. Less rigorous study has been conducted for postherpetic neuralgia, acne, and psoriasis. In a study of 36 patients with acne, 12 sessions of led to a reduction in the total number of inflammatory lesions. Mixed results have been found in psoriasis, with the 1 study finding that generalized acupuncture was not superior to sham; however, this was criticized for not properly describing the technique used. Studies have shown that bleeding, and hematomas occur at a rate between 0.33% to 7.6%. Localized argyria and silica granulomas have both been reported, with symptoms sometimes appearing after decades. Although 1 metaanalysis of 9 prospective studies of almost 250,000 treatments found no cases of local infection, a review found 204 primary reports and 91 secondary reports of infection.

Moxibustion is a form of heat therapy in which dried plant materials called "moxa" are burned on or very near the surface of the skin. The intention is to warm and invigorate the flow of Qi in the body and dispel certain pathogenic influences. In one published case series, direct moxibustion was found to be effective in cutaneous warts, likely because of tissue damage (6).

In dry cupping method, a heated cup is placed onto the back, chest, abdomen, or buttocks, and the cooling of air creates a suction that is thought to remove toxins or. Wet cupping is a similar procedure in which the skin is first abraded. Limited evidence exists about cupping. Three systematic reviews have been conducted examining the efficacy of cupping for hypertension, pain and stroke rehabilitation. More recently, cupping has been developed as a method for obtaining epithelial grafts for patients with vitiligo. Awad et al. (7) found that 80% of their patients had satisfactory repigmentation of their patches without permanent scarring of the donor sites. A simple Chinese cupping device was used to induce blisters on the inner aspect of the thighs of the patients and the resulting blister roofs were used for grafting on dermabraded vitiliginous patches.

Salting is a therapy from our country, Turkey, that involves scrubbing a neonate's body with table salt in order to deter evil spirits harboring sickness and death. Dermatologic complication is epidermolysis (8) and systemic complication is life threatening hypernatremia (9).

Dukhan is performing smoke from special African woods for ritual incensing, therapeutic fumigation for pains especially for rheumatic pain, genital pruritus and body odor. Our study is the first study in the literature about the adverse reactions induced by dukhan smoke: LSC, airborne contact dermatitis, chronic pruritus, heat burns (10).

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COLLAGEN SYNTHESİS MARKERS:

M. Can Emeksiz

Collagen is the strongest biological molecule and the most abundant protein in mammals. It is found in almost all tissue and organ system of the body. 80% of tendon, 75% of the skin, 60% of cartilage, %30 of bone and up to 10% of muscle dry weight is collagen. Collagen fibers are the major component of the extracellular matrix (ECM). To date, 42 different collagen genes coding for 28 different types of collagens have been identified.

The dermal ECM is composed of diverse collagenous structures including the fibrils built of collagens I, III and V with FACIT collagens XII and XIV decorating the fibril surface, collagen VI in microfilaments, and collagen VII in anchoring fibrils.

Collagens I, III, being the most prominent; all known 28 collagens have been identified in healthy skin. Collagen strengthens the skin, enhances its elasticity and protects it from external factors, such as ultraviolet (UV) rays, skin inflammation, intracellular metabolites, and aging.

Collagens are not just simple proteins; each collagen has unique expression patterns. Some collagens not only have simple structural functions but are also key for signaling and different collagen domains and ultrastructural parts may have different functions and meanings.

There has been an increasing number of studies using collagen biomarkers, in the literature from different fields such as cardiological (e.g. myopathies, infarction), bone-joint (e.g. osteoporosis, osteoarthritis), pulmonary (e.g. pulmonary fibrosis), intestinal (e.g. Crohn's disease) fibro-proliferative, rheumatologic diseases (e.g. rheumatoid arthritis) and many other conditions (e.g. sepsis).

In the dermatological field, collagen biomarkers are useful in fibro-proliferative skin diseases such as systemic sclerosis, keloid, hypertrophic scars, etc., and also in processes as wound healing, skin aging, etc. Moreover, liver fibrosis due to frequently used dermatological drugs such as methotrexate can be monitored by these less invasive serum biomarkers too.

Some of the serum markers of collagen synthesis are carboxy-terminal propeptide of type I procollagen (PICP) and amino-terminal propeptide of type III procollagen (PIIINP); and degradation is carboxy-terminal telopeptide of collagen type I (CITP), result from the hydrolysis of collagen type I fibrils by matrix metalloproteinase (MMP)-1. (Summarized in Table 1)

Formation and degradation biomarkers may inform about the disease's inflammatory conditions and drug response.

However, the total amount may be unchanged if they are in balance so their proportion may be more informative about which side of turnover is active, as it is in wound healing.

In the early stages of wound healing, collagen fibrils are irregularly arranged. This explains the weakness of

wound strength in the early period of healing, despite the high amount of collagen. However, the strength of the wound is somewhat related to modification and their organization than the amount that synthesized. Modification and organization are essential for the strength rather than the amount that is synthesized.

Dermal fibrotic diseases, such as hypertrophic scars, keloid, systemic sclerosis, and scleroderma were studied, where the synthesis markers were found to be increased.

Various anti-aging approaches, including topical drugs (e.g. retinoids), energy-based procedures (e.g. lasers, radiofrequency, HIFU) and dermal fillers can restore the molecular features of dermal aging by increasing collagen synthesis and their markers.

Enhanced liver fibrosis (ELF) test (containing Hyaluronic acid, PIIINP, and TIMP) was found superior to the P3NP alone in a recent study. It can be used for methotrexate related liver fibrosis, as well as in multiple chronic liver disease, such as alcoholic liver disease, viral hepatitis, etc.

Collagen biomarkers have increasing popularity in many different fields in the literature, which may provide useful information not only in understanding the pathogenesis, pathophysiology and treatment strategies of several diseases but also for biomedical research and drug development.

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Table 1. Collagens and their biomarkers:

Collagen type	Main Place	Main Function	Biomarkers
I	Most abundant collagen in the body; Prevalent in bones, skin, tendon, vascular ligature.	Main organic component of bone, indispensable for bone integrity, but also a key structural component of many other tissues.	Degradation: C1M, alpha- and beta-CTX-I, NTX, ICTP Formation: PINP, PICP
II	Cartilage; nuclei pulposi and intraarticular menisci	Main structural protein of articular cartilage; forms the backbone of the cartilage heteropolymeric fibrils	Degradation: C2M, CTX-II, TIINE, CIINE, C2C, C1,2C Formation: CPII, PIIANP, PIINP, Pro-C2
III	Reticular fibers, commonly found alongside type I in the skin, vessel walls, lung, liver, and spleen, among others, along with type I collagen (except in bone) Pathologically: Connective tissue fiber hyperplasia, upregulated in fibrotic tissue (lung, liver, kidney, vascular system)	Cell–matrix adhesion, collagen fibril organization, ECM organization, response to TGF-β1	Degradation: C3M, C3A, C3C Formation: PIIINP, Pro-C3
IV	Basement membrane of all tissue Pathologically: Tumors, fibrosis (liver, kidney, lung, etc.), rheumatoid arthritis, ankylosing spondylitis	Underlies endothelial and epithelial cells, separates tissue compartments; surrounds various cells including smooth muscle and nerve cells; functions in cell adhesion, migration and development, tissue regeneration, and wound healing.	C4M, C4Ma3, P4NP 7S, 7S domain, NC1 domain (including arresten, canstatin, tumstatin, tetrastatin, pentastatin, hexastatin).
V	Colon, endometrium, skeletal muscle, lymph node, tonsil, thyroid gland, lung, cornea, bone, fetal membranes and small intestines, testis, cervix, tonsil, parathyroid gland Pathologically: Found in interstitial tissue, associated with type I, dermis, tendon, cornea, lung fibrosis	Essential for fibrillation of types I and III collagen	Degradation: C5M Formation: Pro-C5
VI	Dermis, skeletal muscle, lung, blood vessels, cornea, tendon, skin, cartilage, intervertebral discs, adipose Pathologically: Upregulated in tissue fibrosis	Type VI collagen is expressed in many tissues and helps cell attachment and connection to the surrounding matrix.	Degradation: C6M Formation: Endotrophin (Pro-C6)
VII	Skin, rectum, colon, small intestines, esophagus, oral mucosa, cervix, placenta, skeletal muscle, and cornea. Pathologically: Skin is affected in dystrophic epidermolysis bullosa as well as in 40% of Crohn disease patients. COLVII has also been reported to be involved the autoimmune diseases eg, systemic lupus erythematosus, Sjögren syndrome, and systemic sclerosis.	Attachment to the basement membrane via the NC-1 domain, and interstitial collagen entrapment	Autoantibodies against COLVII, C7M neoepitope
VIII	Major component of the Descemet's membrane; found in bone, brain, cartilage, eye, heart, kidney, liver, lung, muscle, skin, spleen, vascular tissues, ligaments and tendons, nerves Pathologically: Upregulated in atherosclerosis and many tumors due to actively proliferating vessels. Expressed by mast cells in fibrotic tissues and contributes to the fibrotic changes in diabetes and diabetic nephropathy. Involved in Fuchs endothelial dystrophy	Vascular remodeling and maintenance of vessel wall integrity and structure	C8-C
IX	Present in chondrocytes of growth-plate cartilage, adult articular cartilage, and intervertebral discs Immunostaining of normal articular cartilage showed type IX collagen is concentrated in the pericellular matrix, whereas a weaker intensity appeared in the territorial matrix. Pathologically: In the pericellular matrix of the weight-bearing areas adjacent to cartilage defects and at the edge of fibrillation and fissure.	Contributes to the stabilization of the fibrillar collagen network in the cartilage matrix and the anchorage of matrilin 3 and proteoglycans. It controls the diameter of collagen fibrils	NA
X	Hypertrophic zone of the growth plate and basal calcified zone of articular cartilage Pathologically: Increased expression in osteoarthritis when chondrocytes become hypertrophic	Regulation of endochondral ossification and supporting properties of the growth plate of cartilage and the mineralization	C-10C; CXM, COL10A1

XI	Intervertebral discs, articular cartilage, testis, trachea, tendons, trabecular bone, skeletal muscle, placenta, lung, and neoepithelium of the brain Pathologically: Cancerous tissues	Regulation of fibrillogenesis, such as by controlling the diameter of major collagen fibrils	Splicing patterns of type XI collagen (markers for osteochondrogenic tumors); type XI collagen α 1 (accurate marker in the differential diagnosis of breast carcinoma invasiveness in core needle biopsies); A diagnostic marker for metastatic nonsmall-cell lung carcinoma (NSCLC) and predicts recurrence after surgical resection; PRO-C11 (marker for pancreas cancer)
XII	Found in association with type I collagen. Both isoforms appear in amnion, chorion, skeletal muscle, small intestine, and in the cell culture of dermal fibroblasts, keratinocytes, and endothelial cells Only the short isoform is found in the lung, placenta, kidney, and a squamous cell carcinoma cell line Only the long isoform is found in the corneal epithelium, Bowman's membrane, and the interfibrillar matrix of the corneal stroma Pathologically: In the stroma of IDC, breast cancer, colorectal cancer, in the desmoplastic invasive front of colorectal cancer metastasis and aortic aneurysm.	Protect bone and muscle integrity by organization of collagen fibrils.	NA
XIII	Connective tissue–producing cells and in focal adhesions. Often in blood vessels and junctional structures such as neuromuscular structures. Pathologically: During development and postnatal growth and is decreasing toward adulthood. Increased expression in certain tumors, corneal wound healing, and renal fibrosis	Covalent crosslinking collagen	Autoantibodies type XIII collagen is used as biomarkers of Graves' ophthalmopathy
XIV	Prevalent in skin, tendon, cornea, articular cartilage, and interlobular stroma of mammary gland Pathologically: Type XIV collagen is observed in the later stages of fibrosis	Regulates fibrillogenesis by limiting fibril diameter through the prevention of lateral fusion of adjacent fibrils	NA
XV	Mainly in basement membrane of microvessels or cardiac and skeletal myocytes. Also in kidney, pancreas, intestine, prostate. Pathologically: Increased deposition in fibrotic kidneys and in the sclerotic capillaries of diabetic glomeruli	Organization, mechanical stability, and integration of the basement membrane to subjacent connective tissue	Restin
XVI	Skin, cartilage, heart, intestine, arterial walls, and kidney; fetal brain, and skeletal muscle. Pathologically: I Overexpression in localized and systemic scleroderma, extending from the papillary dermis to the lower dermis. I Overexpression in the intestinal wall in Crohn's disease. I Overexpression in cancers including glioblastoma, OSCC (but reduced in basement membrane), and HCC. I Overexpression in response to nerve injury.	Organizing and stabilizing ECM by stabilizing collagen fibrils and focal adhesions, and anchoring microfibrils to the basement membrane; mediating intracellular signaling affecting cell adhesion, proliferation, invasiveness, and the formation of focal adhesions.	PRO-C16
XVII	In epithelial hemidesmosomes of skin, colonic mucosa, the cornea, brain, kidney, placenta, etc. Pathologically: In junctional epidermolysis bullosa, mutations in type XVII collagen can result in decreased levels or absence of this collagen. In several human cancers, its expression is altered.	Stable adhesion of epithelial cells to the surrounding ECM	NA

XVIII	Localized in various basement membrane zones and is located in almost all structures of the human eye, in fat tissue during adipose differentiation, in hair follicles, articular cartilage, bone marrow, heart, brain, liver, the kidneys, and in human plasma Pathologically: Increased amounts of type XVIII collagen and endostatin have been observed in patients with Alzheimer disease, traumatic brain injury, bullous scleroderma skin, NSCLC, colorectal cancer, bladder cancer, and hepatocellular carcinoma	Maintaining basement membrane integrity, inhibition of angiogenesis, inhibition of Wnt/β-catenin signaling and development of the eye.	COL-18N, a biomarker targeting the short isoform correlate with the annual bleeding rate in hemophiliac patients and endostatin can potentially be used as a prognostic cancer biomarker, but so far no biomarkers specific for the cleaved endostatin fragment exist
XIX	Expressed in endothelial, smooth muscle, neuronal, mesenchymal, and most epithelial cells located in the basement membrane zones in the breast, colon, kidney, liver, placenta, prostate, skeletal muscle, skin, and spleen Pathologically: Decreased levels of collagen type XIX have been observed in the BMZs in breast cancer at invasive stages	Acts as a cross-bridge between fibrils and other ECM molecules	NA
XX	Most tissues display moderate-to-strong expression with only bile ducts, breast, cerebellum, smooth muscle cells, and soft tissues showing low or negative presence Pathologically: Several cancer tissues	Expected to form bridges linking larger fibrillar collagens, as do types XII and XIV Cellular adhesion, migration, differentiation, and signaling	IHC antibody (HPA051962)
XXI	Heart, placenta, stomach, jejunum, skeletal muscle, kidney, lung, pancreas, and lymph node	The function remains unknown, but could be implicated in blood vessel assembly	NA
XXII	Myotendinous junctions primarily of the heart and skeletal muscle	The function remains unknown, but may contribute to the mechanical stability of myotendinous junctions	NA
XXIII	Lung, cornea, skin, tendon, and amnion and to a lesser extent kidney and placenta	The function remains unknown, but may be implicated in the formation or maintenance of cell–cell contacts or in the polarization of epithelial cells	NA
XXIV	Predominantly in bone, but to a far lesser extent in the brain, muscle, kidney, spleen, liver, lung testis, and ovary Pathologically: COL24A1 is increased during HNSCC, but the tissue distribution is not fully investigated	This collagen is known as a marker of osteoblast differentiation and bone formation.	NA
XXV	The expression of type XXV collagen is highly brain specific, being present in the neurons of cerebral neocortices, hippocampus and other subcortical nuclei. Weak expression in the heart, testis, and eye in both humans and mice. Type XXV collagen has also been located in conjunctival fibroblasts. Pathologically: CLAC is distributed in Alzheimer-diseased brains and has been identified as an amyloid plaque component.	Type XXV collagen is involved in fibrillization and cell toxicity and protects against proteolysis of amyloid β-peptides in Alzheimer-diseased brains.	NA
XXVI	Type XXVI collagen is expressed in the testis and ovary in adult tissues. Highest levels are found in the reproductive tissues of neonates.	It's involved in the early development of testis and ovary as an extracellular matrix component	NA
XXVII	Adults: cartilage. Children and adolescents: epiphyseal growth plate. During embryonic and fetal development: endochondral bone, lungs, ear, colon, retina, cornea, and major arteries of the heart.	Type XXVII collagen may play a role during endochondral bone formation, including calcification and degradation of cartilage	NA
XXVIII	Mainly located in peripheral nerves surrounding most nonmyelinating glial cells and dorsal root ganglia. Also present in skin calvaria, at the nodes of Ranvier. Component of the PNS nodal gap. Pathologically: Overexpressed in bleomycin-induced lung and in mouse hepatocarcinoma	Structural and functional role in the peripheral nervous system;	NA

COL, Collagen; CLAC, collagen-like amyloidogenic component; CLAC, collagen-like amyloidogenic component; CTX-1, C-terminal telopeptide of type I collagen; ECM, extracellular matrix; HNSCC, squamous cell carcinoma of the head and neck; IHC, immunohistochemistry; N.A., not applicable; NC, non collagenous; NTX, collagen type 1 crosslinked N-telopeptide; ICTP, type I collagen–derived crosslinked carboxy-terminal telopeptide; PICP, amino-terminal propeptide of procollagen type I; C1M, type I collagen neoepitope; C1, C2; C2C; C2M; CIA, collagen-induced arthritis; Col, collagen; CPII, type II C-terminal propeptide; CTX-II, C-terminal telopeptide of type II collagen; NA, not applicable; NC, noncollagenous; PIIANP, type IIA procollagen amino-terminal propeptide; PIINP, procollagen II N-terminal propeptide; Pro-C2; TIINE and CIINE, type II collagen neoepitopes; PIIINP, N-terminal propeptide of type III collagen; Pro-C3, N-terminal propeptide of type III collagen; C3M, type III collagen neoepitope.

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IMMUNOGENETICS CONNECTIVE TISSUE DISORDERS

Nagihan Sahillioğlu

Connective tissue diseases (CTDs) are systemic autoimmune disorders characterized by a large spectrum of clinical features and multisystemic involvement. CTDs include rheumatoid arthritis (RA), systemic lupus erythematosus (SLE), Sjögren syndrome (SS), systemic sclerosis (SSc), dermatomyositis (DM) and polymyositis (PM)(1)

Systemic lupus erythematosus (SLE) is a multisystem autoimmune disorder with complex etiology. Genetics plays an important role in lupus pathogenesis through its influence on clinical and autoantibody phenotype of the disease. (2) For instance Tranducer And Activator Of Transcription 4Signal (STAT4) a genetic risk factor for rheumatoid arthritis and SLE, is associated with severe SLE. One of the key components of these pathways is TNFAIP3, which has been implicated in at least six autoimmune disorders, including SLE. Genetic risk factors for lupus differ somewhat between world populations. Multiple genes contribute to type I interferon dysregulation in lupus. Lupus-risk genes function via a wide range of molecular and immunologic mechanisms. Micro-RNAs and methylation changes also contribute to the lupus disease process (1,2)

Rheumatoid arthritis involves a complex interplay among genotype, environmental triggers, and chance. Twin studies implicate genetic factors in rheumatoid arthritis, with concordance rates of 15 to 30% among monozygotic twins and 5% among dizygotic twins . The long-established association with the human leukocyte antigen (HLA)–DRB1 locus has been confirmed in patients who are positive for rheumatoid factor or ACPA.(1,3)

Systemic sclerosis (SSc) (scleroderma) is a complex autoimmune disease that clinically manifests as progressive fibrosis of the skin and internal organs. Anticentromere antibodies (ACAs), antitopoisomerase antibodies (ATAs), and anti-RNA polymerase III antibodies (ARAs) are three mutually exclusive SScassociated autoantibodies that correlate with distinct clinical subsets characterized by extent of cutaneous involvement and pattern of organ involvement. (1,4)

Dermatomyositis (DM) and polymyositis (PM) are autoimmune myopathies characterized clinically by proximal muscle weakness, muscle inflammation,extramuscularmanifestations and frequently, the presence of autoantibodies. Although there is some overlap, DM and PM are separate diseases with different pathophysiological mechanisms. To date a majority of patients with PM and DM has at least one myositis specific antibody (MSA) if sensitive techniques to identify autoantibodies are utilized. Other autoantibodies can also be found, so-called myositis-associated autoantibodies (MAAs), which may also be present in other autoimmune diseases such as SLE and SS. The most frequently present MAAs in PM and DM are anti-SSA or anti Ro-52 and anti-PMScl (1).

Sjögren's syndrome (SS), a systemic autoimmune disease, is characterized by inflammation of exocrine tissues accompanied by a significant loss of their secretory function. One of the consequences of the stimulation of innate immunity is the activation of nuclear factor κB (NFκB), which can occur in a number of different cell types. In salivary gland epithelial cells from patients with pSS, hyperactivation of NFκB has been associated with decreased expression of one of the regulators of NFκB activation, A20 (also known as TNF α-induced protein 3 [TNFAIP3] (5).

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INTEGRINS IN DERMATOLOGY

M. Can Emeksiz

Integrins are heterodimeric transmembrane glycoproteins composed of non-covalently linked alpha and beta subunits. They are cell surface adhesion molecules essential for cell-matrix and cell-cell interaction and are capable of transmitting signals.

Integrins are essential for dermo-epidermal anchorage. Genetic or autoimmune dysfunction of alpha 6 or beta 4 subunits may result in blistering of the skin and the mucous membranes like junctional epidermolysis bullosa with pyloric atresia and cicatricial pemphigoid respectively. Expression of different types of integrins on the surface of keratinocytes, fibroblasts, endothelial cells, and blood cells is essential for wound healing.

In malignancy, increased expression of integrin promotes tumour growth and metastasis. Metastasis is promoted by integrins in three principle mechanisms, through stimulating cell migration, production of proteases and by increasing blood vessel formation.

Beta 2 integrins on leukocytes are essential for their recruitment to sites of inflammation and infection. Genetic dysfunction of the beta 2 subunit results in immune deficiency syndrome known as leukocyte adhesion deficiency, characterized by the inability of leukocytes to migrate and phagocytose. Beta 2 integrins also help in providing close contact for antigen presentation to T-lymphocytes and leukocyte activation. LFA-1/ ICAM-1 interaction between T-lymphocytes and somatic cells is seen in many immunologic skin conditions, such as contact dermatitis, psoriasis, lichen planus, vitiligo, scleroderma, and others, which make them potential drug targets.

New findings are dogma-changing since the previous modelling of integrins had predicted that collagen-binding integrins indeed would bind to collagen fibrils directly.

Recent data suggest new roles for collagen-binding integrins in tissues. This is based on the finding that they have a low affinity for collagen fibrils, implicating that their role as anchoring points in mature tissues is limited and suggesting that their role is restricted to dynamic situations involving collagen synthesis, which is related with many conditions including skin fibrosis.

Novel regulators controlling the formation and function of myofibroblasts in the skin and thereby the development of fibrosis is integrin α11β1, a critical collagen receptor on myofibroblasts, mediating pro-fibrotic signals from the collagenous environment.

Systemic sclerosis is thought to represent a model disease for most of the other fibrotic processes. Furthermore, new drugs are focusing on antagonists of these α11β1 and other β1 containing integrins.

Integrins on the cell surface may be one of the critical factors in many skin disease pathogeneses (immunologic skin conditions, infectious or bullous diseases, fibrosis, scleroderma, malignities, etc.) and drug development and tests.

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N-ACETYLCYSTEINE USES IN DERMATOLOGY

Göknur Kalkan

N-acetylcysteine (NAC) is a mucolytic agent which is usually used as an antidote for acetaminophen toxicity. Since it is a thiol compound, it acts as an antioxidant and has anti-inflammatory effects. Because of these properties, NAC has been used in various dermatologic disorders systemically and topically. N-acetylcysteine has been reported to be efficacious in the treatment of dermatologic conditions related to psychiatric disorders such as excoriation disorder, onychophagia and trichotillomania. There are also many recent studies about the potential topical uses of NAC, including its application as a wound healing agent. Signi¬ficant decline in comedone counts has been detected suggesting NAC might be an effective treatment option for acne vulgaris because of its ability to suppress sebaceous activity and minimize the growth of Propionibacterium acnes. Successful results have been also achieved for the diseases such as lamellar ichthyosis, bullous morphea, scleroderma, toxic epidermal necrolysis, pseudoporphyria, melasma, photo-ageing and alopecia. A decrease in number of digital ulcers and Raynaud's phenomenon attacks have been observed in systemic sclerosis. Topical NAC was also found to be effective for improving skin hydration and transepidermal water loss in patients with atopic dermatitis. Consequently, NAC seems to be a promising agent as a safe, cheap, tolerable, and effective therapeutic option for a variety of dermatologic disorders but its wider use should be supported with higher quality of evidence.

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WHAT'S BITING AND EATING YOU?

Ahmet Metin

In dermatology "bug bite" or insect bite is commonly used to describe both bites and stings by members of the phylum Arthropoda. This phylum is made up the biggest division of the animal kingdom, that approximately 80% of all known animals.

The phylum Arthropoda has four medically significant classes (Table 1). Of these, the insects, which represent more than half of all living organisms, and the arachnids have the greatest clinical impact on human health.

Classes	Members
Chilopoda	Centipedes
Diplopoda	Millipedes
Insecta	Hymenoptera (bees, wasps, hornets and fire ants), mosquitoes, bedbugs, fleas, lice, beetles, caterpillars and moths, and kissing bugs
Arachnids	Spiders, scorpions, mites, and ticks

Table 1. The classes and members of Arthropods

The consequences of arthropod bites are generally due to traumatic injury or local inflammation and hypersensitivity to arthropod saliva. Erythematous and edematous eruptions like papules and urticaria is the most common clinical manifestations on the skin. In some cases, the delivery of toxic venom can result in significant systemic reactions including anaphylaxis and organ failure. The acute development of anaphylactic reactions.

The incidence of arthropod bites and stings is difficult to quantify because most produce only minor symptoms that go unreported.

There are four general mechanisms responsible for the pathophysiologic impacts of arthropod bites and stings. Mechanical injury to tissue during bites and stings results in pain and swelling and provides a portal of entry for bacteria which can result in secondary infection.

The most clinically significant impact of arthropod bites is their ability to serve as vectors for many viral, bacterial, and protozoal diseases (Table 2).

Allergic responses to arthropod salivary antigens are common and contribute to the development of localized and systemic rashes and cutaneous pruritus. The most significant allergic response to arthropod bites and stings is the development of anaphylaxis, which can be rapidly fatal. While some arthropods can deliver toxic venom, the most significant pathophysiologic impact of arthropod bites is their potential to transmit several clinically important diseases.

Arthropod venom is often a complex mixture of proteins, and other biochemical mediators and the clinical effects vary significantly depending on its specific composition. Patients who sustain arthropod bites or stings are often asymptomatic

Arthropod	Examples of associated illnesses
Insecta	
Lice	Typhus, trench fever, relapsing fever
Fleas	Bubonic plague, typhus, tungiasis
Bedbugs	Pruritic papules, possibility of HBV transmission
Flies, mosquitoes	Cutaneous myiasis, malaria, yellow fever, dengue fever, viral encephalitis, onchocerciasis, leishmaniasis, sleeping sickness. West Nile fever
Bees, wasps, ants	Local reactions, anaphylaxis
Reduviid bugs	Chagas disease, papulobullous reactions, anaphylaxis
Arachnida	
Spiders	'Necrotic arachnidism,' paralysis
Scorpions	Local tissue damage, neurotoxicity, cardiorespiratory collapse
Ticks	Granuloma formation, Lyme borreliosis, Rocky Mountain spotted fever, tick paralysis, Colorado tick fever, babesiosis, ehrlichiosis, Q fever, tularemia
Mites	Hypersensitivity dermatitis, scrub typhus, scabies, possibility of role in rosacea
Others	
Centipedes, millipedes	Local tissue damage. 'mahogany* stain

Table 2. Arthropods and associated illnesses

and initially unaware of their occurrence. Therefore, it is important to gather a detailed history. A history of the sudden onset of pain or itching, especially with concomitant visualization of the implicated arthropod, provides strong supportive evidence.

With uncomplicated arthropod bites or stings resulting in minor localized reactions, no laboratory or imaging evaluation is indicated. However, additional studies may be necessary in cases of arthropod envenomation, secondary infection, or if a vector-borne disease is suspected.

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Severe envenomations may cause multi-organ dysfunction and require lab studies such as a complete blood count, basic metabolic panel, liver function, coagulation, creatine kinase, and urinalysis.

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CONNECTIVE TISSUE DISEASES AND MALIGNANCY

Kamer Gündüz

The incidence of malignancies is increased in certain connective tissue diseases such as rheumatoid arthritis, Sjögren's syndrome, systemic lupus erythematosus (SLE), polymyositis/dermatomyositis (PM/DM) and systemic sclerosis (SSc). SLE, PM/DM and SSc have prominent skin manifestations therefore, dermotologists should be aware of the increased risk of the malignancies in these patients for early diagnosis and appropriate treatment of the associated cancer.

A 6 fold higher risk of malignancy is reported in PM/DM and, the risk of cancer is greater in patients with DM than in those with PM. The most common malignancies associated with PM/DM are adenocarcinomas of the lung, ovaries, cervix, pancreas and stomach. Cancer mostly occurs simultaneously with and during the first year after the diagnosis of the disease. Risk factors for cancer development are defined as older age at diagnosis, male sex, severe cutaneous disease and resistance to therapy. Increased risk of cancer exists for at least five years and continued screening for malignancy is recommended if specific signs suggestive of an underlying malignancy appear or a relapse of the inflammatory myopathy occurs after a period of remission.

Overall risk of malignancy is slightly higher in SLE however, a 4 fold higher risk of Non-Hodgkin Lymphoma (NHL) is reported. Also there is an increased risk of lung, liver, head and neck, thyroid, vulvar/vaginal and anal malignancies, as well as cervical dysplasia. Paradoxically, a decreased risk of breast and prostate cancer is reported in SLE.

SSc has an increased risk (1.5 – 5 times) for cancers of the lung, breast, esophagus and hematological malignancies. Malignancies are observed in 3 – 11% of SSc patients, generally with diffuse cutaneous subtype and older age.

A four-fold increase in the risk of squamous cell carcinoma (SCC) has been reported in patients with discoid lupus erythematosus (DLE). SCCs that arise within DLE lesions are associated with high risk of recurrence, early metastasis and mortality in contrast to common forms of SCC. Also, an increased risk for both melanoma and nonmelanoma skin cancer in patients with morphea is reported.

NAIL MELANOMA - A NEVER ENDING CHALLENGE

Eckart Haneke

Melanomas of the nail are generally claimed to be rare; however, all nails taken together have a surface of roughly 0.6% of that of the body. With a percentage of 1.5 to 2.5% of all melanomas in light-skinned Caucasians and 20% and more in African Americans, native Americans and Asians it is not uncommon. Calculating that up to 3 quarters of nail melanomas are pigmented and originate in the nail matrix that makes up for approximately one third of the nail apparatus, the matrix may be called a hotspot of melanoma development.[1] The nail plate is an effective UV shield and there is no association of ungual melanoma with sun exposure.[2] Whether trauma plays an aetiological role is not clear. Both genders are equally affected. Race is not a particular risk factor as the absolute number of nail melanomas does not differ among races. The peak of nail melanoma appearance is the 5th-6th decade of life, but there are also reports of nail melanomas in children. The thumb, great toe, index and middle fingers are most frequently involved; however, in principle any digit may be affected. About 2/3 to ¾ of nail melanomas start with a longitudinal brown streak in the nail, called melanonychia. It is easily noted, but unfortunately often not taken seriously so that patients come late for treatment. Any acquired melanonychia in an adult has to be seen as an early melanoma until otherwise proven. Neither the colour nor the width of the streak are reliable indicators of benignity or malignity; however, the internal structure of the melanonychia is important as irregular striation and asymmetry are highly suspicious for melanoma. Further, any periungual pigmentation, called Hutchinson sign, is indicative of melanoma.[3] Dermatoscopy allows the fine structure of the pigmented band to be evaluated. In case of the slightest doubt, a biopsy of the matrix is strongly recommended. The superficial tangential biopsy allows the entire matrix lesion to be taken out for histopathological diagnosis;[4] if the lesion is benign healing will usually occur without nail dystrophy, in case of malignancy the entire nail unit with a safety margin of 5 mm around its anatomical borders is removed down to the bone.3 If there is a Hutchinson sign 10 mm are recommended around it. This treatment is adequate for in situ and early invasive ungual melanomas and gives the same survival results as amputation.[5,6]

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SLEEP DISTURBANCES IN DERMATOLOGY

Ilknur K Altunay

Sleep is a universal function of living species maintaining mental and physical health. We spend one-third of our lives sleeping, and we don't know why. However, we surely know that it is essential for survival and disturbances in sleep, which occur in many different ways, are associated with a wide variety of bodily dysfunctions including endocrine, metabolic, higher cortical function, and neurological disorders. Over the past 40 years, the field of sleep medicine has increasingly focused on the role of sleep disturbances in the etiology of medical and psychological disorders, and has proposed various methods of classifying sleep disorders as distinct clinical entities or as conditions occurring comorbid to various disorders. Prevalence of sleep disturbance worldwide ranges from 4% to 40% . Disorders of sleep can manifest as complaints of either insufficient sleep, excessive amount of perceived sleep, or abnormal movements during sleep. Insufficient sleep or sleep deprivation, insomnia, cyrcadian rhythm disorders, obstructive sleep acne are among is the most common sleep disturbances.

Today, sleep is considered a strong regulatory influencer on the immune functions. It can modify the immune system function by inducing changes in the hypothalamus-pituitary-adrenal axis and the sympathetic nervous system. In turn, the circadian rhythm of hormones such as cortisol and adrenaline, which have a nocturnal decrease, favors different activities of the immune system. Particularly insufficient sleep cause an increase in the secretion of C-reactive protein, interleukin (IL)-6 and tumor necrosis factor (TNF). These cytokines activate NF-κB; Thus, the perturbed immunity caused by sleep disturbances may involve a breakdown of immunologic self-tolerance, and drive development of autoimmune diseases as well as chronic inflammatory and metabolic diseases. Therefore immune system of the skin is a candidate to be affected from disturbances of sleep. There have been reports on the association of various autoimmune and chronic inflammatory diseases of the skin with sleep disturbance, including psoriasis, atopic dermatitis, acne vulgaris, oral lichen planus, pemphigus, Behçet's disease, Sjogren's syndrome, systemic lupus erythematosus and even leg ulcers and aging.

On the other hand, some cardinal symptoms of cutaneous diseases such as pruritus and pain can also cause poor sleep quality. Some skin disorders such as atopic dermatitis lead to the distruption of circadian rhythm and sleep deprivation, even in the absence of pruritus. Moreover, not only pruritus or pain also depressive or anxious states associated with cutaneous diseases may play a role in sleep problems. Because there is another link between sleep problems and depression. It should be bear in mind that all these relationships are complex and pose a challenge to clarify. Still, we need much more data to establish this.

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A, B, C, D PERSONALITY TYPES IN SKIN DISEASES

Ezgi Özkur

The classification of personality types into the four major categories a,b,c and d is one of the personality type assessments that widely accepted. Type A personalities are competitive, and called as high achievers. Type B's are the opposite of type A's who are more relaxed, and not easily stressed. Type C personality is regarded as incapability, non-assertiveness and passiveness but focus on other people, exhibit cooperative behaviors and tendency. Type D's are distressed and pessimistic.

It is asserted that personality characteristics also considered as determinants of healthy behaviours which account for the health states of individuals. For example reseacrhers found that Type A's characteristics have a significant impact on cardiovascular diseases. Zurlo et al. reported higher prevelance of dermatological disorders in Type A personalities (1). Type B individuals have a higher level of life satisfaction, quality of life and happiness. It is claimed that these individuals may have such dermatological diseases, depending on their age which are tend to be more psychical diseases than physiological ones(2). Type C personality is considered cancer prone personality and at a risk of developing cancer more readily and quickly than the other personality types(3). Type D's, suffer from higher levels of chronic stress, emotional difficulties, and social difficulties and so these individuals have many mental disorders such as depression, anxiety, chronic tension, anger, pessimism. Researchers found that Type D individuals has fatigue, sleeping disorders and some dermatological disorders(4).

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INTRALESIONAL THERAPIES IN NAIL DISORDERS

Ufuk Kavuzlu

Nail unit creates a natural barrier to drug penetration due to its special anatomy. Topical treatment in nail disorders is limited due to the unique structure of the nail apparatus. Intralesional drug treatment in nail diseases is a kind of targeted treatment with certain advantages. (1,2) Dermatological diseases such as psoriasis, lichen planus, alopecia areata, pemphigus can progress with nail involvement. One of the treatment options for nail involvement of these diseases is intralesional triamcinolone acetonide application. Also, intralesional methotrexate application is another option in nail involvement of psoriasis. (3) In addition, various intralesional treatment options are available in the periungual warts treatment. (4,5) This presentation summarizes intralesional treatment options used in various diseases of the nail unit.

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ANTIDEPRESSANTS AND DERMATOLOGY

Şule Güngör

Antidepressants are drugs that can relieve the symptoms of depression, anxiety, mood disorders or other mental disease but also they can be used for non-psychiatric disease such as chronic pain or itching. Antidepressants increase the concentration of one or more brain neurotransmitters affecting the communication of the nerves. Antidepressants are classified according to neurotransmitters they effect. This determines some of their side effects and drug reactions.

There are five types of antidepressants known as i) tricyclic antidepressants (TCAs) i) monoamine oxidase inhibitors (MAOIs) iii) selective serotonin reuptake inhibitors (SSRIs) iv) seratonin and noradrenalin reuptake inhibitors (SNRIs) v) other antidepressants. TCAs are the oldiest types of antidepressants. They are effective, but are used less often because of increase side effects. Doxepin, amitripyline, clomipramine, desipramine, imipramine, nortripyline are in this group. They affect serotonin, norepinephrine and dopamine. MAOIs are old type of antidepressant. They have severe side effects and frequent drug interactions. So they are saved for cases where other antidepressants failed. They inhibit the enzyme monoamine oxidase, which breaks down serotonin, so they increase serotonin level. SSRIs are the most commonly prescribed antidepressants as they have fewer side effects than the other antidepressants. Citaloprm, escitalopram, fluoxetine, fluvoxamine, paroxetine, sertraline are in this group. They inhibit the reuptake of the serotonin so they help the comminication of nerves. SNRIs increase levels of serotonin and norepinephrine in the brain by blocking or delaying their reuptake by nerves. High serotonin and norepinephrine levels help the comminication of nerves. Desvenlafaxine, duloxetine, venlafaxine are in this group.

Some cutaneous symptoms may be the feature of a primary psychiatric disorders, e.g. cutaneous body image problems, dermatitis artefacta, neurotic excoriations and trichotillomania. The dermatologist may be the first to consider the diagnosis and refer the patient to the psychiatrist and follow the patient with the psychiatrist.

In addition to psychodermatological diseases, antidepressants can also be used to treat some chronic painful and itchy dermatoses, such as postherpetic neuralgia, notalgia paresthesia, and idiopathic pruritus.

Apart from their antidepressant effects, some antidepressants have antihistaminic and antiinflammmatory (decrease in tumour necrosis factor-α and/or an increase in interleukin-10 levels) effects and can be used in dermatological diseases such as urticaria, psoriasis, atopic dermatitis and pruritus.

In this presentation the usage of antidepressants in dermatological conditions will be discussed.

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RETRONYCHIA OF THE TOENAILS: PATHOGENESIS AND MANAGEMENT OPTIONS

Amor Khachemoune

First described in 1999, retronychia is a condition characterized by the embedding of the proximal nail plate into the proximal nail fold and the stacking of a multiple generations of nail plates beneath the proximal nail fold. The disease frequently affects the toenails and is associated with stress-relevant situations including repetitive trauma, ischemic etiologies, postpartum, and compartment syndrome. Predisposing factors, including static disorder of the feet, may be underestimated. The paucity of data regarding predisposing factors is limited to small case reports, case series, and retrospective studies. The diagnosis is clinical and sometimes challenging because retronychia can easily mimic other nail disorders with chronic paronychia. Since the first description, significant advances have been made regarding diagnostic criteria, including ultrasonography. In this lecture, I will cover the pathogenesis and management options of retronychia.

HIGHER EDUCATION-RELATED SKIN DISEASES

Melike Kibar Öztürk

In this presentation, a PubMed search was performed to include English-language articles with the keywors: Education, Career, Socioprofessional categories, Education level, Socioeconomic status (SES) and skin diseases/disorders with preference to those written in the last 15 years. I will try to analyze the association of skin diseases with the level of education using the SES, which is reported to be most reliable indicator of SES (1).

There are limited studies on education related skin diseases with contradicting results, since most of the studies; have small sample sizes, were not primarily focusing on skin diseases, determination of SES was mainly fosused on both level of education and montly income, there is not any isolated data in terms of higher education, were performed using data from consecutive clinical patients, about atopic skin diseases, socioeconomic status was measured in terms of parental education level and household income and the classification of education level in subgroups was not standard.

A study from southern Australia evaluating SES of dermatomyozitis found a possible association between dermatomyozitis and a higher socioeconomic status in terms of education (2).

In a prevalence study from five European countries, in younger subjects skin cancer was more prevalent in the middle or high socioeconomic status groups compared with the low socioeconomic status group; however, this effect was not found in elderly subjects (3). In the UK cancer registry rates for all types of skin cancer have been found to be higher in individuals with high SES. This finding led to the conclusion that skin cancer can not be attributed primarily to exposure to sunlight, since individuals with low SES are more likely to work in the sun and would therefore show higher incidence rates. However, in another study concerning common cancers, occupational exposure to sunlight is clearly associated with skin cancer and differences in skin cancer mortality can not be found between SES groups (4). In addition, the prevalence of actinic keratosis was found to be higher in individuals with low SES in a representative Italian sample investigated by trained interviewers using a photographic guide (5). Another Dutch study showed that high SES was associated with a higher incidence of basal cell carcinoma (BCC) among men (6). In a review of 280 studies, thirty-four studies measured incidence of melanoma in relationship with SES (7). In general, the literature suggests that patients of higher SES have greater exposure to lifestyle factors which may increase melanoma incidence and mortality, and research has also shown that tertiary-level educated patients are more likely to use sunscreen on a daily basis (8). The relationship between SES, lifestyle, sun-protective behaviours and melanoma risk requires continuing investigation.

Globally, the prevalence of AD in developed countries is higher than in developing countries in general. Furthermore, it has been reported that urban citizens with higher SES are more likely to experience allergies than those in deprived areas . In a recent review (9), the situation is concluded as: Many studies have reported that higher SES is associated with increased AD prevalence, whereas lower SES is associated with increased AD severity. In addition to this , in a recently published study (10). Higher parental socioeconomic status, as well, was positively associated with the prevalence of atopic dermatitis (8,226 students).

To sum up, the prevalence of actinic keratosis was found to be higher in individuals with low SES. There is no associations between SES and psoriasis however severity of psoriasis was associated with a lower educational level. A higher prevalence of acne and hand eczema was found in individuals with middle SES. The prevalence of chronic spontaneous urticaria was found to be higher in individuals with high SES. However most of the

studies led to the conclusion that melanoma and other skin cancer were found to be higher in individuals with high SES, the relationship between SES, and skin cancer risk requires continuing investigation. Lower survival rates in skin cancer patients with low SES have been reported. For atopic diseases the situation can be concluded as; many studies have reported that higher SES is associated with increased AD prevalence, whereas lower SES is associated with increased AD severity.

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NON-MELANOMA SKIN CANCER OF THE DIGITS INCLUDING NAILS

Eckart Haneke

Cutaneous malignancies are frequent in chronic sun-exposed skin like the face, neck, hands, and feet but rare in sun protected areas. Actinic keratoses (AK) are now generally accepted as the earliest form of in situ keratinocytic carcinoma. By the age of 70 years, up to two thirds of all light skinned Caucasians have at least one actinic keratosis, some have hundreds of them. The skin of the acral extremities have a thicker horny layer that protects better against harmful ultraviolet light. On the dorsa of the hands and feet as well as the dorsa of the fingers actinic keratoses differ morphologically as they are mostly covered by a thick and firm hyperkeratosis, which makes topical treatment difficult. On the other hand, there is less skin available for defect closure after cancer excision and this is even more so on the digits.

Most cutaneous carcinomas on the digits are squamous cell carcinomas (SCC). Whereas they are commonly associated with chronic UV damage on the digits they are more often linked to high-risk human papillomaviruses in the nail apparatus.1,2 On the fingers and toes, they usually develop from AKs whereas at the palmar plantar skin and in the nail unit they develop from Bowen's disease.3 On the digits, an AK starts to become nodular and often ulcerates, whereas around the nail an ill-defined erythematous area is seen and the nail becomes onycholytic. Nodule formation and ulceration indicate an invasive carcinoma. A characteristic sign of subungual SCC is an oozing onycholysis. The treatment of choice of SCC is complete surgical resection according to the principles of Mohs micrographic surgery.4 If this technique is not available wide local excision with as much histological margin control as possible is recommended. Non-surgical methods such as nonspecific necrotizing agents like potassium hydroxide, various types of acids, topical cytotoxic agents, immunomodulators and photodynamic treatment or semisurgical approaches like cryosurgery or laser vaporization are not recommended as they are blind methods and complete cancer eradication cannot be controlled. However, metastases are very rare and mainly occur after several incomplete removal attempts.

Carcinoma cuniculatum is a rare low-grade variant of verrucous SCC that is occasionally observed under the nail. Its treatment is complete resection.

Basal cell carcinoma (BCC) is surprisingly rare in acral skin and an exception under and around the nail. It usually appears like granulation tissue and the diagnosis requires histopathological examination. The treatment of choice is Mohs surgery.

Aggressive papillary adenocarcinoma is a rare type of sweat gland carcinoma of which half occur in the tip of digits. Their prognosis is guarded and despite amputation many patients die from lung metastases.

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THE IMPORTANCE OF CYTOSKELETAL ANTİGEN MARKERS IN DERMATOPATHOLOGY

Yasemin Yuyucu Karabulut

Immunohistochemistry (IHC) is the use of immunologic techniques to identify cellular antigens (proteins) that are not visible on routine hematoxylin and eosin stained sections.

Dermatopathology is a rapidly developing subspecialty of histopathology. It deals with various benign and neoplastic conditions. The role of dermatopathologists is not only restricted to provide the most accurate diagnosis, but also to provide additional relevant prognostic information. In fact there is limited role of IHC in routine dermatopathology practice. Although IHC is more frequently used in neoplastic conditions, it is beneficial in certain non-neoplastic conditions as well (1-5). Cytoskeletal protein aberrations are the underlying reason for many pathological phenotypes. It is no surprise that modifications in such a crucial cellular structure lead to pathological conditions. Indeed, many diseases have now been associated with abnormalities in cytoskeletal and nucleoskeletal proteins, including several cardiovascular disease syndromes, neurodegeneration, cancer (invasion), liver cirrhosis, pulmonary fibrosis, and blistering skin diseases (1, 2).

Within the cytoskeleton of the cell three different types of filaments can be distinguished on basis of their ultrastructural appearance and biochemical composition. Next to microfilaments and microtubules, filaments measuring 8–11 nm in diameter are commonly seen in mammalian cells. These so-called intermediate-sized filaments, which often constitute a considerable part of the intracellular matrix are extremely insoluble and show a protein composition which is completely different from that of microfilaments and microtubules. Biochemical and immuno chemical studies have demondtrated that five different types of intermediate filament proteins (IFP) can be distinguished in mammalian cells (1). These include the cytokeratins, vimentin, desmin, glial fibrillary acidic proein (GFAP) and the neurofilament protein triplet (Table 1).

Lane and McLean (2) discuss keratins and skin diseases. The association of keratin mutations with genetic skin fragility disorders constitutes one of the most striking examples of cytoskeleton disorders. This has served as a paradigm for many other diseases and has been highly informative for the study of intermediate filaments and their associated components, elucidating the importance of this group of proteins for cell structure. These diseases have convincingly shown that, at least in the case of epidermal keratins, providing physical resilience to epithelial cells is their key function (2, 6).

Table 1. Cytoskeletal antigens

Antigen	Location	
	Usual	Pathological
Cytoskeletal antigens		
Cytokeratin (CK)	Epidermis, cutaneous appendages	Epidermal and appendageal tumors, Merkel cell carcinoma (CK20), Paget's cells (CK7)
Vimentin	Mesenchymal cells (endothelium, smooth muscle, fibroblast), melanocytes	Non-Hodgkin's lymphoma, sarcoma, melanoma, all mesenchymal neoplasms. Ubiquitous and highly nonspecific. Use is limited for diagnostic purposes. Often used in 'panel approach' and as an indicator of adequate tissue fixation/as a control in IHC
Desmin	Parenchymal smooth muscle, skeletal muscle	Leiomyoma, leiomyosarcoma
Glial fibrillary acidic protein (GFAP)	Astrocytes, oligodendrocytes, Ependymal cells	Neurofibroma, Schwannoma, chondroid syringoma, heterotopic glial nodules
Peripherin	Peripheral nervous system (Axons, Schwann cells)	Neuroendocrine carcinoma of skin, melanoma, melanocytic nevus, dysplastic nevus
Neurofilaments	Central and peripheral nervous system	Cutaneous neuroendocrine tumors
Nestin	Neural, myogenic, mesenchymal cells	Rhabdomyosarcoma

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THE IMPORTANCE OF BİOPSY LOCALİZATİON İN DERMATOPATHOLOGY

Ayça Kırmızı

Histology of the Skin

Skin is composed of two layers named as epidermis and dermis, which are functionally interdependent layers. Although subcutaneous adipose tissue is not a part of the skin, but it is in a very close relationship with the skin.

The epidermis is mainly composed of keratinocytes and has 4 layers:

- Basal cell layer (stratum basale)
- Prickle cell layer (stratum spinosum)
- Granular cell layer (stratum granulosum)
- Corneocyte layer (stratum corneum)

An eosinophilic acellular layer known as the stratum lucidum is sometimes seen in skin from the palms and soles.

The rest of the epidermal cells are melanocytes, Langerhans cells and Merkel cells. The dermis is subdivided into a superficial component (papillary dermis) and a deep component (reticular dermis). The dermis contains collagen, elastic tissue and ground substance.

The Importance of Biopsy Localization

The major differences can be seen between mucosal and skin biopsies. Mucosal and mucosal-skin junction biopsies may lack granular and cornified layers. The cells of the squamous epithelium are larger and may be vacuolated due to the higher amount of glycogen.

There are two main kinds of skin: Glabrous skin (non-hairy skin) and hair-bearing skin. Glabrous skin is found on the palms and soles. Glabrous skin do not have hair follicles or sebaceous glands and has a compact, thick stratum corneum with loss of the basket-weave pattern. Epidermal ridge pattern is also pronounced in palms and soles. Glabrous skin can also have an eosinophilic stratum lucidum that seperates granular cell layer from the stratum corneum. Also the granular layer is prominent in soles and palms. It is rich for sense organs within the dermis.

Hair-bearing skin has hair follicles and sebaceous glands but lacks sense organs. The thickness of the epidermis varies with the localization, for examples the forearm and eyelid both have thin epidermis, whereas the foot has a thick epidermis.

Hair follicle size, structure and density can vary between different body sites. The scalp has large hair follicles that extend into subcutaneous fat but on the other hand, forehead has only small vellus and the sebaseous glands are large. Nose has a lot of sebaceous glands and they often drain directly to the epidermis. This appearance can lead a misinterpretation as a sebaceous hyperplasia.

In axilla and pubis there are apocrine glands in addition to the eccrine sweat glands.

There are also differences according to the anatomical site for collagen and elastic fibers. For example skin from the lower back has a very thick dermis with broad fascicles of collagen, whereas the forearm has a thin dermis. Unawareness of this normal variation may lead to the erroneous diagnosis of morphea in the lower back. Skin around the umbilicus also shows thick and fibrotic dermis. The arrangement and size of elastic fibers varies from very large fibers in perianal skin to almost no fibers in the scrotum. Smooth muscle fibers are seen in the the dermis of areola and genitalia.

Cutaneous blood supply also varies with the anatomic site. The lower leg may show thicker
blood vessels in the papillary dermis as a result of gravity and stasis.

For these reasons knowing the localization of the biopsy and awareness of the the regional differences is very important for not calling a normal histological finding as abnormal and for not making a misinterpretation.

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REVERSE CONDITIONS IN DERMATOLOGY

Ersoy Acer

Dermatological diseases often have a typical location such as psoriasis on knee and elbow and lichen planus on wrists and ankles. However, the opposite involvement and extraordinary settlements may be seen in some patients. Inverse or reverse term is generally used to express this situation for example inverse psoriasis and inverse lichen planus. Synonyms of reverse are inverse, opposite, contrary, converse, inverted.. In this presentation, some reverse conditions in dermatology will be discussed.

Inverse psoriasis is also called intertriginous psoriasis. It is an uncommon form of psoriasis, which typically occurs in flexural areas. It causes smooth, erythematous plaques, which are not as scaly and infiltrated as in classic plaque psoriasis. Inverse psoriasis might be an underestimated problem with a great impact on the quality of life. Current opinion that it is part of plaque psoriasis and not a separate disease entity (1,2).

Typical lichen planus commonly affects flexural wrists and forearms, dorsal hands, trunk, oral mucosa and anterior lower legs. It can present as one of numerous morhologic variants. The lesions of inverse lichen planus confined to flexural and intertriginous areas (3).

Tinea versicolor typically affects the chest, upper back, and shoulders. However, involvement of more unusual regions of the body such as the face and scalp, arms and legs, intertriginous sites, genitalia, areolae, and palms and soles has been reported (4,5).

Typical pityriasis rosea affects trunk and proximal extremities, while sparing the palms, soles and scalp. Inverse pityriasis rosea targets the face and flexural areas such as axillae and groin. In addition, atypical pityriasis rosea may have atypical morphology, size, number and distribution of lesions, atypical severity of symptoms and atypical course of the eruption (6).

Gottron's papules are pathognomonic cutaneous sign of dermatomyositisis, are typically distributed over the extensor surfaces of interphalangeal, metacarpophalangeal, wrist, elbow and knee joints and malleoli. This papules may present over the palmar surface, are inverse Gottron's papules (7).

Klippel-Trenaunay syndrome is defined by a coexistence of nevus flammeus and overgrowth of one or more limbs. In inverse Klippel-Trenaunay syndrome, the affected limb shows a deficient rather than increased growth. The cause of the unusual deficient growth is unknown (8).

Reverse ophiasis alopecia areata is also called sisaipho (ophiasis spelled backward). It consist of scalp hair loss except in ophiasis area (frontoparietooccipital). It is a rare variant of alopecia areata (9).

Koebner's phenomenon has been reported in various dermatosis such as psoriasis, vitiligo and lichen. Contrary to the Koebner's phenomenon, the reverse Koebner's phenomenon, defined as the disappearance of the lesions of particular dermatosis at the site of injury. It has been reported in bullous pemphigoid, erythrodermic psoriasis and leukocytoclastic vasculitis (10).

In conclusion, reverse conditions in dermatology are rare, but physicians should be aware this situations to diagnose and manage exactly this conditions.

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SPA TREATMENTS AND HELIOTHERAPY IN DERMATOLOGY

Kenan Aydoğan

More than 3500 years ago, ancient Egyptian and Indian healers used the ingestion of plant extracts or seeds in addition to sunlight for treating “leucoderma. For millennia, sunlight or “heliotherapy(HT)” has been used in the treatment of various skin diseases such as psoriasis and atopic dermatitis. One prominent example known in ancient times, heliothalassotherapy, combined the effects of direct im¬mersion in salt water, inhalation of salt water aerosols, as well as UV and thermal radiation from the sun. Other forms of cli¬mate therapy exclusively use solar radiation as heliotherapy or a combination of saltwater baths and sunlight as heliobalneo¬therapy. Spas offering climate therapy at the North, Baltic, and Dead Sea as well as in the Alps treat a broad range of skin diseases such as atopic dermatitis, psoriasis, prurigo and vari¬ous forms of pruritus, parapsoriasis, and mycosis fungoides. HT also called climatotherapy, defined as a treatment combining the natural elements of a specific geographic location, has been used at the Dead Sea in Israel for over twenty years. Because of its unique position, the treatment at the Dead Sea mainly consists of the patients being exposed to a UV spectrum of long-wave ultraviolet light found naturally in high intensity only in that area of the world and, in addition, a sea rich in natural minerals and salts. The treatment is believed to be cost-effective and pleasant. The modern discoveries (eg, ultraviolet radiation) and modern inventions (eg, the electric generator or the electric lightbulb), as well as balneologic experiences of the treatment with sunlight, contributed to the transition from HT to artificial light phototherapy at the end of the 19th century.

In presence of UVA, psoralen intercalates between the DNA base pairs forming functional adducts, free radicals and reactive oxygen species thus causing cross linking of DNA strands, protein conjugation and cytotoxic effects. Psoralens can be applied either topically (topical PUVA) or orally (Oral PUVA) followed by exposure to UVA light. Depending upon source of UVA, the therapy can be given as PUVA (artificial phototherapy unit as the source of UVA) or PUVAsol (solar irradiation as the source of UVA). PUVAsol can be used in sunnier climates, according to the same principles as PUVA. PUVAsol therapy is especially useful for patients, who cannot refer to hospital for the conventional treatment. It consists of psoralen (8-MOP) intake and sunlight exposure, which can be easily performed at patients’ home. On the other hand, the lack of a medical control during the therapeutic sessions, makes PUVAsol therapy less safe. Severe reaction, such as erythema, pigmentation, blistering, burning and ocular side effects, are well-described. Topical psoralen containing preparations (such as 5-MOP) are less phototoxic and more convenient as compared to oral psoralen. Soak/paint and bath PUVAsol are the various modalities of topical PUVAsol therapy. PUVAsol can be combined with topical drugs (Calcipotriol, corticosteroids, tar or dithranol in resistant psoriasis or/and vitiligo cases) and systemic drugs (Methotrexate in resistant psoriasis cases).

In this present, I will review indications of Dead sea climatotherapy and topical and systemic PUVAsol therapy

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HOW CAN WE DIFFERENTIATE SCARRING ALOPECIA AND NON-SCARRING ALOPECIA WITH IMMUNOHISTOCHEMISTRY AND HISTOPATHOLOGY?

Mehmet Gamsızkan

The primary follicular diseases of this subject are categorized as non-scarring and scarring alopecia based on the etiological factors and the variety of treatments. In non-scarring alopecia, there is a healing potential due to no follicular damage. On the other hand, scarring alopecia is characterized by irreversible hair loss. Follicle and sebaceous gland destruction causes in firmly and shiny skin without follicular orifices. Besides, other diseases such as cicatricial pemphigoid, morphea, etc. can secondarily destroy the hair follicle that is an innocent bystander.

The biopsy is one of the techniques used in alopecia to confirm the diagnosis and to characterize the type of inflammatory infiltration. However, the qualification of the specimen is essential. For example, dermatologists should perform the biopsy from the active area containing subcutaneous tissue to assess inflammation pattern in scarring alopecia. Otherwise, they should be aware of being able to encounter a pathology report containing non-diagnostic findings.

According to clinical history, trigger factors (high fever, surgery, medication, birth, endocrinological diseases, nutritional deficiency, psychiatric disorders, hair styling practice… etc) should be carefully questioned. Indeed, clinicopathological correlation is very important for protection from the pitfalls. Therefore, I highly recommend that pathologists together with dermatologists look at all cases in a multi-headed microscope. In a dermatopathology council, clinical photo findings should be discussed before the histopathological examination. When the dermatologists note the clinical findings, they should be able to imagine how the lesion looked histopathologically.

The comparison of terminal (T) and vellus (V) hair is necessary for alopecia assessment. The diameter of T hair (≥0.03 mm) is thicker than the inner root sheath layer compared to those of V hair (<0.03 mm) (Figure 1). Besides, the morphology of the follicular cycle consisting of anagen (or growing; 90-95% of all hair), catagen (involutional; 0-1%) and telogen (resting; 5-10%) phase should be well known (Figure 2).

Histopathological findings can appear in a time-dependent fashion. For instance, an increased number of catagen/telogen follicles, pigment casts, and peribulbar lymphocytic infiltration are common in early alopecia areata. Follicular miniaturization occurs in the subsequent episode. In a chronic stage of the disease, there is usually no finding except for empty follicles.

Scarring alopecia is classified based on the inflammatory cell predominancy in the infiltrate. For example, folliculitis decalvans and dissecting cellulitis of the scalp are characterized by neutrophilic infiltration. Inflammation patterns may be a clue to differentiate discoid lupus erythematosus (DLE) from lichen planopilaris (LPP). While the interface dermatitis of infundibular and superficial isthmic follicular epithelium occurs in LPP, the superficial and deep, perivascular and periadnexal infiltration is common in DLE.

Some lesions may possess ambiguous histopathological features. Thus, the supporting methods can sometimes be needed. Histochemically, you can use gram and PAS stain in a neutrophilic infiltration to identify microorganisms. Alcian blue and colloidal iron may reveal dermal mucin production to support of DLE diagnosis. PAS stain can be helpful to assess the thickness of the basal membrane. Toluidine blue stain may highlight the inner root sheath. Immunohistochemically, plasmacytoid dendritic cells show positivity for CD123 in DLE. The immunofluorescence technique is useful for the diagnosis of DLE, LPP and bullous diseases. Sometimes, there is no specific finding in end-stage scarring alopecia; however, thick and recoiled

elastic fibers in a fibrous tract remnant can be compatible with the idiopathic pseudopelade.

Finally, the language of the report must be concise; nevertheless, subjectivity and mistakes can sometimes be inevitable. To prevent these, practical information will be given to physicians interested in hair pathology.

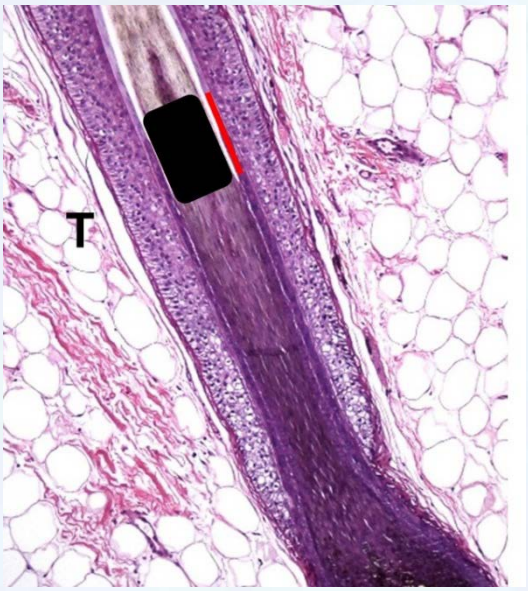

Figure 1: Histopathological view of a terminal hair, the shaft (black) is thicker than the inner root sheath layer (red) (H&E, x200)

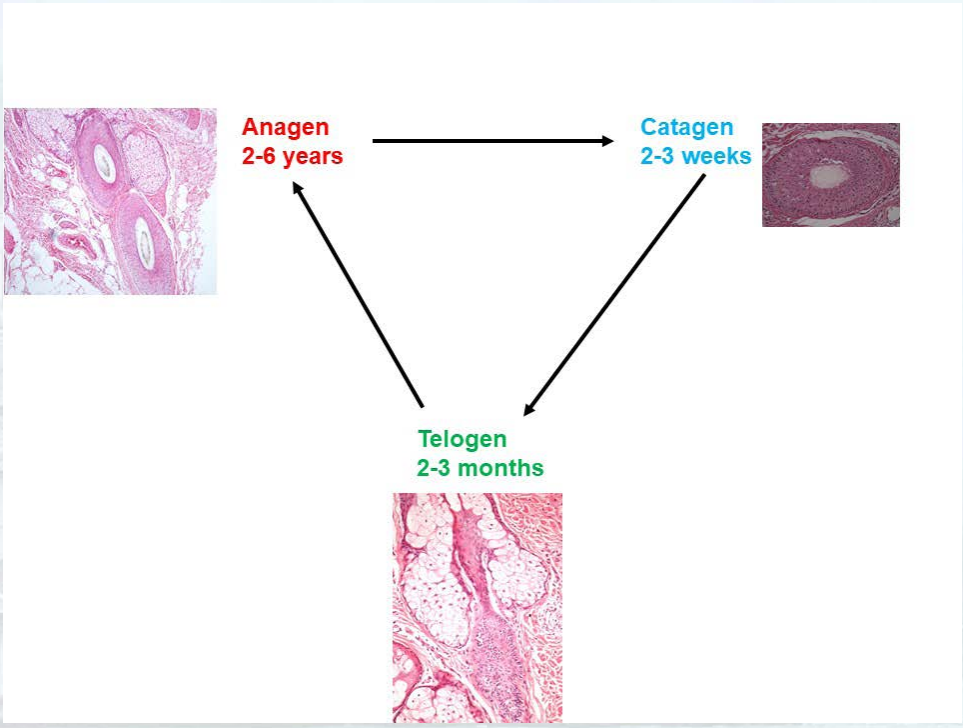

Figure 2: Morphological view of hairs during normal follicular cycling.

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BRACHYTHERAPY

Özge Aşkın

The term meaning of brachytherapy, which is a Greek word, is an internal radiation. Brachytherapy is a procedure that involves placing radioactive material inside your body. Brachytherapy is one type of radiation therapy that's used to treat cancer. In contrast to external therapy, where the source of radiation is 80-100 cm away from the patient, in brachytherapy, radioactive sources or source carrier applicators touch the skin or tumor, they are placed in the natural body cavities or inside the tumor. High radiation dose may be given locally to the tumor due to the rapid dose drop in brachytherapy and neighboring healthy tissues. (1) Brachytherapy is used in many areas of dermatology such as non melanoma skin cancers, Kaposi's sarcoma, and mycosis fungoides. Brachytherapy techniques include superficial brachytherapy, interstitial brachytherapy, electronic brachytherapy. (2) 19 elderly patients with advanced biopsy-proven non-melanoma skin cancer were treated with high-dose-rate interventional radiotherapy only, and all patients were considered healthy at the last follow-up. (3) In a study in which a total of 8 atypical fibroxanthoma lesions in 7 patients were treated with electronic brachytherapy, at a median follow-up of 23.7 months, the local recurrence rate was 12.5%, and the single lesion that failed was not surgically debulked prior to electronic brachytherapy. (4) Successful responses were obtained in a case report in which a high-dose brachytherapy treatment was applied to the recalcitrant acrodermatitis continua of Hallopeau. (5) Brachytherapy has new uses in dermatology and continues to develop.

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IMMUNOADSORPTİON İN DERMATOLOGY

Nagihan Sahillioğlu

Immunoadsorption (IA) has been successfully used in a large variety of autoantibody-mediated disorders. In dermatology, IA is increasingly applied as adjuvant treatment for severe and/or refractory autoimmune bullous diseases. These disorders are characterized by autoantibodies against structural proteins of the skin and/or mucous membranes and include, among others, pemphigus vulgaris, pemphigus foliaceus, and bullous pemphigoid. Autoimmune blistering diseases are associated with a high mortality (pemphigus) or morbidity (bullous pemphigoid) and in particular in pemphigus diseases, treatment is challenging. The pathogenetic role of autoantibodies in most of the immunobullous diseases has been clearly demonstrated, therefore, removal of these autoantibodies is a rational therapeutic approach. IA has been shown to effectively lower the serum autoantibodies and to lead to rapid clinical responses (1,2).

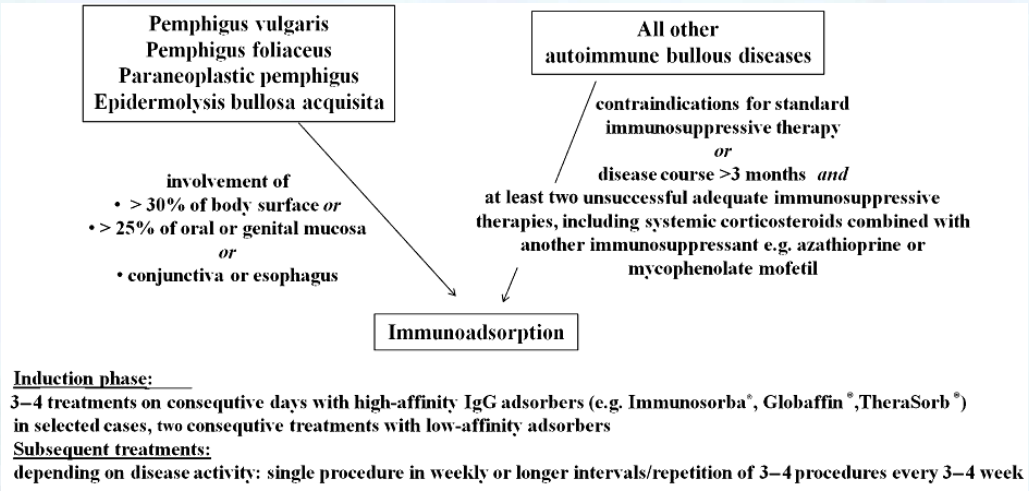

Figure 1;
Algorithm for the use of immunoadsorption in autoimmune bullous skin disorders as recommended by German, Austrian, and Swiss physicians experienced in this therapy (3).

Atopic dermatitis (AD) is a chronic, multifaceted, recurrent inflammatory skin disease that clinically presents with eczematous lesions. The major symptom is pruritus and dry, sensitive skin, which can impair patient quality of life. It has a multifactorial pathogenesis, which includes genetic components and environmental triggering factors. Patients with the extrinsic form of AD have been found to have increased serum IgE levels and high-affinity receptors for IgE. Most recently, IA has been successfully applied in patients with severe atopic dermatitis and high total serum IgE levels (4).

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GRANULOMATOUS REACTIONS IN DERMATOPATHOLOGY AND A SINGLE CENTER EXPERIENCE IN ISTANBUL

Pelin Yıldız

INTRODUCTION & OBJECTIVES: Granulomatous inflammation is a form of chronic inflammation, predominantly consists of macrophages (epitheloid and/or non-epitheloid), giant cells, lymphocytes, plasma cells and fibroblasts. This major tissue reaction pattern can present in many organs produced by various aetiological agents. The aim of the present study is to emphasize clinicopathological evaluation of granulomatous dermatoses and their etiological classification based on histopathological examination.

MATERIALS & METHODS: This is a retrospective analysis of granulomatous lesions between January 2015-January 2020. The morphological pattern of granuloma was classified into sarcoidal, tuberculoid, necrobiotic (collagenolytic), suppurative, foreign body and miscellaneous granulomas. Further aetiological evaluation for the granulomatous dermatosis was done using various special stains like Periodic Acid Schiff stain, Alcian blue, Fite stain, Gomori methenamine silver stain and acid-fast bacilli stain.

RESULTS: Among 8745 skin biopsies, 115 had granulomatous inflammation. Out of these 31.3% necrobiotic (30 granuloma annulare, 4 necrobiosis lipoidica, 2 interstisial granulomatous dermatitis), 13% tuberculoid (8 granulomatous rosacea, 3 leishmania, 2 lupus vulgaris, 2 orbital granuloma, 1 granuloma faciale), 11.2% sarcoidal (11 sarcoidosis, 2 syphilis), 10.5% suppurative (8 pyoderma gangrenosum, 4 atypical mycobacteria), 8.7% foreign body (10)- 10.5% xanthogranuloma (6 juvenile, 6 adult), 13.9% miscellaneous (8 non-necrotizing, granulomatous disease, 4 necrotizing granulomatous disease, 2 Melkerson Rosenthal, 1 annular elastolytic granuloma, 1 granulomatous cheilitis) were reported.

CONCLUSIONS: Histopathology is gold standard for diagnosis for granulomatous dermatoses but morhological features may overlap with various granulomatous reactions. Adequate clinical data, laboratory tests supported by special stains would helpful to establish final precise diagnosis.

Keywords: granulomatous, dermatoses, reactions, inflammation

RENAMING IN DERMATOLOGY

Nagihan Sahillioğlu

Dermatology literature is rich in descriptive terminology, full of numerous disease names and terms; but it is very interesting to note that there are lot of misnomers also. Sir William Osler clearly saw the importance of an exact medical lexicon when he wrote, ''Use guidelines for naming diseases. If our knowledge does not permit to give a name according to the etiology of the disease, the rule should be to pick the one which seems least objectionable, taking priority and usage into account.'' A misnomer is defined as a word that is used incorrectly or misleadingly. This description is because of frequent use of eponyms and toponyms. An eponym is a person (real or fictitious) from whom something is said to take its name. The term eponym is derived from the Greek words epi, meaning upon, and onyma, meaning name. Thus, eponym means giving a name, while toponym is the name derived from place (geographic eponym) or things To conclude, we are all aware of the deficiencies of these terminologies and labelling of the diseases, syndromes and signs. They were introduced when we had limited knowledge about the pathophysiology, etiology, histopathology and other cellular receptor marker studies. These terminologies have served their purpose, and they still remind us about the history and what has gone into it to earn this name. Renaming these misnomers is a continuous process that has to proceed along with advances made in dermatology (1,2,3).

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CUTANEOUS VASCULITIS

Merih Tepeoğlu

Vasculitis is characterized by blood vessels that are both damaged and inflamed. Cutaneous vasculitis encompass a heterogeneous group of disease with a divergent clinical and histopathological findings with various pathogenic mechanisms and clinical manifestations. It may be limited to skin or a cutaneous component of systemic vasculitis (1,2)

Any vascular disease associated with damage to the structural integrity of the vessel wall may lead to leakage of blood, resulting in hemorrhage and edema. Cutaneous hemorrhage is clinically seen as petechiae (less than 3 mm in diameter), purpura (3 to 10 mm in diameter) and ecchymoses (larger than 10 mm in diameter). If an inflammatory infiltrate is present, the purpura may become palpable. Severe vascular damage leading to vascular occlusion often causes ischemic damage and may result in necrosis, blister formation and ulceration (1). Histopathological findings suggesting vasculitis are; perivascular inflammatory cell infiltrate (neutrophilic, eosinophilic, lymphocytic, histiocytic), fibrinoid necrosis, extravasation of erythrocytes, leukocytoclasis, infiltration of vessel wall by inflammatory cells, swelling of endothelial cells and luminal thrombosis (1,2). However biopsy time is very important for the diagnosis of cutaneous vasculitis; a lesion, 24-48 hour old, is appropriate for routine biopsy. On the other hand, infections, insect bites, pyoderma gangrenosum, and even in secondary vascular changes underneath the ulcers may exhibit sign of vasculitis; therefore a clinicopathological correlation is necessary before establishing a final diagnosis (1,2,3)

The histopathological findings that process the subclassification of vasculitis includes; the caliber of blood vessel involved (small, medium or large) and the type of blood vessel involved (arterial or venous). The distribution of the disease (systemic or localized) and the etiology of the disease (primary or secondary to an underlying disease) are also the factors that determine the classification clinically (1-5) . In 1994, the International Chapel Hill Consensus Conference (CHCC) proposed a nomenclature system for the most common forms of vasculitis which provided names and definitions (3). With the substantial advances in our understanding of vasculitis pathogenesis, in 2012, a second international CHCC was held in order to add important categories of vasculitis not included in CHCC 1994 nomenclature system (4) and we also use this classification system in our practice (Table 1)

According to the 2012 CHCC on the nomenclature of vasculitis, large vessel vasculitis (LVV) affects large arteries, including the aorta and its major branches. Takayasu arteritis and giant-cell arteritis are the two majör LVV variants (4,5). Medium-vessel vasculitis (MVV) predominantly affect medium-sized arteries, defined as the main visceral arteries and their branches. Polyarteritis nodosa (PAN) and Kawasaki disease (KD) are the two majör MVV variants. Large or medium sized vessels are not found in the dermis or subcutaneous tissues, however cutaneous manifestation of vasculitis may be related to direct involvement of smaller vessels in the skin such as arterioles or venules (4,5). Small vessel vasculitis (SVV) predominantly affects small vessels, defined as small arteries, arterioles, capillaries and venules. The two major categories of SVV are antineutrophil cytoplasmic antibody (ANCA)-associated vasculitis and immune complex vasculitis (4,5). SVV is the most common type of vasculitis in the skin and it is characterized by neutrophilic inflammation predominantly limited to the superficial cutaneous postcapillary venules. The most common clinical presentation is symmetrically distributed palpable purpura of the lower extremities (1,2). SVV may be idiopathic or may have a defined cause such as infection, medication, autoimmune connective tissue disease, or malignancy (3,4). As a result; when evaluating a skin biopsy for vasculitis, clinical, laboratory and histopathological findings must be evaluated together to reach a definitive diagnosis.

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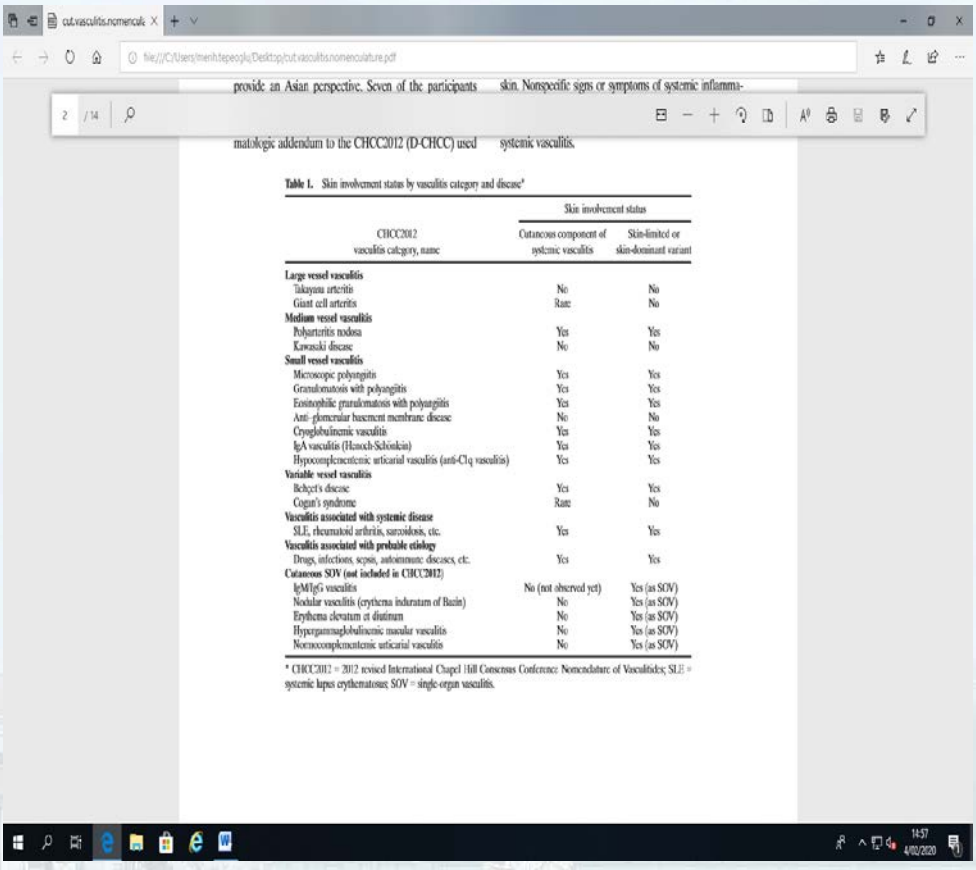

provide an Asian perspective. Seven of the participants skin. Nonspecific signs or symptoms of systemic inflamma-

matologic addendum to the CHCC2012 (D-CHCC) used systemic vasculitis.

Table I. Skin involvement status by vasculitis category and disease*

CHCC2012 vasculitis category, name	Skin involvement status: Cutaneous component of systemic vasculitis	Skin-limited or skin-dominant variant
Large vessel vasculitis		
Takayasu arteritis	No	No
Giant cell arteritis	Rare	No
Medium vessel vasculitis		
Polyarteritis nodosa	Yes	Yes
Kawasaki disease	No	No
Small vessel vasculitis		
Microscopic polyangiitis	Yes	Yes
Granulomatosis with polyangiitis	Yes	Yes
Eosinophilic granulomatosis with polyangiitis	Yes	Yes
Anti–glomerular basement membrane disease	No	No
Cryoglobulinemic vasculitis	Yes	Yes
IgA vasculitis (Henoch-Schönlein)	Yes	Yes
Hypocomplementemic urticarial vasculitis (anti-C1q vasculitis)	Yes	Yes
Variable vessel vasculitis		
Behçet's disease	Yes	Yes
Cogan's syndrome	Rare	No
Vasculitis associated with systemic disease		
SLE, rheumatoid arthritis, sarcoidosis, etc.	Yes	Yes
Vasculitis associated with probable etiology		
Drugs, infections, sepsis, autoimmune diseases, etc.	Yes	Yes
Cutaneous SOV (not included in CHCC2012)		
IgM/IgG vasculitis	No (not observed yet)	Yes (as SOV)
Nodular vasculitis (erythema induratum of Bazin)	No	Yes (as SOV)
Erythema elevatum et diutinum	No	Yes (as SOV)
Hypergammaglobulinemic macular vasculitis	No	Yes (as SOV)
Normocomplementemic urticarial vasculitis	No	Yes (as SOV)

* CHCC2012 = 2012 revised International Chapel Hill Consensus Conference Nomenclature of Vasculitides; SLE = systemic lupus erythematosus; SOV = single-organ vasculitis.

SILVER TOXICITY IN DERMATOLOGY

Nagihan Sahillioğlu

Humans are exposed to silver from various sources. Silver is an antibacterial agent in the treatment of burn wounds, scalds, ulcers, and in the prophylaxis of neonatal conjunctivitis. Medical devices, such as catheters, transdermal drug delivery devices, acupuncture needles, and sutures, also contain silver (1). Other sources of silver exposure include amalgam fillings, self-medication, jewelry, deodorants, functional textiles, coins, tableware, coatings in refrigerators, and the workplace. (e.g., jewelry, wound dressings, or eye drops). Intact skin poses an effective barrier against the absorption of silver. Mucosal surfaces are observed to be less effective barriers and compromised skin is often a poor barrier. Silver can deposit as particles in the human body causing a blue-gray discoloration known as argyria. Urine and feces are reported pathways of excretion. Acute human mortality has been observed following an abortion procedure involving the intrauterine administration of 7 g silver nitrate (64 mg silver/kg body weight). Localized argyria has been reported with exposure to silver ions, metallic surfaces, and nanocrystalline silver. Generalized argyria was observed with ionic and nanocrystalline silver in humans at cumulative doses in the range of 70-1500 mg silver/kg body weight. Silver is observed to have a low potential for skin irritation. Eye irritation and some cases of allergic contact dermatitis have been reported. Silver may cause genotoxicity, but additional data are required to assess its carcinogenic potential. Other reported toxicities include hepatic, renal, neurological, and hematological effects(2,3).

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KEY DIAGNOSTIC FEATURES OF AUTOIMMUNE BULLOUS DISEASES

Handan Bilen

Autoimmune bullous disorders (AIBD) are a group of chronic inflammatory disorders caused by autoantibodies targeted against adhesion proteins in the epidermis or basement membrane zone, resulting in blister formation on the skin and/or mucosa. Depending on the targeted structures, AIBDs can be grouped into pemphigus diseases (against desmosomal adhesion molecules, such as desmoglein (Dsg) 1, Dsg3, members of the plakin family); pemphigoid diseases (against structural proteins of the dermal-epidermal junction (DEJ)); and dermatitis herpetiformis (DH), (epidermal and/or tissue transglutaminase (TG) 2 and 3 are targeted). Exact diagnosis of AIBDs is essential for both prognosis and treatment decisions. Current diagnosis of AIBDs is based on the clinical presentation, histopathology of a lesional biopsy, direct immunofluorescence (DIF) microscopy of a perilesional biopsy (still diagnostic gold standard), and serologic detection of serum autoantibodies against epithelial cell surface by indirect immunofluorescence (IIF) microscopy and/or enzyme linked immunosorbent assay (ELISA). New techniques have been developed to improve diagnostic efficiency and accuracy. These include multivariant ELISA, Biochip mosaic IIF, automated DIF, DNA microarray scanner, chemiluminescent enzyme immunoassay (CLEIA), and lateral flow immunoassay (LFIA). However, these tests are more difficult to perform than IIF and ELISA. Thus, they are infrequently used in the clinical setting.

Pemphigus diseases is characterized by autoantibodies against keratinocyte intercellular adhesion proteins resulting by flaccid intraepidermal bullae and/or erosions on skin and mucosa. Pemphigus subtypes are; pemphigus vulgaris (PV), pemphigus foliaceus (PF), drug-induced pemphigus (DIP), IgA pemphigus (subcorneal or intraepidermal types), and paraneoplastic pemphigus (PNP). Key diagnostic features of pemphigus subtypes are summarized in Table 1.

In pemphigoid diseases, autoantibodies attach along the dermal-epidermal junction (DEJ) against basement membrane components and induce subepidermal blistering, which manifests clinically as tense blisters. Depending on the target antigen and the clinical presentation, pemphigoid diseases are subdivided into bullous pemphigoid (BP), mucous membrane pemphigoid (MMP), anti-p200/laminin-γ1 pemphigoid, pemphigoid gestationis (PG), linear IgA disease, and epidermolysis bullosa acquisita (EBA).). To differentiate between some of the pemphigoid diseases, an artificial split can be induced within the lamina lucida of the BMZ by incubation of the biopsy specimen in 1 M NaCl solution. Antibodies against laminin 332, the p200 antigen/laminin γ1, and type VII collagen bind at the dermal side of the artificial blister, while antibodies against BP180, BP230 (dystonin-e), and α6β4 integrin bind along the epidermal side of the blister. Two different linear pattern analysis allow the differentiation of patients with EBA from other pemphigoid disorders. The “u-serrated” pattern has an appearance like “growing grass”; this is pathognomonic for binding of antibodies against type VII collagen in EBA and the rare cases of bullous systemic lupus erythematosus. The “n-serrated” pattern is found in all other pemphigoid diseases. Key diagnostic features of subepidermal blistering disorders are summarized in Table 2.

Table 1. Key diagnostic features of pemphigus (P) subtypes

	Target antigens	Clinical features	Histopathology	DIF	IIF	ELISA
PV Variants: P vegetans P herpetiformis	**Dsg 3,** Dsg 1, others	Mucosal erosions; flaccid blisters and erosions on normal-appearing or erythematous skin. Pruritus usually is absent	Suprabasal acantholysis; "row of tombstones" pattern of basal keratinocytes, sparse inflammatory infiltrate in the dermis with eosinophils	ICF of IgG/C3	ICF of IgG; monkey esophagus is preferred substrate	Dsg 1 and **Dsg 3** **Anti-Dsg3** **Sensitivity: 97%** **Specificity: 98%**
PF Variants: Endemic PF (fogo selvagem) P erythematosus (Senear-Usher syndrome)	**Dsg 1**	Fragile blisters, scaling erosions, erythematous patches, crusts predominantly in the seborrheic areas; mucosal involvement absent	Subcorneal or granular layer acantholysis	ICF IgG/C3	ICF IgG; normal human skin or guinea pig esophagus is preferred substrate	**Anti-Dsg1** **Sensitivity: 96%** **Specificity: 99%**
PNP (associated with most commonly lymphoproliferative malignancies, including non-Hodgkin lymphoma and chronic lymphocytic leukemia)	**Dsg 3, envoplakin,** periplakin, desmoplakin I/II, Plectin, epiplakin Dsc 1,2,3, others	Predominant erosions of oral mucosa and lips with extensive, intractable stomatitis; variable cutaneous findings (eg, blisters, erosions, lichenoid lesions), bronchiolitis obliterans	Variable findings; suprabasal acantholysis, keratinocyte necrosis (poor prognose), and lichenoid interface dermatitis are most common	ICF and/or basement membrane zone deposition of IgG and/or C3	ICF of IgG; rat bladder is preferred substrate	**Antiperiplakin and/or antienvoplakin** **Sensitivity: 74-100%** **Specificity: 91-100%**
IgA pemphigus						
SPD type	**Dsc 1**	Vesicles, pustules, crusts on skin; annular, circinate, or herpetiform morphology; trunk and proximal extremities are common sites; scalp, postauricular skin, and intertriginous areas are less common sites for lesion development; mucosal involvement usually absent	Subcorneal clefts and pustules; minimal acantholysis; mixed infiltrate in dermis	ICF of IgA **Sensitivity: 83-100%**	ICF of IgA on monkey esophagus*	Dsc 1 autoantibodies¶
IEND	Unidentified nondesmosomal transmembranous protein (?), the mechanism of blister formation is not fully understood		Intraepidermal pustules; minimal acantholysis; mixed infiltrate in dermis			Dsg 1 and 3 autoantibodies have been reported in some patients

Note: Main target antigen(s), preferred methods are bolded.

Abbreviations: DIF, Direct immunofluorescence; **IIF,** Indirect immunofluorescence; **PV,**Pemphigus vulgaris; **PF,**Pemphigus foliaceus; **Dsg,** Desmoglein; **Dsc,** Desmocollin; **ICF,** Intercellular fluorescence; **PNP,** Paraneoplastic pemphigus; **SPD,** Subcorneal pustular dermatosis; **IEND,** Intraepidermal neutrophilic dermatosis
* Indirect immunofluorescence is negative in around 50 percent of patients with IgA pemphigus.
¶Test availability restricted to specialized laboratories.

Table 2. Key diagnostic features of subepidermal blistering disorders

	Target antigens	Clinical features	Histopathology	DIF	IIF	ELISA
BP	**BP180 NC16A**, BP230	Tense blisters, erosions, erythema, urticarial plaques, severe itch	Eosinophilic spongiosis, subepidermal blister formation, superficial dermal inflammatory cell infiltrate with lymphocytes, eosinophils, and neutrophils	**BMF**, **n-pattern**, Linear IgG and/or C3 localization along the BMZ **Sensitivity: 98-100% Specificity: 91-98%**	BMF (monkey esophagus) SSS: blister roof	Anti-BP180 Sensitivity: 53-95% Specificity: 89.8-100% Anti-BP230 Sensitivity: 11-60%, Specificity: 92-100%
MMP	**BP180 (LAD-1)**, **laminin 332**, BP230, α4β6-Integrin	Predominant mucous membrane lesions (oral > conjunctival > nasal)	Subepithelial separation, a mixed submucosal inflammatory cell infiltrate with lymphocytes, histiocytes, neutrophils, and eosinophils	BMF, **n-pattern**, Linear IgG and/or IgA and/or C3 staining along the BMZ **Sensitivity: 66.2-86.6%, highest (86.6%) is C3**	BMF (monkey esophagus) SSS: blister roof and/or floor **Sensitivity: 50-80%**	Anti-BP180, Anti-BP230
PG	**BP180 NC16A**, BP230	Vesicles, urticarial plaques, erythema mainly in the periumbilical area; severe itch	Subepidermal vesicle with a perivascular lymphocytic and eosinophilic infiltrate. Eosinophils may appear at the DEJ and filling the vesicle. Basal cell necrosis and edema of the dermal papillae are usually noted.	BMF, n-pattern **Sensitivity: 100% for C3**	BMF (monkey esophagus) SSS: blister **roof**	Anti-BP180, Anti-BP230
Anti-p200/ laminin γ1 pemphigoid	**p200 protein**, γ1 (gamma-1) subunit of laminin 311	As in BP but they are usually younger than those with BP	Subepidermal blistering with a moderate to dense inflammatory infiltrate in the upper dermis	BMF, n-pattern	BMF (monkey esophagus) SSS: blister **floor**	
Linear IgA disease	**BP180 (LAD-1)**, type 7 collagen	Tense bullae, erosions, and crusts, often in a pattern described as "clusters of jewels" or "strings of pearls" (vesicles at the lesion margins)	A subepidermal blister with an underlying neutrophil-predominant dermal infiltrate is closely resemble DH	**BMF, n-pattern (IgA) Linear deposition of IgA at the DEJ** **Sensitivity: 79-100%**	BMF (monkey esophagus) SSS: blister **roof** (**IgA**)	**BP180+(IgA)**, **Sensitivity: 83% Specificity:100%** LAD-1(IgA)+
EBA	**Type 7 collagen**	Tense blisters and erosions of skin and mucous membranes	Early lesions typically show vacuolar alteration along the DEJ with subjacent papillary dermal edema. A pauci-inflammatory subepidermal blister, dermal fibroplasia, and milium formation	BMF, u-pattern is specific, linear deposits of IgG and C3 at the BMZ **Sensitivity: 100%**	BMF (monkey esophagus) SSS: blister **floor**	**COL7+**
DH	**e TG, t TG**	Severe itch, vesicles, erythematous and often excoriated papules over the extensor surfaces of the extremities and the sacro-gluteal region	The earliest lesions may demonstrate only collections of neutrophils (with or without eosinophils) and fibrin at the tips of the dermal papillae (papillary microabscesses). Lesions older than 48 hours begin to demonstrate subepidermal vesiculation at the papillary tips, which eventually connect to form larger subepidermal blisters that contain neutrophils, eosinophils, and fibrin	**Dotted fluorescence in dermal papillae and along basement membrane Sensitivity: 92-100% Specificity: 90%**	IIF monkey esophagus: endomysium+ (IgA)	e TG+, t TG+, GAF+ (IgA)

Note: Main target antigen(s), preferred methods are bolded.

Abbreviations: BP, Bullous pemphigoid; **BMF,** basement membrane fluorescence; **SSS,** salt-split skin; **MMP,** Mucous membrane pemphigoid; **PG,** Pemphigoid gestationis; **LAD-1,** soluble ectodomain of BP 180; **EBA,** Epidermolysis bullosa acquisita; **DH,** Dermatitis herpetiformis; **COL7,** collagen type 7; **e TG,** epidermal transglutaminase; **t TG,** tissue type transglutaminase; **GAF,** coeliac disease-specific gliadin epitopes.

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CUTANEOUS LYMPHOMAS: WHAT IS NEW?

Cahit Yavuz

Many lymphomas arise in lymph nodes, also there are several extranodal lymphomas. The skin is the second most commonly affected site behind the gastrointestinal tract. Some aggressive lymphomas develop cutaneous involvement in late stages of disease but it differs from primary cutaneous lymphomas.

The majority of cutaneous lymhomas about %70 are T-cell lymphomas. T and Natural killer (NK) cell lymphomas are a heterogeneous group of malignancies that account for 10%–15% of non-Hodgkin's lymphomas and are often associated with poor clinical outcomes. About 30% of primary cutaneous lymphomas are B cell lymphomas and three main subtypes are recognized accounting for roughly 10% each: primary cutaneous follicle centre lymphomas (PCFCL), primary cutaneous marginal zone lymphomas (PCMZL) and primary cutaneous large B cell lymphomas called (LBCL) as leg type.

Table 1

Cutaneous lymphomas included in the WHO provisional 2016 classification.
Mature B cell neoplasms Primary cutaneous follicle center lymphoma Primary cutaneous marginal zone lymphomas Primary cutaneous LBCL, leg type
Mature T and NK neoplasms Subcutaneous panniculitis-like T-cell lymphoma Mycosis fungoides Sezary syndrome Primary cutaneous CD30+ T-cell lymphoproliferative disorders -Lymphomatoid papulosis -Primary cutaneous anaplastic large cell lymphoma Primary cutaneous CD8+ aggressive epidermotropic cytotoxic T-cell lymphoma Primary cutaneous acral CD8+ T-cell lymphoma Primary cutaneous CD4+ small/medium T-cell lymphoproliferative disorder

Reflectance Confocal Microscopy has been described as a possible guide tool, helping to identify the best area for biopsy with the goal of decreasing false-negative pathology results and not to replace it as a diagnostic tool.

HOW ABOUT HISTOLOGIC CHALLENGES IN MOHS SECTIONS?

Amor Khachemoune

Mohs micrographic surgery is considered the gold-standard for the management of non-melanoma skin cancer in high-recurrence risk areas along with other indications. The procedure involves many steps, and primarily relies on the accurate interpretation of the margins with frozen section technique. To prepare a frozen section, the Mohs surgeon excises lesions with a surgical margin using a beveled technique. This allows the epidermis to be flattened for adequate mounting and to be sectioned in a horizontal/en face (EF) approach. In a traditional elliptical excision, the tumor can be evaluated by the bread-loaf technique in which multiple cross-sections are prepared but not a 100% of the margins are evaluated. Frozen en face sections are obtained from the undersurface and the edges of the excised lesion. The tumor locations are marked on the map for subsequent stages excision. Challenges in microscopic interpretation of the frozen section histology sections are multiple and may be due to inadequate surgical techniques, the nature of the tissue harvested for histology examination, or laboratory technologist errors. In this presentation, I will review and illustrate the most common challenges encountered during Mohs micrographic surgery.

ORAL PRESENTATIONS

OP-001 [Psoriasis]

Evaluation of vascular findings of lesions with dermatoscopic examination of patients using systemic therapy for psoriasis

Muhammet Reşat Akkuş[1], Kemal Özyurt[2], Ragıp Ertaş[1], Mustafa Atasoy[1], Huzeyfe Kulu[1], Sinem Soğancıoğlu[1]
[1]Department of Dermatology, Kayseri City Hospital Saglık Bilimleri University, Kayseri, Turkey
[2]Department of Dermatology, Kırşehir Ahi Evran University, Kırşehir, Turkey

Psoriasis is not considered only a lifelong skin disease anymore. It is considered as a systemic disease related with several comorbidities including psychiatric problems instead. Dermatoscopy is a non-invasive, practical and cost-effective method allowing an enhanced visualization of morphological structures on the skin. Recently, dermatoscopy has been used for the diagnosis of inflammatory dermatoses in addition to pigmented skin lesions. The aim of our study is to investigate dermatoscopic findings of both psoriatic lesions and proximal nail fold capillaries and, to observe the possible changes of these findings during the treatment in patients with psoriasis. Dermatoscopic findings of the patients with psoriasis were recorded by a hand held dermatoscopy the beginning of the systemic treatment and during a three months period of treatment, aiming to contribute to the limited literature regarding the early predictive value of the dermatoscopic findings for effectivity of the treatment. This prospective and single blind study included 101 patients with psoriasis (age range: 18-71). The patients were diagnosed by anamnesis, physical examination and, skin biopsy if necessary. The sociodemographic and clinical data and the scores (Psoriasis Area and Severity Index, Body Surface Area, Dermatology Life Qualıty Index) were also recorded. A psoriasis plaque localized on the trunk or extremity was photographed macroscopically and dermoscopically before starting a systemic treatment. Dermatoscopic images were also captured at the first, second and third months of the treatment. Dermatoscopic images of the psoriasis lesions and the proximal nailfolds were examined by two dermatologist who were blinded to the diagnosis. Dermatoscopic findings of the psoriasis lesions were classified as regular capillary dilatations, irregular capillary dilatations and hemorrhagic dots. The proximal nailfold dermatoscopic findings were cathegorized as capillary dilatations, hemorrhagic dots and changed capillary structures. The patients were grouped for the beginning and each months of treatment based on these dermatoscopic findings. Changings in the scores (PASI, VYA, DYKI) and in the dermatoscopic findings of the lesion were compared for each month. There was a statistically significant difference between loss of the capillary dilatations turning into hemorrhagic dots at the end of the first month in those who initially had regular capillary dilatations and, the decreasing in PASI, VYA and DYKI scores at the end of the third month($p < 0.05$). We thought that this finding has an early predictive value for the treatment efficacy at the end of the first month. In this context, dermatoscopy can be considered as a helpful tool to predict treatment efficacy.

Keywords: Capillary dilatations, dermatoscopy, psoriasis

OP-002 [Psoriasis]

Adverse Childhood Experiences in Psoriasis Patients

Emin Gündüz[1], Ümit Türsen[2]
[1]Dr. Emin Gündüz (Research Asistant- Dermatology)
[2]Prof. Dr. Ümit Türsen

Abstract
It is well known that several psychiatric disorders might be related to childhood psychological trauma. Recent studies have associated childhood exposure to trauma to some skin diseases. (1) Our clinical study was to investigate whether the effects of adverse childhood experiences have an impact on patients diagnosed with psoriasis. Also, we investigated the possible correlation of traumatic experiences with the disease severity. 173 patients diagnosed with psoriasis aged 18 and over were included in the study. 81 of the patients were female and 92 were male, and classification was made according to the level of education. 162 of the patients were plaque psoriasis, 2 were erythrodermic, 1 was only nail psoriasis and 1 was only psoriatic arthritis. All participants completed a specific questionnaire measuring Adverse Childhood Experiences Score (ACE score). The ACE assesses abuse (physical, emotional, sexual), neglect (pyhsical, emotional), household dysfunction (mental ilness, divorce, mother treated violently, incarcerated relative and substance abuse). Patients were divided into 3 subgroups according to ACE score values: 0,1 and 2 and above. The severity of psoriasis was estimated according to the Psoriasis Area and Severity Index (PASI), a standardized measuring instrument for psoriasis patients. Also all patients completed questionnaire Dermatology Life Quality Index (DLQI), as subjective effect measuring of disease. A significant correlation was found between ACE score and DLQI in all ACE subgroups.(p:0.009). No significant correlation was found between the ACE score and age, level education and the type of the psoriasis. There is a statistically significant relationship between gender and ACE score (p = 0.029). When examining which groups the relationship originated from, the ACE score of women and men is 2 and above. There was a statistically significant difference in terms of those with (p = 0.017). A statistically significant, positive, but weak relationship between PASI score and DLQI. (p = 0.001, r = 0.259) Statistically significant, positive but weak correlation between DLQI and ACE score. (p = 0.001, r = 0.250). According to psoriasis type, PASI score is a statistically significant difference in terms of DLQI averages. (p: 0.001, p = 0,013). There is a statistically significant difference in the mean of DLQI in women and men (p = 0.001).There is a statistically significant difference in ACE score averages in women and men.(p = 0.021). And finally there is no statistically significant difference in the average age of women and men (p: 0.05). As a result of all these findings, our study suggest a relationship between adverse childhood experiences and psoriasis.

Keywords: Childhood Trauma, Psoriasis, Adverse Childhood Experiences

Table 1

		N	%
Sex	Female	81	46,8
	Male	92	53,2
	Total	173	100,0
Education Level	Primary School	64	37,0
	Middle School	20	11,6
	High School	28	16,2
	University and graduate	51	29,5
	None of them	10	5,8
	Total	173	100,0
Psoriasis Type	Plaque Psoriasis	162	93,6
	Palmoplantar Psoriasis	7	4,0
	Eritrodermic Psoriasis	2	1,2
	Nail Psoriasis	1	,6
	Psoriatic Arthritis	1	,6
	Total	173	100,0

	Sex	N	Mean±sd	p
Age	Female	81	45,69±12,81	0.645
	Male	92	46,70±15,47	

There is no statistically significant difference in the average age of women and men. (p> 0.05) (Table 1.)

Table 10

			Education Level					Total	p
			Primary School	Middle School	High School	University	None of Them		
ACE score	0	N	26	6	15	25	6	78	0.462
		%	40,6%	30,0%	53,6%	49,0%	60,0%	45,1%	
	1	N	7	5	4	8	2	26	
		%	10,9%	25,0%	14,3%	15,7%	20,0%	15,0%	
	2 and above	N	31	9	9	18	2	69	
		%	48,4%	45,0%	32,1%	35,3%	20,0%	39,9%	
Total		N	64	20	28	51	10	173	
		%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	

There is no statistically significant relationship between ACE score and education level. (p> 0.05) (Table 10.)

Table 2

	Sex	N	Mean±sd	p
PASI score	Female	81	3,25±3,74	0.393
	Male	92	3,74±3,75	
DLQI	Female	81	8,60±7,08	0.001*
	Male	92	5,33±6,01	
ACE score	Female	81	2,17±2,30	0.021*
	Male	92	1,40±2,00	

There is a statistically significant difference in DLQI averages in women and men (p = 0.001).There is a statistically significant difference in ACE score averages in women and men.(p = 0.021) (Table 2.)

Table 3

		N	Minimum	Maximum	mean±sd	p
PASI score	Primary School	64	0,0	17,0	3,66±4,22	0.612
	Middle School	20	0,0	16,2	4,58±4,45	
	High School	28	0,0	12,3	2,90±3,43	
	University	51	0,0	12,0	3,27±3,08	
	None of Them	10	0,0	10,6	3,34±2,98	
	Total	173	0,0	17,0	3,51±3,74	
DLQI	Primary School	64	0	29	6,78±7,39	0.560
	Middle School	20	0	22	6,50±6,26	
	High School	28	0	19	6,14±5,85	
	University	51	0	29	6,82±6,76	
	None of Them	10	4	18	10,3±5,03	
	Total	173	0	29	6,86±6,71	
ACE score	Primary School	64	0	10	2,31±2,61	0.082
	Middle School	20	0	6	1,80±1,79	
	High School	28	0	6	1,50±2,03	
	University	51	0	6	1,41±1,80	
	None of Them	10	0	3	0,70±1,06	
	Total	173	0	10	1,76±2,17	

There was no statistically significant difference in terms of PASI score, DLQI and ACE score averages according to education level (p> 0.05) (Table 3.)

Table 4

		N	Min	Max	Mean±sd	p
PASI score	Plaque Psoriasis	162	0	16,2	3,37±3,56	<0.001*
	Palmoplantar Psoriasis	7	0	10,6	3,51±3,63	
	Erythrodermic Psoriasis	2	8,4	11,4	9,90±2,12	
	Nail Psoriasis	1	0	0	0,00±-	
	Psoriatic Arthritis	1	17	17	17,00±-	
	Total	173	0	17	3,51±3,74	
DLQI	Plaque Psoriasis	162	0	29	6,62±6,49	0.013
	Palmoplantar Psoriasis	7	2	16	7,57±5,19	
	Erythrodermic Psoriasis	2	1	23	12±15,56	
	Nail Psoriasis	1	29	29	29,00±-	
	Psoriatic Arthritis	1	9	9	9,00±-	
	Total	173	0	29	6,86±6,71	
ACE score	Plaque Psoriasis	162	0	10	1,77±2,22	0.688
	Palmoplantar Psoriasis	7	0	3	1,29±1,11	
	Erythrodermic Psoriasis	2	1	4	2,50±2,12	
	Nail Psoriasis	1	0	0	0,00±-	
	Psoriatic Arthritis	1	4	4	4,00±-	
	Total	173	0	10	1,76±2,17	

According to psoriasis type, there is a statistically significant difference in PASI score, DLQI averages. (p <0.001, p = 0.013) (Table 4.)

Table 5

		Age	PASI score	DLQI	ACE score
Age	r	1,000	-,050	-,122	-,013
	p	.	,511	,110	,866
	N	173	173	173	17
PASI score	r	-,050	1,000	**,259****	,130
	p	,511	.	**,001**	,088
	N	173	173	173	173
DLQI	r	-,122	,259**	1,000	**,250****
	p	,110	,001	.	**,001**
	N	173	173	173	173
ACE score	r	-,013	,130	,250**	1,000
	p	,866	,088	,001	.
	N	173	173	173	173

There is a statistically significant, positive but weak correlation between PASI score and DLQI. (p = 0.001, r = 0.259). There is a statistically significant, positive but weak correlation between DLQI and ACE score.(p = 0.001, r = 0.250) (Table 5.)

Table 6

			Sex		Total	p
			Female	Male		
ACE score	0	N	31	47	78	0.029*
		%	38,3%	51,1%	45,1%	
	1	N	10	16	26	
		%	12,3%	17,4%	15,0%	
	2 and above	N	40	29	69	
		%	49,4%	31,5%	39,9%	
Total		N	81	92	173	
		%	100,0%	100,0%	100,0%	

There is a statistically significant relationship between gender and ACE score. (p = 0.029). When examining which groups the relationship originated from, it was seen that there was a statistically significant difference in women and men with ACE score of 2 and above. (p = 0.017) (Table 6.)

Table 7

	ACE score	N	Mean±sd	Minimum	Maximum	p
PASI score	0	78	2,85±3,04	0,0	12,0	0.082
	1	26	3,59±3,58	0,0	12,0	
	2 and above	69	4,23±4,38	0,0	17,0	
	Total	173	3,51±3,74	0,0	17,0	
DLQI	0	78	5,95±6,65	0	29	0.009*
	1	26	4,73±5,16	0	19	
	2 and above	69	8,70±6,93	0	29	
	Total	173	6,86±6,71	0	29	

There was a statistically significant difference between the ACE score and DLQI.(p = 0.009). When examining which groups this difference originated from, there was a statistically significant difference in terms of DLQI average between those with an ACE score of 0 and 2 and above. (p= 0.026) (Table 7.)

Table 8

	ACE score	N	Mean±sd	Minimum	Maximum	p
Age	0	78	47,76±14,6	19	82	0.085
	1	26	40,65±15,35	19	74	
	2 and above	69	46,59±13,09	20	73	
	Total	173	46,23±14,26	19	82	

There was no statistically significant difference between age and ACE score. (p> 0.05) (Table 8.)

Table 9

			Psoriasis Type					Total	p
			Plaque	Palmoplantar	Erythrodermic	Nail	Psoriatic Arthritis		
ACE score	0	N	75	2	0	1	0	78	0.474
		%	46,3%	28,6%	0,0%	100,0%	0,0%	45,1%	
	1	N	23	2	1	0	0	26	
		%	14,2%	28,6%	50,0%	0,0%	0,0%	15,0%	
	2 and above	N	64	3	1	0	1	69	
		%	39,5%	42,9%	50,0%	0,0%	100,0%	39,9%	
Total		N	162	7	2	1	1	173	
		%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	

There is no statistically significant relationship between ACE score and Psoriasis type. (p> 0.05) (Table 9.)

OP-003 [Psoriasis]

Paradoxical Psoriasis: Case Series

Ilayda Esna Gülsunay, Ilknur Altunay, Ezgi Özkur, Yasemin Erdem
Department of Dermatology, Şişli Hamidiye Etfal Research and Training Hospital, İstanbul, Turkey

Paradoxical psoriasis is a rare adverse event that can be defined as the appearance or aggravation of psoriatic lesions during the treatment with a biological agent. Most of the cases reported in the literature are related to anti-TNF alfa agents. Also with the introduction of newer class of biological agents (anti-IL-17, and anti-IL-12,23), the number of cases being reported were increased. The underlying pathomechanism still remains unclear, though it is claimed that imbalance of the cytokines plays an important role. Herein, we report five patients from our clinic who had developed paradoxical psoriasis during their biological agent treatment. All their demographic characteristics and treatment outcomes were presented in table 1 in additional files section.

Patients who are treated with biological agents may develop paradoxical psoriasis after any time of drug initiation. Common morphology of cutaneous lesions are pustular, plaque and guttat type of psoriasis and the most affected areas are the scalp, flexural and palmoplantar areas. Moreover, there seems to be a slight predilection for females. It was claimed that in paradoxical psoriasis, plasmocyto,d dendritic cells ight play a role n development of psoriaric lesions. TNF blockade may allow unexpected interferon-alfa production by plasmocytoid dendritic cells which would cause the migration of T cells to the skin and a psoriasiform reaction, under a predisposed genetic background.

It is important to identify and distinguish paradoxical psoriasis from classical psoriasis vulgaris and manage the condition accordingly.

Keywords: paradoxical psoriasis, biological agent treatment, anti-TNF alfa therapy

Paradoxical Psoriasis:Case Series

Number of Cases	Age/Sex	Primary Diagnosis	Biological Agent and Duration of Treatment	Dermatological Examination	Treatment
1	47/Female	Chronic Plaque Psoriasis	Secukinumab-3 weeks	scaly erythematous plaques and pustular lesions especially on palmoplantar areas	adding acitretin on secukinumab therapy
2	46/Female	Crohn's Disease	İnfliximab-20 weeks	erythematous, pustular and scaly papules and plaques on lower extremities	cessation of infliximab, administraiton of topical treatment for psoriatic lesions
3	36/Female	Chronic Plaque Psoriasis	Adalimumab-8 weeks	palmoplantar pustulosis and scalp psoriasis with severe alopecia	cessation of adalimumab, administration of methotrexate and topicals
4	41/Male	Palmoplantar Pustular Psoraisis	Adalimumab-9 weeks	aggravation of palmoplantar pustular lesions	cessation of adalimumab, switching to secukinumab
5	34/Female	Crohn's Disease	İnfliximab-3 years	pustular and scaly plaques on palmoplantar areas	cessation of infliximab, switching to vedolizumab

OP-004 [Psoriasis]

Presence of metabolic syndrome and its parameters and their correlations with psoriasis duration and severity, and sleep quality in psoriasis patients

Betul Tas[1], Vasfiye Kabeloglu[2]

[1]Department of Dermatology and Venereology,University of Health Sciences, Istanbul Bagcilar Research and Training Hospital, Istanbul, Turkey

[2]Department of Neurology,University of Health Sciences, Bakirkoy Prof. Dr. Mazhar Osman Research and Training Hospital, Istanbul, Turkey

Introduction & OBJECTIVES: Psoriasis (PS) is an inflamatory skin disease, which leads to many comorbidities like metabolic syndrome (MS). To study presence of MS and MS-parameters, and their correlations with PS-duration and severity, and sleep-quality (SQ), in PS patients. Matherials & METHODS: A total of one hundred and twelve subjects with chronic plaque-type PS were studied. Demographics, antropometric measurements, PS-duration and severity, and SQ were examined. Psoriasis Area Severity Index (PASI), and Pittsburgh Sleep Quality Index (PSQI) were used for detect PS-severity and SQ. Presence of MS and parameters, and their correlations with PS-duration, PS-severity and SQ were investigated. Results were analyzed with NCSS programme, as considered p-value of <0.05. RESULTS: Of 112 PS patients, 76 diagnosed with MS. Fifty-six were obese. Seventy-one had insulin resistance. Eighty-three had high-PASI, and 95 had high-PSQI scores. Mean values of PS-duration, BMI, waist-circumference (WC), fasting-glucose, HOMA-IR, triglyseride, hypertension (HT), PSQI, sleep-latency, and daytime-sleep dysfunction were significantly higher in MS group, whereas HDL levels were lower. Of MS-parameters, fasting-glucose was significantly higher, and HDL was lower in only females with high-PASI group. Between the presence of MS, and disease-duration, BMI, WC, HT, HOMA-IR, high-triglyceride, low-HDL, and PSQI, positive correlations were detected. WC, fasting-glucose, HT, and low-HDL had predictive effects on presence of MS. CONCLUSIONS: Results suggest that MS is seen high-level in PS. Presence of MS is positively corralated with PS-duration, BMI, WC, high-trigliseride, fasting-glucose, HOMA-IR, poor-SQ, whereas negatively with HDL. Only, WC, fasting-glucose, HT, and low-HDL have predictive effects on presence of MS.

Keywords: Psoriasis, metabolic syndrome, sleep quality, comorbidity

Tables

Table 1. Descriptive statistics of study group

Parameters		n	%
BMI	<30 BMI	56	50.00
	?30 BMI	56	50.00
	Total	112	100.00
WC (cm)	M<102 F<88	24	21.43
	M>102 F>88	88	78.57
	Total	112	100.00
Triglyceride (mg/dl)	<150	19	16.96
	?150	93	83.04
	Total	112	100.00
HDL (mg/dl)	M<40 F<50	69	61.61
	M>40 F>50	43	38.39
	Total	112	100.00
HT (mmHg)	SBP <130 DBP <85	86	76.79
	SBP?130 DBP ?85	26	23.21
	Total	112	100.00
Fasting glucose (mg/dl)	<110	65	58.04
	?110	47	41.96
	Total	112	100.00
HOMA-IR	<2.5	41	36.61
	?2.5	71	63.39
	Total	112	100.00
PASI	?10 PASI	29	25.89
	>10 PASI	83	74.11
	Total	112	100.00
PSQI	<5 PUKI	17	15.18
	?5 PUKI	95	84.82
	Total	112	100.00
MS	MS (-)	36	32.14
	MS (+)	76	67.86
	Total	112	100.00
Gender (M/F)	M	53	47.32
	F	59	52.68
	Total	112	100.00
CLD	Absence	111	99.11
	Presence	1	0.89
	Total	112	100.00
CKD	Absence	112	100.00
CVD	Absence	112	100.00
TD	Absence	107	95.54
	Presence	5	4.46
	Total	112	100.00
HT	Absence	87	77.68
	Var	25	22.32
	Total	112	100.00
DM	Absence	89	79.46
	Presence	23	20.54
	Total	112	100.00
Alcohol	Absence	95	84.82
	Presence	17	15.18
	Total	112	100.00
Smoking	Absence	69	61.61
	Presence	43	38.39
	Total	112	100.00
Cardiac disease	Absence	112	100.00

Table 2. Comparison of mean values of age, MS-parameters, PASI, and SQ-tests by the presence or absence of MS diagnosis

Parameters	MS (-) n:36	MS (+) n:76	p
Age (year)	44.17±13.24	47.58±13.1	0.202*
BMI	28.33±4.08	31.15±4.88	**0.003***
WC (cm)	97.47±13.3	112.54±12.14	**0.0001***
Triglyceride (mg/dl)	163.81±62.47	203.68±80.24	**0.01***
HDL (mg/dl)	48.13±10.07	39.75±5.21	**0.0001***
Fasting glucose (mg/dl)	97.82±12.41	115.92±21.98	**0.0001***
HOMA-IR	2.39±1.06	3.48±3.19	**0.048?**
PASI	22.59±18.69	23.97±15.83	0.684*
Disease duration (year)	8.76±5.78	13.09±8.99	**0.01?**
PSQI (Total)	7.94±4.72	10.01±4.78	**0.034***
PSSQ	1.75±0.87	1.79±0.79	0.812?
PSL	1.25±1.00	1.74±1.00	**0.01$?**
PSDu	1.17±1.13	1.43±1.20	0.266?
PHSE	0.61±0.99	0.92±1.12	0.159?
PSDi	1.36±0.64	1.62±0.65	0.052?
PUSM	0.58±0.81	0.71±0.92	0.480?
PDSD	1.22±0.96	1.79±0.88	**0.003?**

*Independent-samples t test. ?Mann-Whitney U non-parametric test

Table 3. Impacts of correlative parameters on MS developing

Parameters	p	OR	OR %95 CI Min.	Max.
Disease duration (year)	0.485	1.04	0.93	1.16
BMI	0.471	1.06	0.90	1.26
WC	**0.037**	1.07	1.00	1.14
Fasting glucose	**0.004**	1.09	1.03	1.15
HOMA-IR	0.65	0.89	0.54	1.47
Low HDL	**0.005**	0.84	0.75	0.95
Triglyceride	0.282	1.01	0.99	1.03
HT	**0.02**	0.04	0.00	0.60
PASI	0.223	2.76	0.54	14.08
PSQI	0.918	0.91	0.14	5.91

Logistic regression analysis

Statistical results of study

OP-005 [Psoriasis]

The role of cystatin-C and fetuin-A in determining early atherosclerotic risk in psoriasis patients

Abdullah Demirbaş[1], Gülcan Saylam Kurtipek[2], Abdullah Tunçez[3], Fikret Akyürek[4]
[1]Department of Dermatology, Konya Numune Hospital, Konya,Turkey
[2]Department of Dermatology, Selcuk University Medical Faculty,Konya, Turkey
[3]Department of Cardiology, Selcuk University Medical Faculty,Konya, Turkey
[4]Department of Biochemistry, Selcuk University Medical Faculty,Konya, Turkey

OBJECTIVE: The aim of this study was to evaluate the relationship between serum cystatin-C, fetuin-A levels and thickness of carotid intima media to determine the increased risk of early atherosclerosis in psoriasis patients.

MATERIALS-METHODS: In this study, serum cystatin-C, fetuin-A, hs-CRP, oxidized-LDL, LDL-C, HDL-C, triglyceride, total cholesterol and creatinine levels were measured in 80 patients (study group) with psoriasis and 78 volunteer healthy individuals (control group) and the relationship between these and carotid intima-media thickness which measured by B-mode ultrasonography performed by the cardiology department, was evaluated. All laboratory measurements were performed at the Biochemistry Laboratory of Selcuk University Medical Faculty Hospital. The obtained data were evaluated via SPSS 22.0 statistical package program. Number, percentage, standard deviation, Chi-square test, One way Anova test, Scheffe test, Pearson correlation analysis and t test were used to evaluate the data.

RESULTS: In pairwise comparisons between patient and control groups, cystatin-c, fetuin-a, hscrp and carotid intima media thicknesses were higher in psoriasis patients and a statistically significant difference was found ($p < 0.05$). In the control group, serum HDL-cholesterol levels were higher and statistically significant ($p < 0.05$). There was no statistically significant difference between the groups in terms of gender, mean age, body mass index and brachial blood pressure distribution ($p > 0.05$).
Carotid intima media thickness and cystatin-C, hs-CRP, total cholesterol, LDL-cholesterol, triglyceride, duration of disease, age, body mass index were positively correlated ($p < 0.05$) and negative correlated with HDL-cholesterol ($p < 0.05$). There was no correlation between carotid intima media thickness and Fetuin-A ($p > 0.05$). There was a positive correlation between cystatin-C and PASI, age, weight, body mass index and disease duration in the patient group ($p < 0.05$).

CONCLUSIONS: Systemic inflammation in the pathogenesis of psoriasis causes many inflammatory diseases, especially cardiovascular diseases. Our study also supported that psoriasis is a risk factor for the development of atherosclerosis, which is an indicator of cardiovascular disease. As a result of our study; We suggest that cystatin-C may be used as an important marker for the early detection of increased risk of cardiovascular disease related to atherosclerosis in patients with psoriasis. However, these data need to be supported by future multicenter prospective studies.

Keywords: Atherosclerosis, Fetuin A, Carotid intima media thickness,Psoriasis,Cystatin-C

OP-006 [Dermoscopy]
Evaluation of trichoscopic findings of tractional alopecia

Özlem Karadağ Köse
Saltat Polikliniği, Dermatoloji Bölümü, İstanbul

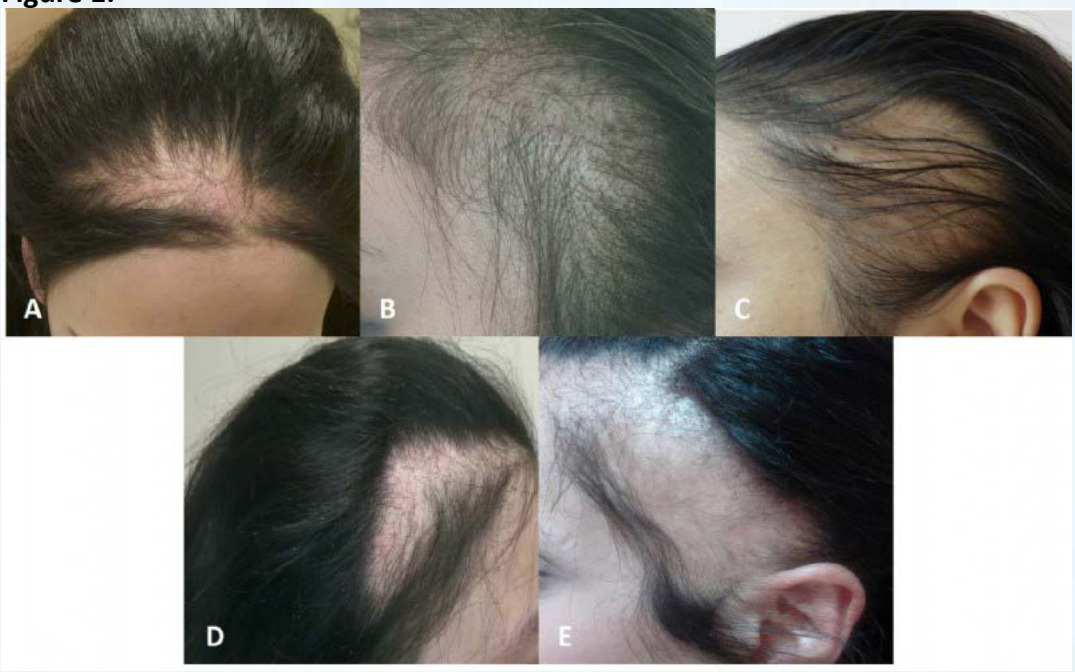
OBJECTIVE: The aim of this study is to investigate the significance of trichoscopy by videodermoscope in the clinical evaluation of traction alopecia.

Patients and METHODS: Nine patients, who presented with hair shedding and were diagnosed as traction alopecia after clinical and histopathological evaluation, were included. The age, gender, skin phototype, duration of the disease, etiology, presence of fringe sign, location of the alopecia and the distribution were noted. Two different punch biopsies of 4mm were performed from the border of alopecic area for vertical and horizontal investigation in all patients. Clinical photos were undertaken with videodermoscope. Trichoscopic photos were held in 30 fold magnification by videodermoscopy which was used to take clinical photos. All clinical and trichoscopic findings were recorded. They were examined in accordance with the checklist which was described by the features of the previous publications.

RESULTS: Vellus hairs and hair diameter diversity were detected in all patients. Short vellus hair, yellow dot, absence of follicular openings and pili torti were shown in 55.6% of the patients. Empty follicles, hair casts and veil feature were established in 44.4% of cases. Broken hairs were the most uncommon follicular trichoscopic finding. Whereas epidermal squam and perifollicular erythema were the most common interfollicular trichoscopic findings (66.7%). Arborizing red lines, dirty dots, pink-white appearance, honeycomb pigment pattern, pinpoint and fibrotic white dots were the other observed interfollicular features in traction alopecia. CONCLUSION: According to our study, trichoscopic examination held by videodermoscopy is a useful method in the diagnosis of traction alopecia.

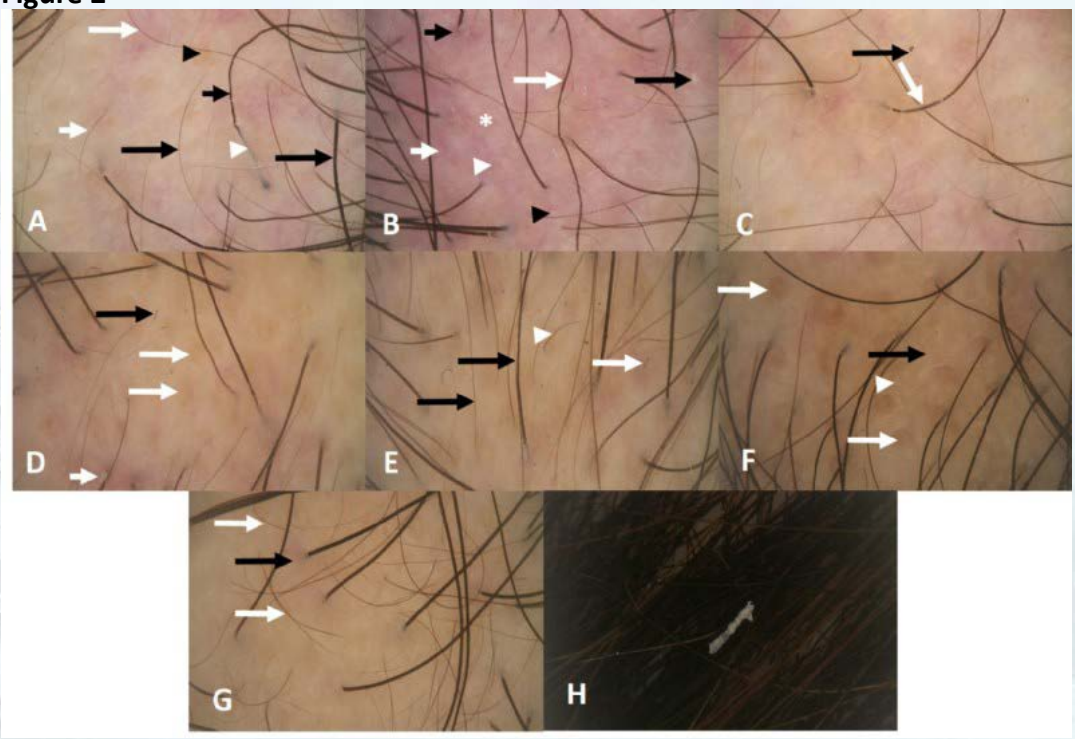
Keywords: Alopecia, dermoscopy, traction alopecia, trichoscopy, videodermoscopy

Figure 1.



Clinical localisation of tractional alopecia

Figure 2



Trichoscopic features of tractional alopecia

OP-007 [Dermoscopy]

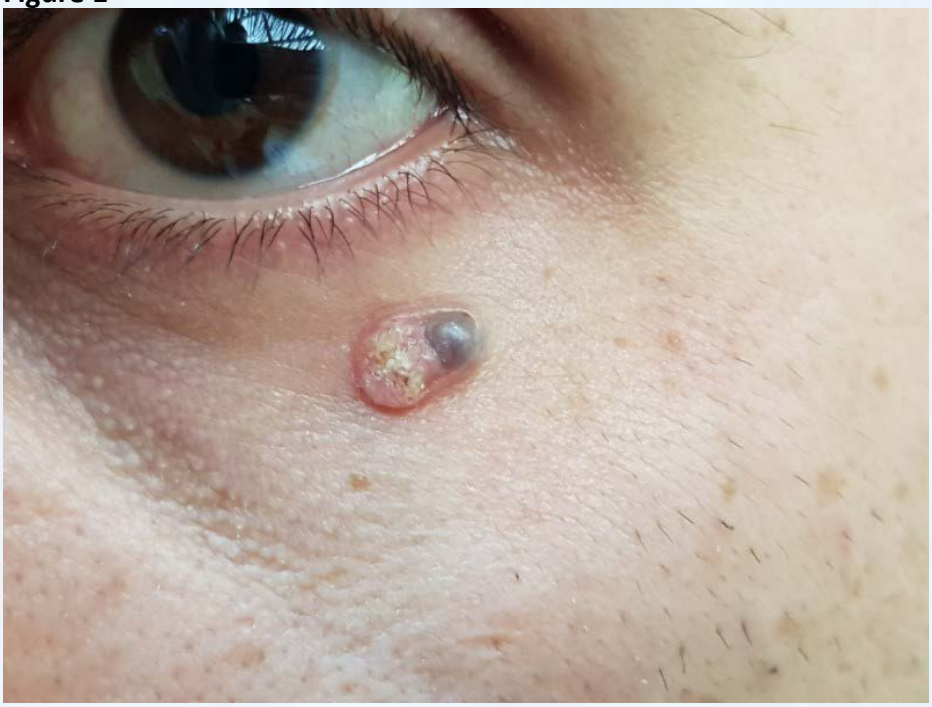
Pseudoepitheliomatous hyperplasia accompanied by an epidermal cyst: two case reports

Erhan Ayhan
SBÜ Gazi Yaşargil Eğitim ve Araştırma Hastanesi, Deri ve Zührevi Hastalıklar Kliniği, Diyarbakır

Pseudoepitheliomatous hyperplasia (PEH) is a benign condition characterized by hyperplasia of the epidermis and adnexial epithelium, which closely mimics squamous cell carcinoma (SCC). PEH is commonly mixed with SHK. PEH can be seen clinically as a well-limited plaque or nodule with crust of varying severity. It is often vegetative or verrucous. Sometimes ulceration can be seen. The benign mimics of SCC include PEH, ecrin squamous syringometalasia, inverted follicular keratosis, keratoacanthoma, while malignant mimics include basal cell carcinoma, melanoma, and metastatic carcinoma. PEH is characterized by cutaneous neoplasms as well as prolonged inflammatory or chronic infection. PEH is mainly found in hyperplasia of the epidermal epithelium, not hyperplasia of the follicular infundibulum and eccrine ducts. PEH has irregular, jagged, often pointed epidermal cell masses and irregular invasion of the dermis with horn-shaped pearl-like structures. Irregular proliferation of the epidermis can extend below the level of the sweat gland. In addition, there is often an invasion of leukocytes where there is epithelial proliferation and the breakdown of some epidermal cells in PEH, a finding not found in SHK. Here, two cases with pseudoepitheliomatous hyperplasia accompanied by an epidermal cyst (Figure 1.2) will be presented.

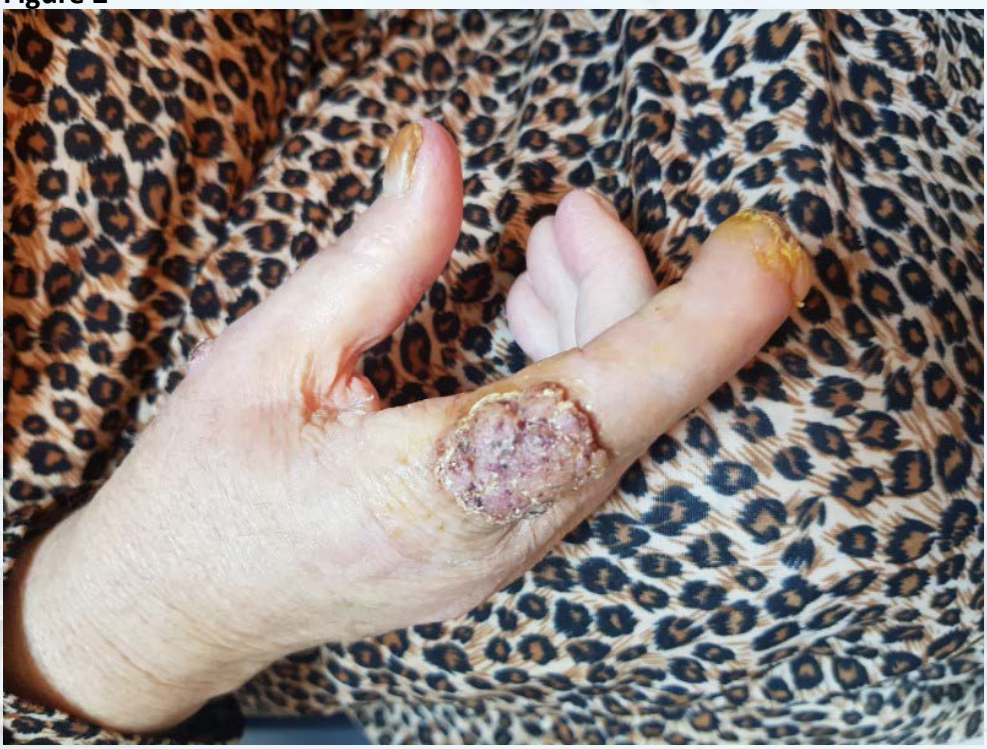
Keywords: pseudoepitheliomatous hyperplasia, epidermal cyst, squamous cell carcinoma

Figure 1



The patient has a keratinized mass on the erythematous ground under the left eye and an epidermal cyst on the left of the lesion

Figure 2



Verrucous plaque lesion is present on the 2nd finger of the right hand.

OP-008 [Dermatology and Internal Medicine, including Skin Manifestations of Systemic Diseases]
Pyoderma Gangrenosum- not alone in manifestation

Monika Fida, Ritjana Mala, Dorina Demaj, Ermira Vasili
Department of Dermatology, University of Medicine of Tirana, Albania

INTRODUCTION: Pyoderma gangrenosum is a rare severe ulcerative skin disease. Etiology is still unknown. Pyoderma Gangrenosum affects more the ages 40-60 years old and mostly females. In 50% of the cases is either accompanied by internal diseases: ulcerativ colitis, arthritis, hematologic pathologies, chronic active hepatitis, erythematous sistemic lupus, hidroadenitis suppurativ, sarcoidosis, different pulmonary diseases, diabetes mellitus. The treatment of the disease correlates with the condition of other accompanied internal diseases.

OBJECTIVE: To emphasise the epidemio - clinical data of the patients diagnosed and treated with Pyoderma gangrenosum. To reemphasise the possibility and the presence of other internal diseases. MATERIAL-METHOD: Patients diagnosed and treated with Pyoderma gangrenosum in UHC “Mother Teresa” during the years 2010-2019.

RESULTS: During the period 2010-2017 have been diagnosed with Pyoderma Gangrenosum 20 patients. Just one of the patients was at pediatric age. In 50% of the cases there were evident other inflamatory autoimmune diseases: Ulcerative colitis, arthritis, hematologic diseases, active hepatitis, diabetes mellitus. Discussion & CONCLUSION: It is important that after the diagnosis of PyodermaGangrenosum to re-think and to detect if there are other internal disease. Pyoderma gangrenosum in many cases is accompanied with other inflammatory autoimmune disease and this correlation affect the treatment of the disease.

Keywords: Pyoderma gangrenosum, rare skin disease, ulcerativ colitis, arthritis, active hepatitis.

OP-009 [Dermatological Surgery]

Chin augmentation with the use of cannula from a single, midline entry point: Evaluation of 50 patients

Ali Şahan[1], Nermin Karaosmanoğlu[2], Pınar Özdemir Çetinkaya[3]
[1]Doctor Al-Sa Aesthetic & Cosmetic Dermatology Clinic, Ankara, Turkey
[2]Department of Dermatology, Ankara Training and Research Hospital, Ankara, Turkey
[3]Department of Dermatology, Nazilli State Hospital, Aydın, Turkey

INTRODUCTION: A chin that is of right size, shape, and contour plays a very important role in overall facial balance and aesthetically harmonious appearance. Dermal fillers have been widely used for correcting mild to moderate chin retrusion and resorption.

AIM: The aim of this study was to share our preferential technique for chin augmentation and to evaluate our results in 50 patients.

Materials&METHODS: A total of 50 patients consisting of females who receieved hyaluronic acid injection for chin augmentation and rejuvenation were enrolled in the study. We have described chin augmentation technique with the use of cannula from a single, midline entry point.

RESULTS: The study included 50 female patients, and the mean age was 37.56 ± 8.84 years. The median injected filler volume for augmentation of the mental area was 2.25 ml (mininum=1, maximum=4 ml). Four (8%) patients had ecchymosis related to the procedure. Patient satisfaction survey revealed that 2 (4%) patients felt neutral, 18 (36%) patients felt satisfied, and 30 (60%) patients felt extremely satisfied about the result of the procedure.

CONCLUSION: The shape and size of the chin has a profound effect on the perception of attractiveness and is an area of concern for rejuvenation of the lower third of the face. In this study, we shared our experience about the technique we used in chin augmentation. This method allows the practitioners to increase the likelihood of a satisfactory aesthetic outcomes and minimize the risks of the procedure.

Keywords: Dermal fillers, chin augmentation, chin retrusion

OP-010 [Corrective, Aesthetic and Cosmetic Dermatology]
The magic of Lifting and Filling Threads in Aesthetic Medicine

Afshin Javili
Tehran University of Medical Science

The magic of Lifting and Filling Threads in Aesthetic Medicine
Dr. Afshin Javili MD November, 2019
Istanbul - Turkey
WHAT ARE THESE?
They are absorbable medical threads that will be inserted under the skin for Aesthetic problems or remodeling
What,s the importance of them?
They are an excellent alternative therapy of big and complicated surgeries in Aesthetic medicine and the procedure is Non-Surgical and very easier
In which kind of branches of medicine they might be used?
1.Dermatology
2. E.N.T
3. Plastic Surgery
4. Neurology
5. Neurosurgery
6. Maxillofacial Surgery
7. Ophthalmology
What are their indications?
1.Wrinkles, dynamic and static lines of skin
2. Treatment of asymmetries
3. Lifting of skin
4. skin tightening and contour laxity
5. Rejuvenation and delay cutaneous aging
6. Volume loss under the skin
7. Alternative of botox and fillers
8. Scars
9. Sharpening of columns, lines and borders of skin
10. Skin brightness
What are they made of?
There are 3 types of threads now
1. P.D.O (POLYDIOXANONE)
2. P.L.L.A (POLY-L-LACTIC ACID)
3. P.C.L (POLYCAPROLACTONE)

Keywords: Lifting, and Filling, Threads

OP-011 [Corrective, Aesthetic and Cosmetic Dermatology]
Filler complications- how we can avoid ?

Monika Fida[1], Brunilda Bardhi[2], Orjana Janushaj[3], Laerta Pupo[3], Erjona Shehu[4]
[1]Department of Dermatology, University of Medicine of Tirana, Albania
[2]Venus Derm Clinic, Tirana, Albania
[3]Aderma Clinic, Tirana, Albania
[4]Derma Care Clinic, Tirana, Albania

INTRODUCTION: Esthetic procedures especially those procedures that do not need downtime are growing very fast during the last years. The number of procedures especially the application of acid hyaluronic fillers has a significant increase but either the number of side effects reported have an increased. The objective of presentation: Consists on emphasizing the role of correct training for applying a filler, showing all the possibilities of complications and a guidance on their avoidance and treatment.

MATERIAL-METHOD: A retrospective review of reported cases of dermal filler complications during our 15 years experience. Comparison of our experience and a review of case-reports of dermal filler complications reported.

RESULTS: Side effects reported after applying a dermal filler are related to the person who inject, patient and material. We classify side effects: immediate, short term and late complications. Another classification is: mild complications and severe complications.
Most of side effects noticed are mild and temporary such are pain, bruising, edema, hematoma, tyndal effect, infection.
The severe complications are rare and include necrosis, retinal artery occlusion, inflamatory granulomatous formation. Emergency complications reported: Hypersensibility reaction- Anaphylaxy, Vascular occlusion (compression or emboli) that cause blindness, skin necrosis, ischemia.

CONCLUSIONS: To avoid complications - it is a must to have a good training on the injection techniques and profound knowledge's on the anatomy. A highly qualified doctor and using a certified familiar filler material can be main factors to minimize complications and to treat properly on time side effects of the procedure. How to treat an emergency situation after a filler is should be a part of training sessions.

Keywords: Acid hyaluronic - filler, complications, side effects.

OP-012 [Corrective, Aesthetic and Cosmetic Dermatology]
The importance of Facial Anatomy in Aesthetic Dermatology

Mirjana Dragan Bakic
Mirjana Bakic, Department of Dermatovenerology, Clinical Center of Montenegro

Introduction
The face is the anterior aspect of the head from the forehead to the chin and from one ear to the other, providing our identity as an individual human. It plays an important role in communication. An anatomical approach to nonsurgical rejuvenation of the face provides the way to obtaining a “natural” result that is lasting and with minimal morbidity.

MATERIALS-METHODS: Mussles of the upper face: Frontalis Muscles elevates eyebrows and wrinkles skin of forehead; protracts scalp. Corrugator supercilii. It draws eyebrow medially and inferiorly, creating vertical wrinkles above nose. The procerus muscle draws down the medial brow by attaching to the facial aponeurosis overlying the nasal bones and inserting on the skin of the eyebrow and lower forehead. Contraction of this muscle produces horizontal rhytids over the nasal dorsum, or glabellar lines” or “bunny lines”.Orbicularis Oculi. This is a broad, flat muscle that encircles the palpebral fissure. Hyperactivity can cause “crow’s feet” rhytids at the lateral orbital margin.
Muscles of the Midface Face: Zygomaticus major muscle helps in forming the lower nasolabial fold and is primarily responsible for smiling. Part of dilators of mouth; elevate labial commissure—bilaterally to smile,unilaterally to sneer.Levator labii superioris muscle helps to elevate the medial part of the upper lip and assists the zygomatic muscles with open smiling. It is responsible for “gummy smile”.Levator anguli oris muscle - The most deeply positioned of the lip elevators. Orbicularis oris encircles the mouth within the lips.Risorius muscle is not always present.The buccinator muscle is neither an elevator nor a depressor of the lip; it arises just posteriorly and medially to the last molar tooth and extends forward to become continuous with the orbicularis oris muscle. Muscles of the Lower Face: Depressor anguli oris muscles – Arise from the lateral part of the mandible and travel superomedially toinsert, with the orbicularis oris muscle, in the corners of the mouth; they function to depress and retract the corners of the mouth. Depressor labii inferioris muscles causes “marionete lines”.

RESULTS: Avoiding complications requires thorough training and medical, anatomic, and esthetic common sense. Complications can occur as a function of anatomic location, technique deficiencies, the type of defect treated, identifiable host factors, infectious processes, and allergies as a consequence of intrinsic characteristics of any particular filler. They can also occur in the absence of any identifiable host factors and flawless technique.
CONCLUSION: Detailed understanding of the anatomy mimic musculature, its innervation and vascularization is essential when using corrective methods that alter the original function of mimic muscles.

Keywords: mimic muscles, face of anatomy, dermatology

OP-013 [Autoimmune Bullous Diseases]
Spectrum of Autoimmune Bullous Diseases in Bolu

Ali Haydar Parlak, Betül Şereflican, Belgin Küçükyangöz, Serap Sertkaya
Department of Dermatology, Bolu Abant Izzet Baysal University, İzzet Baysal Research and Training Hospital, Bolu, Turkey

BACKGROUND: Autoimmune bullous diseases (ABD) are rare and heterogeneous diseases of the skin and mucous membranes. Although they occur worldwide, their incidence shows wide geographical variation, and data on the epidemiology of ABD in Turkey is very limited. The demographic distribution, clinical characteristics and comorbidities of ABD in Bolu region have not been evaluated before.

OBJECTIVE: In this study, we aimed to evaluate the demographic, clinical features and concomitant diseases of ABD patients who applied to Bolu Abant İzzet Baysal University Medical Faculty, Dermatology Outpatient Clinic.

METHODS: The files of ABD patients who applied to our outpatient clinic between 2008 and 20120 were reviewed retrospectively.

RESULTS: A total of 55 ABH patients were included in the study. Thirty four (61,81 %) of the cases were female and 21 patients (38,18 %) were male. Eighteen (32.7%) patients had bullous pemphigoid, eighteen (32.7%) patients had pemphigus vulgaris, nine (16.4%) had dermatitis herpetiformis, three (5.5%) had pemphigoid gestations, two (3.6%) had pemphigus foliaceus, one had (1.8%) paraneoplastic pemphigus, one (1.8%) had pemphigus vegetans, one (1.8%) had lichen planus pemphigoides, one (1.8%) had pemphigoid nodularis and one (1.8%) had linear IgA dermatosis.

CONCLUSION: In this study, the frequency of pemphigus and pemphigoid group diseases were similar. The pemphigus / pemphigoid ratio in our study can be interpreted in favor of an increase in the frequency of bullous pemphigoid since it is lower than the rate in our country. This situation may be associated with prolonged life.

Keywords: pemphigus vulgaris, bullous pemphigoid, autoimmune bullous disease

OP-014 [Atopic Dermatitis/Eczema]
Dupilumab In The Treatment of Atopic Dermatitis: Experience of 6 Cases

Nazime Bensu Önentaşçi, Ümit Türsen
Department of Dermatology, Mersin University Medical School, Mersin, Turkey

OBJECTIVE: Atopic dermatitis (AD) is common chronic inflammatory skin disease. Although it affects up frequently children, 2–10% of adults effected from atopic dermatitis. Clinical presentation of this disease include skin dryness, erythema and crusting, and lichenification.Dupilumab is the biologic agent for the treatment of moderate-to-severe atopic dermatitis. It is a human monoclonal antibody. Mechanism of dupilumab is targeting the IL-4Rα subunit of heterodimeric IL-4 and IL-13 receptors.Signaling by these cytokines and the resulting Th2mediated inflammation are bloked with dupilumab.

PATIENTS: We included 4 female and 2 male patient with severe to moderate atopic dermatitis in this presentation. They already have been tried to treat by using omalizumab, cyclosporine,metothrexate, systemic corticosteroids, topical calcineurin inhibitors, topical corticosteroids and antihistaminics. Under these treatments, the patient's lesions and compliment repeated. After these treatments the patients are given dupilumab.
RESULTS: In our clinical experiences, we observed a high patient satisfaction and long term well-being.

Keywords: Severe atopic dermatitis, dupilumab, atopic dermatitis

OP-015 [Allergology and Immunology]

A diagnostic dilemma over granulomatos in common variable immunodeficiency(CVID)

Nurullah Yekta Akçam[1], Güzin Özden[2], Ümit Türsen[3]

[1]N.Yekta AKÇAM,Department of Allergy and Immunology,Mersin City Training And Research Hospital, Mersin, Turkey

[2]Güzin ÖZDEN, Department of Allergy and Immunology, Adana City Training And Research Hospital, Adana, Turkey

[3]Ümit TÜRSEN, Department of Skin and Venereal Diseases,Mersin University, Mersin, Turkey

CVID, is a primary immunodeficiency characterized by low antibody response to vaccines, hypogammaglubulinemia and increased susceptibility to infections. Granulomatous involvement was detected in approximately 8-22% of CVID patients, especially lymph nodes, lung, liver, skin and eyes.These granulomatous lesions are likely to have impaired T-cell proliferation response to mitogens and antigens. We present a case of cutanous (both caseating and non-caseating) granulomatous involvement due to its rarity here.Here we present our CVID case with cutaneous granulomatous involvement that does not regress with IVIG therapy and respond well to steriod therapy.

CASE: A 22-year-old female patient was admitted, with cutaneous lesions. These lesions developed under the right eye and on the left nose were plaques. Skin biopsy revealed granuloma structures contained caseification necrosis. ARB was found negative 3 times in sputum. Sputum culture was negative. In thorax CT, atelectatic areas in the right lung and bronchiectasis changes in the left were detected.In addition, LAM, the largest of which reached a diameter of 18 mm, was detected. The patient was accepted as lupus vulgaris and anti-TB treatment was started. The patient with a history of frequent respiratory infections has low immunoglobulin levels (IgG4: <6,IgM: <16). The patient was diagnosed with CVID, and her IVIG monthly treatment was started. Repeated biopsies resulted in caseating granulomatous inflammation in the patient whose lesions did not regress despite 18 months of Anti-TB treatment and IVIG treatment. There was no fungal growth in samples taken with suspicion of mucormycosis. Wegener's granulomatosis was investigated. ANA, ENA, ANCA serological tests were negative. When leishmania was positive in PCR, Sodium stibogluconate was started with the diagnosis of cutaneous leishmania. Amphotericin B and Fluconazole were given when their lesions did not regress. The patient, whose complaints did not regress with the current treatments was re-biopsied. PCR for leishmania was negative and no leismania was detected in smear samples. The last biopsy was reported to be compatible with non-caseating granulomatous infiltration. Methylprednisolone was started with the diagnosis of CVID cutaneous granulomatous involvement. The cutaneous lesions of the patient regressed dramatically.

CONCLUSION: This case with both caseating and non-caseatin granulomatous appearance presents a dilemma regarding granulomatosis involvement in CVID. Granulomatous involvements in CVID are often described as non-caseating, and it is not histologically indistinguishable from sarcoidosis. Granulomatous involvement is estimated to occur as a result of a resistant antigen or impaired immune response to mitogen. In our case, leishmania infection may be the trigger of the granulomatous event. This case is a very difficult case in terms of the differential diagnosis of granulomatous inflammation in an immunodeficient case.

Keywords: CVID, cutaneous lesions, granulomatous disease, primary immunodeficiency,common variable immunodeficiency

OP-016 [Urticaria, Angioedema]

Evaluation of coping mechanisms in patients with acute and chronic urticaria

Ezgi Aktaş Karabay
Department of Dermatology and Venereology, Bahçeşehir University Faculty of Medicine, İstanbul, Turkey

Introduction and OBJECTIVES: Urticaria is a common disease as in acute form affects 20% of the general population and chronic urticaria (CU) up to 5%. Stress is thought to affect onset and exacerbation of urticaria. Coping is defined as a process of change to manage specific demands that are appraised as exceeding the resources of the person. There are two forms of coping: problem-focused and emotional focused coping. It has been observed that using effective ways to cope with a problem makes it easier to return to a stable state, leading to a decrease in the negative consequences of the stress. The aim of this study was to evaluate the ways of coping in patients with acute and chronic urticaria.

MATERIALS-METHODS: In total, 18 patients with acute urticaria (AU), 21 patients with CU and 24 healthy controls were enrolled in the study. The severity of urticaria was assessed using the Urticaria Activity Score (UAS)7. A validated Turkish version of The Ways of Coping Inventory (WCI) was used to evaluate the mechanisms of dealing with stress. The Inventory is organised into five sub-scales called “self-confident approach”, “optimistic approach”, “desperate approach”, “submissive approach” and “search for social support approach”. The WCI distinguishes between effective strategies for coping with stress also called positive approach (self-confident approach; optimistic approach; search for social support approach) and ineffective strategies called emotional approach (submissive approach; desperate approach). High scores on a subscale indicate a greater tendency to use the coping style concerned.

RESULTS: Patients with AU and CU were shown to have lower scores of self confident approach than controls ($p< 0.001$, both). The scores of optimistic approach was lower in CU patients than controls ($p=0.005$). The scores of desperate approach was higher in CU patients than controls ($p<0.001$). The scores of submissive approach was higher in CU patients than in AU patients ($p< 0.001$) and controls ($p< 0.001$). The scores of submissive approach was also higher in AU patients than in controls ($p < 0.001$). Patients with AU were shown to have lower scores of positive approach than controls ($p= 0.019$). Similarly patients with CU were shown to have lower scores of positive approach than controls ($p< 0.001$). Higher scores of emotional approach was observed in CU patients than AU patients ($p= 0.001$) and controls ($p< 0.001$). AU patients also have higher scores of emotional approach than controls ($p= 0.001$).

CONCLUSIONS: In the present study differences in the coping strategies of patients with acute and chronic urticaria has been demonstrated. It may be concluded that patients with urticaria are more likely to develop emotional strategies than positive approach in coping with stress. We believe that individuals’ approach in managing stress may affect the development of the disease and the forms of the disease.

Keywords: coping mechanisms, stress, urticaria

OP-017 [Systemic Treatment]

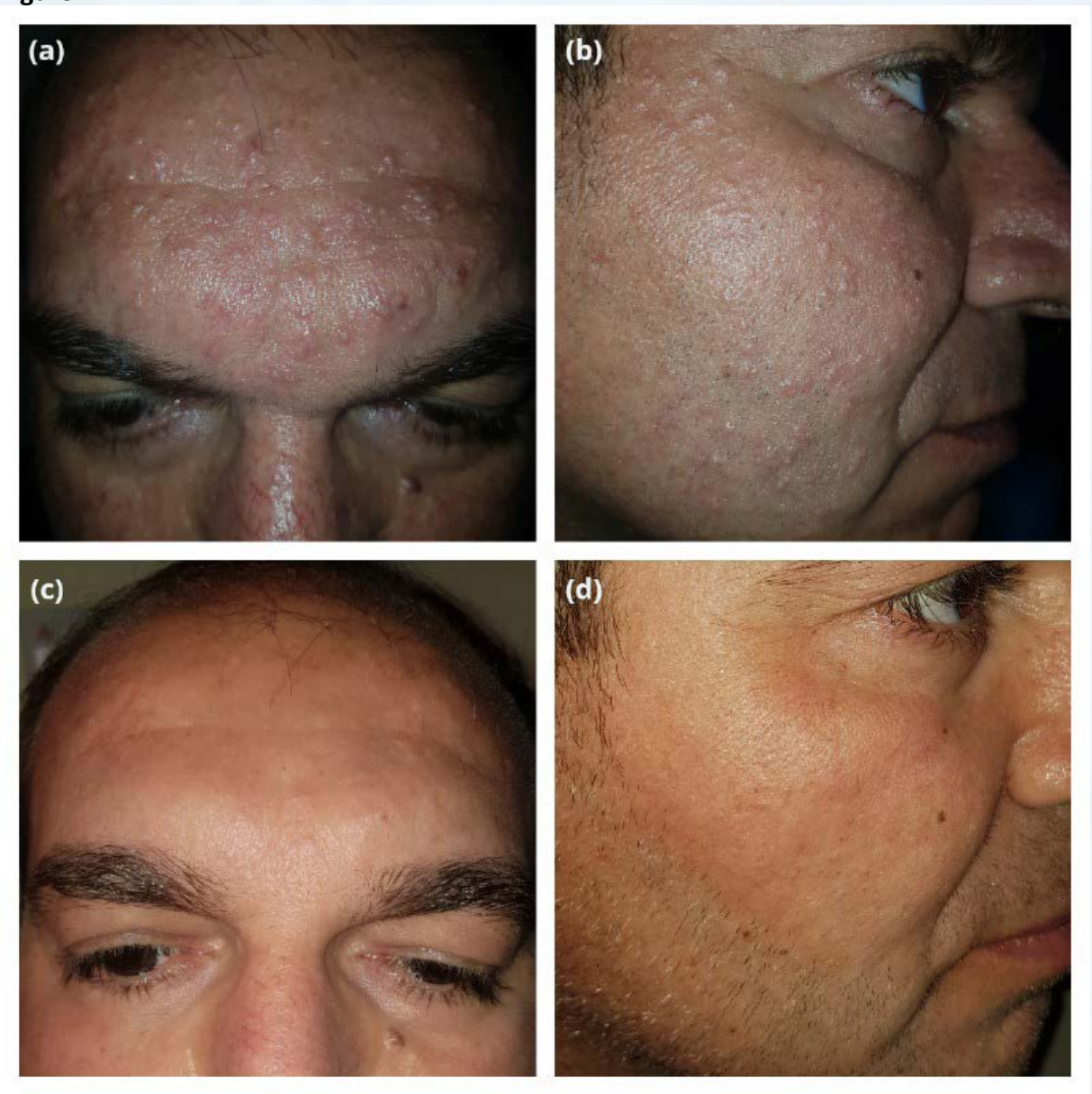
Successful treatment of severe sebaceous hyperplasia with systemic isotretinoin

Erhan Ayhan
Department of Dermatology, University of Healty Sciences Gazi Yaşargil Education and Research Hospital, Diyarbakır,Turkey

Sebaceous hyperplasia (SH) is usually treated using surgical methods, including cauterization and excisions. However, depending on the number of lesions and skin cicatricial response, it may be necessary to avoid such interventions. Alternatives, including lasers and other therapeutic methods such as photodynamic therapy, can be costly and difficult to access. The use of isotretinoin in the treatment of sebaseous hyperplasia is effective in reducing the proliferation of basal sebocytes, suppressing sebum production, and preventing the differentiation of sebaceous glands. Several articles have examined the mechanism of the anti-sebotropic effect of retinoids. Some studies try to explain the sebo-suppressive effect by examining the apoptosis of sebocytes, while others claim that the response lies in the interaction of isotretinoin in the metabolism of androgens. A 43-year-old male patient developed sebaceous hyperplasia lesions on the entire face due to cyclosporin treatment after kidney transplantation. The patient was started on 0.5 mg / kg isotretinoin treatment. The treatment of the patient, whose lesions shrank in number and size from the first month, was continued for 5 months. There was no change in the laboratory parameters of the patient who received immunosuppressive therapy. The patient was followed up after treatment was discontinued. Sebaceous hyperplasia is a common and benign proliferation of sebaceous glands, which is common in middle-aged and elderly patients. It usually appears as a large number of yellowish or flesh-colored papules of various sizes with a central umblication on the face, especially the cheeks, nose and forehead. The etiology of SH is not fully known. It has been assumed that a decrease in androgen levels with advancing age causes a slow cell turnover, which causes the proliferation of primitive sebocytes in the sebaceous gland, causing SH. Photoaging is another risk factor. Patients receiving cyclosporin after transplantation are at increased risk for SH. In one study, the average number of lesions of patients treated with 1 mg / kg isotretinoin for 2 months decreased from 24 to 2. The average number of lesions was calculated as 4 in patients who were re-evaluated two years later. As a result, in this case, the patient who had too many lesions to be counted successfully benefited from the treatment. However, it is necessary to observe whether the lesions will occur again after the treatment is stopped.

Keywords: sebaceous hyperplasia, isotretinoin, systemic therapy

Figure 1



The appearance of lesions before (a,b) and after (c,d) 5 months of isotretinoin treatment

OP-018 [Infectious Diseases, Parasitic Diseases, Infestations]
Rare, endemic, may be overlooked disease: Mediterranean spotted fever (MSF)
Gül Şekerlisoy, Ezgi Erdal Özkur, Ilknur Kıvanç Altunay, Onur Sivaz
Department of Dermatology, Şişli Etfal Training and Research Hospital

Mediterranean spotted fever (MSF) is a rare, tick-borne disease and caused by Rickettsia conorii. This disease presents with fever, headache, maculopapular rash. MSF is endemic in the Mediterranean regions also diagnosis is challenging because of its polymorphic presentations.
We report a case of a 52-year-old male who presented with a fever and diffusely scattered erythematous non-pruritic maculopapular lesions, body malaise, muscle aches. After walking around forest, he felt pain and burning sensation on his left foot. Three days later he entered the hospital with fever and rash. A physical examination revealed that a fever of 39°C, a diffuse maculopapular rash on his body especially on his extremities but sparing the head and neck and 1 cm round black eschar with surrounding 5 cm erythematous plaque, In his laboratory tests Hemoglobin: 123 g/L, Erythrocyte sedimentation rate:69 C-reactive protein:121 ALP:161 AST:117 ALT:130 GGT:150 LDH:452, chest radiograph was unremarkable. Serological tests to detect infective agents were all negative. A punch biopsy was performed from lesion and send to National High Risk Pathogens Central Laboratory. Real time polymerase chain reaction (PCR) for rickettsia spp. from tissue sample and the Rickettsia conorii IgG, IgM ELISA from patients' sera which resulted positive. Based on the patient's history, dermatological findings, and laboratory test results, we suspected MSF and started doxycycline 100mg twice daily (14 days). His complaints started to heal.
Mediterranean spotted fever (MSF) is a rare tick-borne disease. MSF is caused by Rickettsia conorii which is an obligate intracellular bacterium. The disease happens when humans are bitten by an infected vector, Rhipicephalus sanguineus. MSF is endemic in the Mediterranean regions. The disease presents with a sudden onset of headache, fever, maculopapular rash which is present in 97–99% of cases.Eschar or black necrotic scabbed lesion, which is called a 'tache noire' may be seen at the site of the inoculating tick bite in 70% of cases.MSF is diagnosed based on clinical manifestations, epidemiologic data, and laboratory evidence of recent exposure to rickettsial organisms. The diagnosis of Rickettsial infection is challenging because of these polymorphic and frequently nonspecific clinical presentations.Indirect immunofluorescence (IIF), is the mostly used test in routine laboratory as serology. A titer of 1:64 or greater is diagnostic but it has low sensitivity. Recently used test is Polymerase Chain Reaction (PCR) is based on using the ability of DNA polymerase to synthesize new strand of DNA complementary. PCRs were reported to be sensitive and specific to detect Rickettsia DNA either in skin biopsies or in whole blood of infected patients. The preferred drug treatment is doxycycline for 7-14 days.That's why we present this case, this disease is endemic in our region and physician should be aware of these diseases and be quick for diagnosis and treatment.

Keywords: Brown dog tick, Doxycycline, Mediterranean Spotted fever, Rickettsia conorii, Tache noire, Tick born disease

OP-019 [Infectious Diseases, Parasitic Diseases, Infestations]
Erythema Migrans - A Sign of Early Lyme Borreliosis

Sena Inal, Ilknur Kıvanç Altunay, Yasemin Erdem, Ezgi Özkur
Dermatology and Venereology Clinic, University of Health Sciences, Şişli Hamidiye Etfal Research and Training Hospital, Istanbul, Turkey

Erythema migrans (EM), is the most common clinical symptom of Lyme disease, an infection due to Borrelia burgdorferi spirochetes that are transmitted by bites from several species of Ixodes ticks. EM is a rash that appears usually within 7–15 days after tick detachment, an erythematous, expanding slowly, circular or annular plaque appears that may have a lighter-colored central area. Lesions favor the trunk, axilla, groin and popliteal fossa. EM may be accompanied by influenza-like signs and symptoms. The diagnosis can be made on clinical erythema migrans (EM) lesion in a patient who lives in or has recently traveled to an endemic area. Also serology has been the most practical and commonly used modality for the diagnosis of Lyme borreliosis. It follows a two-step approach involving an initial screening test (usually ELISA) followed by a Western blot for confirmation. IgM antibody levels start to increase 2–4 weeks after the causative agent is acquired, peaking in 6-8 weeks, and IgG antibodies start to increase later. Histopathology is often not specific, specimens show superficial and deep lymphoid infiltrates admixed with a few eosinophils and plasma cells. Immunohistochemical studies have shown a reduction in the number of Langerhans cells; in the dermis, the inflammatory infiltrate contains macrophages, CD4+ T helper cells. Oral doxycycline, amoxicillin, and cefuroxime axetil are effective for the treatment.

A 39-year-old female patient presented to our clinic with erythema, which started almost a month ago after insect bites on the right side of her back, spreading over the entire back of the trunk. She had fatigue, myalgias and fever.

Dermatological examination revealed a red, oval, blanchable, painless and nonpruritic annular erythema with a size of about 25x30 cm with regular borders in the region of the back. Her serum screening enzyme immunoassay was reactive to both IgG and IgM. Reference laboratory testing confirmed with a positive immunoblot to IgG and IgM.

A 66-year-old woman without underlying disease presented 8 weeks after the onset of a target shaped rash on her right breast. On dermatological examination, there was an erythematous annular plaque on the left half of the patient's right breast approximately 10 × 20 cm in size. Abnormal results included Borrelia immunoglobulin G (IgG) positivity. The immunoglobulin G (IgG) blot was positive and immunoglobulin M (IgM) blot was negative.

Based on clinical manifestations and laboratory test results, the patients were diagnosed with Lyme disease and both patients were treated for 21 days with doxycycline (200mg/day). At 1 month follow-up both lesions had fully resolved.

We presented this disease to emphasize diagnosis and treatment, which may have serious consequences in long term disease such as arthritis, encephalitis and carditis, but also extremely benign when diagnosed at an early stage.

Keywords: erythema migrans, borrelia burgdorferi, lyme disease

OP-020 [Systemic Treatment]

Analysis of musculoskeletal side effects of oral isotretinoin treatment: a cross-sectional study

Nermin Karaosmanoğlu[1], Cevriye Mülkoğlu[2]
[1]Department of Dermatology, Ankara Training and Research Hospital, Ankara, Turkey
[2]Department of Physical Medicine and Rehabilitation, Ankara Training and Research Hospital, Ankara, Turkey

INTRODUCTION: Acne vulgaris is a chronic inflammatory disease affecting the pilosebaceous unit. Isotretinoin is an effective treatment option for severe acne.
The aim of this study was to evaluate musculoskeletal side effects of systemic isotretinoin treatment in patients with acne vulgaris.

METHODS: A total of 94 patients with acne vulgaris and 100 sex- and age-matched controls were included in this study. All participants were firstly evaluated by a dermatologist, and the ones who had musculoskeletal symptoms were included in this study.

RESULTS: Of the 94 patients, 71 were female and 23 were male. 47.9 % of the patient group had arthralgia, 53.2% had myalgia, 70.2% had low back pain, 11.7% had sacroiliitis and 4.3 % had tendinopathy. Of the 66 patients in isotretinoin group having low back pain, 25 of them had inflammatory back pain and 41 of them had mechanical back pain. The median total cumulative dose of isotretinoin was significantly higher in patients with low back pain using isotretinoin than in patients without low back pain ($p = 0.014$).

CONCLUSION: Back pain is very common side effect of isotretinoin. It can be either mechanical or inflammatory. The specialists should be careful about these complaints during isotretinoin usage.

Keywords: acne, isotretinoin, rheumatologic disorders, back pain

OP-021 [Infectious Diseases, Parasitic Diseases, Infestations]

A common skin disease; pityriasis versicolor: assessment of anxiety, depression and impact on quality of life

Asude Kara Polat, Ayşe Esra Koku Aksu
Department of Dermatology, Health Science University, Istanbul Training and Research Hospital, Istanbul, Turkey

INTRODUCTION: Pityriasis versicolor (PV) is a superficial fungal infection of the skin that occurs in the presence of predisposing factors. It is more common in adolescents and young adults. It is generally observed in the form of light brown patches on the trunk, back and arms. PV may become a major impact on quality of life in patients. In this study, it was aimed to evaluate anxiety, depression and quality of life in patients with PV.

METHOD: This study included 70 PV patients who were admitted to the dermatology clinic of a tertiary research hospital in Istanbul between July 30 and November 30, 2019. A cross-sectional study was conducted and age, marital status, education level, localization of the lesions and duration of diseases were questioned. Dermatology life quality index (DLQI) and hospital anxiety depression (HAD) scale were applied to the patients in order to evaluate quality of life, anxiety and depression status.

RESULTS: Of the seventy patients, 43 (61.4%) were female and 27 (38.6%) were male. The mean age of the patients was 26.5 ± 11.3, and the mean disease duration was 15.1 ± 21.6 months. In 51 of the patients (72.9%) lesions were located in the anterior trunk.
The mean DLQI and HAD scale total scores were 3.7 ± 3.6, 7.2 ± 4.2, respectively. There were no statistically difference between age, gender, education level, marital status, the duration of disease and quality of life scores ($p > 0.05$). However, in terms of localization, there was a statistical difference in DLQI score in patients with genital region involvement compared to patients without involvement in this region ($p < 0.05$). Again, while a statistically significant difference was observed in HAD-D, no difference was observed with HAD-A and HAD total scores ($p > 0.05$).

CONCLUSION: PV is a dermatological health problem that we frequently encounter in our daily practice. It may cause negative effects on patients' quality of life and anxiety. Comprehensive and comparative studies are needed to increase the awareness and knowledge level of PV patients about anxiety, depression and quality of life.

Keywords: pityriasis versicolor, quality of life, anxiety, depression

OP-022 [Phototherapy, Photodynamic Therapy]
The utilization of a hand-held narrow band phototherapy device in the department of dermatology, Gaziantep Sanko University: A -8 year audit

Fatmaelif Yıldırım[1], Alımıla Tuncel Cesur[1], Sait Mavi[1], Fatma Aslı Hapa[2]
[1]Department of Dermatology, Sanko University, Gaziantep, Turkey
[2]Department of Dermatology, Bozyaka Research and Training Hospital, İzmir, Turkey

INTRODUCTION: The hand-held narrow band ultraviolet B (NB-UVB) unit is a portable and lightweight device that is slightly larger than a usual hairbrush. It is held above any small area of the skin, and spacers are provided to standardize the distance from the skin. Hand-held NB-UVB units are suitable for small lesions, making phototherapy available for patients with limited disease.

OBJECTIVE: We aim to describe the utilization of a hand-held phototherapy NB-UVB device in the Gaziantep Sanko University Department of Dermatology.

METHODS: This is an 8-year retrospective audit on patients who underwent hand-held phototherapy between 2010 and 2017.

RESULTS: There were 638 patients, F:M=1.38:1, aged from 3- 72 years, with a mean age of 26±14.2 years who underwent hand-held phototherapy (Dermapal, Daavlin). Of the patients treated 31.6% (n= 202; F:M=1.84:1) were in the pediatric age group. The indications were psoriasis (37.8%), alopecia areata (31.5%), seborrheic dermatitis (26%) and vitiligo (4.5%). The median number of session received were 10 (range 6-63) for seborrheic dermatitis, 15 (range 6-123) for psoriasis, 19 (range 6-150) for alopecia areata and 23 (range 6-72) for vitiligo. The most common acute adverse effect experienced by patients was erythema (6%). Erythema was more common in the pediatric age group (n=25,12.3%). Erythema was most common in pediatric age group of patients with vitiligo (88%) and alopecia areata (40%).

CONCLUSIONS: Hand-held portable devices could be a safe and effective treatment option available to patients with limited or localized diseases such as on the scalp. In the pediatric age group physicians should more careful about erythema occurrence.

Keywords: narrowband ultraviolet B, Hand-held phototherapy, skin diseases

OP-023 [Inflammatory Skin Diseases]

Successful treatment of a chıld wıth actınıc lıchen planus usıng topıcal pımecrolımus: a case report

Erdal Pala[1], Mehmet Melikoğlu[1], Handan Bilen[1], Elif Demirci[2]
[1]skin and venereal diseases department,Ataturk University,Erzurum, Turkey
[2]pathology department, Ataturk University,Erzurum, Turkey

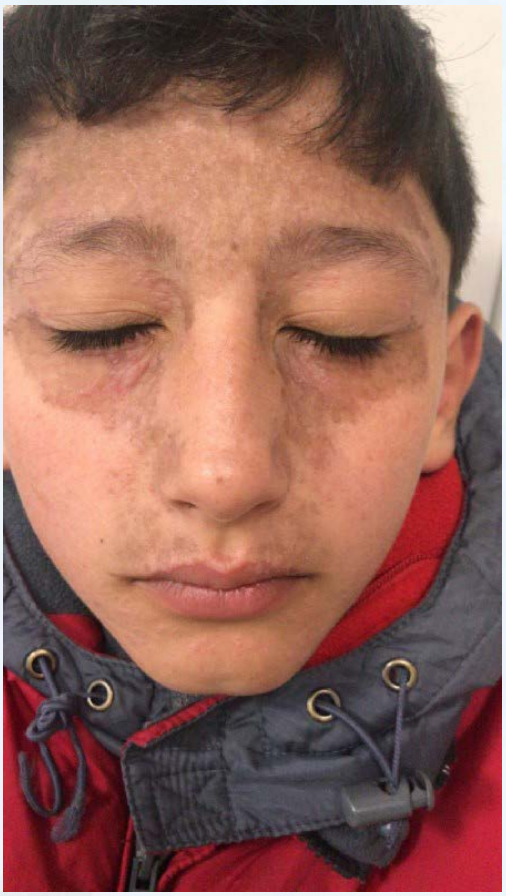
INTRODUCTION: Lichen planus is an idiopathic papulosquamous inflammatory dermatitis with a number of clinical morphological variants. Actinic lichen planus, also known as lichen planus subtropicus /tropicus and lichenoid melanodermatitis, is regarded as a rare variant of lichen planus mainly affecting areas exposed to sunlight. Classic lesions take the form of annular hyperpigmented plaques surrounded by a hypopigmented halo. In contrast to classic lichen planus, mucosal involvement, itching, and koebnerization are not present in this variant. Actinic lichen planus is a rare form of lichen planus affecting dark-skinned children or young adults living in tropical or subtropical regions. Solar protection, topical corticosteroids, oral hydroxychloroquine, dapsone, and oral corticosteroids can be used in treatment.

CASE: A 12-year-old boy presented due to darkening in the facial region persisting for approximately six months. Dermatological examination revealed occasional pigmented squamous plaque-type lesions on pigment in the periorbital, frontal, and peroral regions. Biopsy was taken for histopathological examination. The patient had previously used topical hydrocortisone for two months for these lesions, but no improvement had occurred. Systemic examination and laboratory findings were normal. The biopsy was reported as lichen planus, and since no response had previously been obtained to topical corticosteroid therapy, the patients was started on 1% topical pimecrolimus. Treatment lasted for approximately three months, and the lesions resolved entirely.

CONCLUSION: We think that topical calcineurin inhibitors may be an important option before considering systemic treatment in actinic lichen planus.

Keywords: actinic lichen planus, topical treatment, pimecrolimus

figure 1

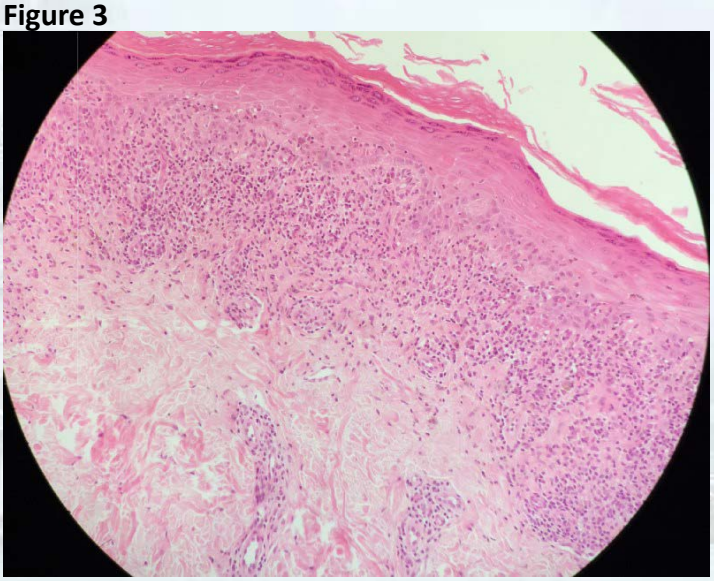


clinical appearance before treatment

figure 2

Clinical outlook after 3 months of treatment

Figure 3



Histopathological findings: A band-like infiltrate of lymphocytes fills the dermal-epidermal junction. There are numerous apoptotic keratinocytes (Civatte bodies) are present in the basal layer of the epidermis and in the papillary dermis. There is also melanin incontinence. (H&E)

OP-024 [Hair Disorders/Diseases]

Trichotillomania (TTM) is a disorder characterized by recurrent episodes of hair-pulling, affecting a growing and diverse patient population. The behavior is a result of conscious or unconscious stimuli aiming to alleviate stress. TTM can be diagnose

Roxanna Sadoughifar
Roxanna Sadoughifar

Trichotillomania (TTM) is a disorder characterized by recurrent episodes of hair-pulling, affecting a growing and diverse patient population. The behavior is a result of conscious or unconscious stimuli aiming to alleviate stress. TTM can be diagnosed, typically by a Psychiatrist or Dermatologist, with the utilization of various available assessment tools and scales. Although researchers continue to discover new pharmacologic regimens and non-pharmacologic therapies, there is no single, effective, FDA-approved option available for patients. Treatment of TTM with the least occurrence of relapse consists of a combination of pharmacologic and non-pharmacologic options and calls for the involvement of a multidisciplinary team along with family members and friends. This review provides an analysis of the current treatment modalities in the management of TTM and highlights the need for further epidemiological, genetic, neuroimaging, and dietary research to better understand the complicated nature of the disorder.

Keywords: Hair, Hair Transplantation

OP-025 [Wounds, Chronic Wounds, Wound Healing, Ulcer]

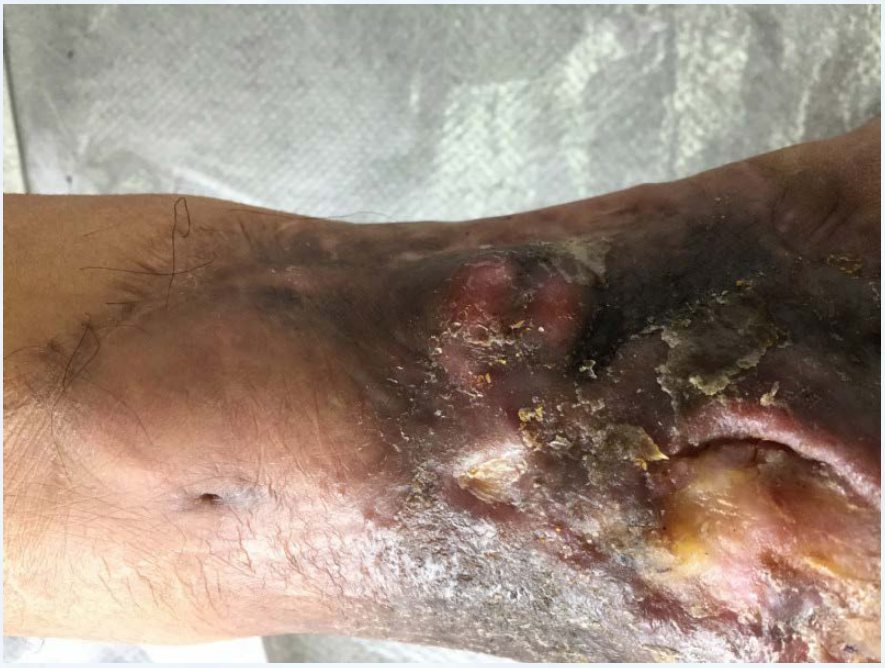
Calcinosis cutis in association with long-term stasis after electrical burn injury: a case report

Belkız Uyar[1], Ömer Faruk Elmas[1], Emine Müge Acar[1], Sümeyra Has[2]
[1]Department of Dermatology and Venereology, Ahi Evran University, Faculty of Medicine,Kırşehir, Turkey
[2]Department of Pathology, Ahi Evran University, Faculty of Medicine,Kırşehir, Turkey

Calcinosis cutis is an uncommon disorder caused by an abnormal deposit of calcium phosphate in the skin. The presence of calcium deposits within the wound with normal serum calcium and phosphate levels is referred to as dystrophic calcification; a form of localized deposition of calcium salts in degenerated tissues. A 55-year-old, otherwise healthy male patient with a long-lasting wound on the left ankle presented with complaints of swelling and itching on his left ankle. According to his medical history, he had an electric shock to the left leg 33 years ago and the wound was closed with grafting. After grafting operation, although the wound was fully healed in a few months, an ulceration developed at the same site 2 years ago. On physical examination, he had an erythematous, ulcerated, sclerotic, 20x15 cm in size wound over the left lateral malleolus. On this wound, there were three fluctuating mass with overlying intact skin which were 1X1.5, 1x2 and 3x3 cm in size (Figure 1). Dermoscopic examination showed blue to grey structureless areas, numerous coiled vessels with patchy distribution and scales (Figure 2). Bacterial and fungal cultures revealed no pathogen agents. A total of three punch biopsies were performed from the ulcer margin and fluctuating areas. Histopathological examination revealed hyperkeratosis, acanthosis, superficial dermal vascular proliferation along with dermal and subcutaneous calcification foci. X-ray examination showed irregular-defined calcified foci over the posterior aspect of the distal end of the fibula extending in a linear fashion (Figure 3). Serum calcium and vitamin D levels were within normal limits. The patient was diagnosed with a stasis ulcer with dystrophic calcification and managed along with extremity elevation, wound dressing and oral diltiazem. Dystrophic calcification is reported to be a rare cause of non-healing leg ulceration. It should be kept in mind that dystrophic calcification of the skin may also be associated with persistent ulceration in the setting of stasis.

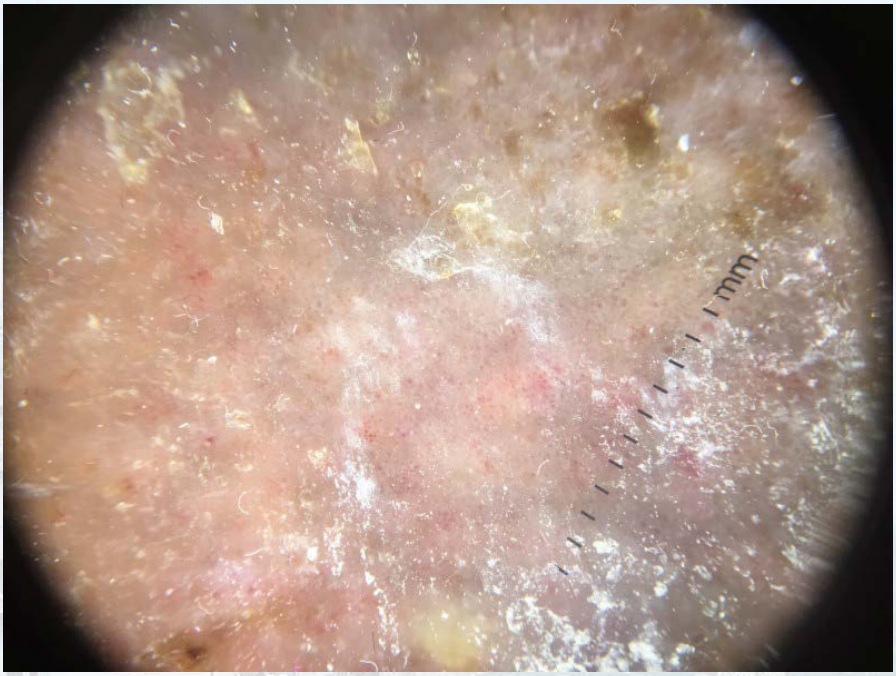
Keywords: Calcinosis cutis, dystrophic calcification, leg ulcer

Resim 1



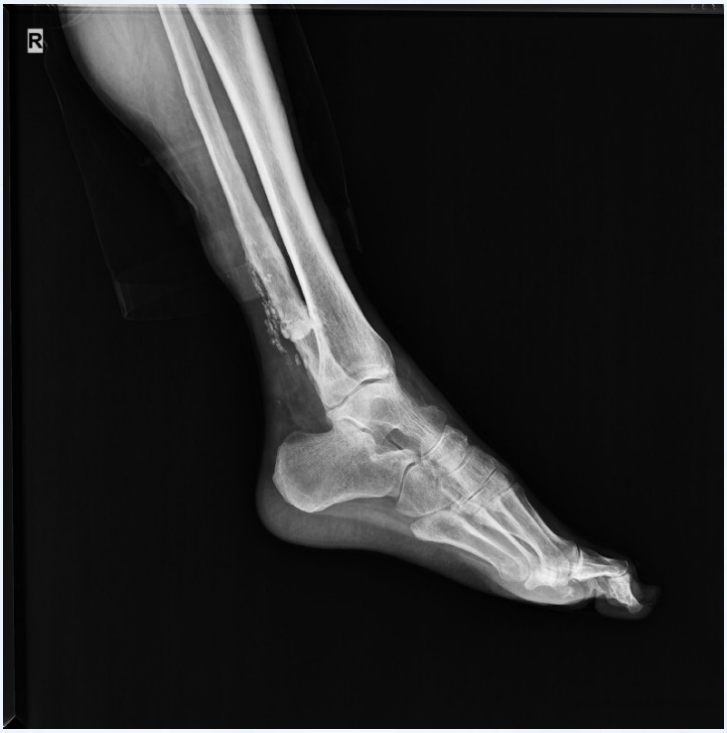
An erythematous, ulcerated, sclerotic wound over the left lateral malleolus and three fluctuant masses.

Resim 2



Dermoscopic appearance; blue to grey structureless areas, numerous coiled vessels with patchy distribution and scale.

Resim 3



X-ray of the left lower leg showing irregular-defined calcified foci over the posterior aspect of the distal end of the fibula extending in a linear fashion.

OP-027 [Cutaneous Oncology]

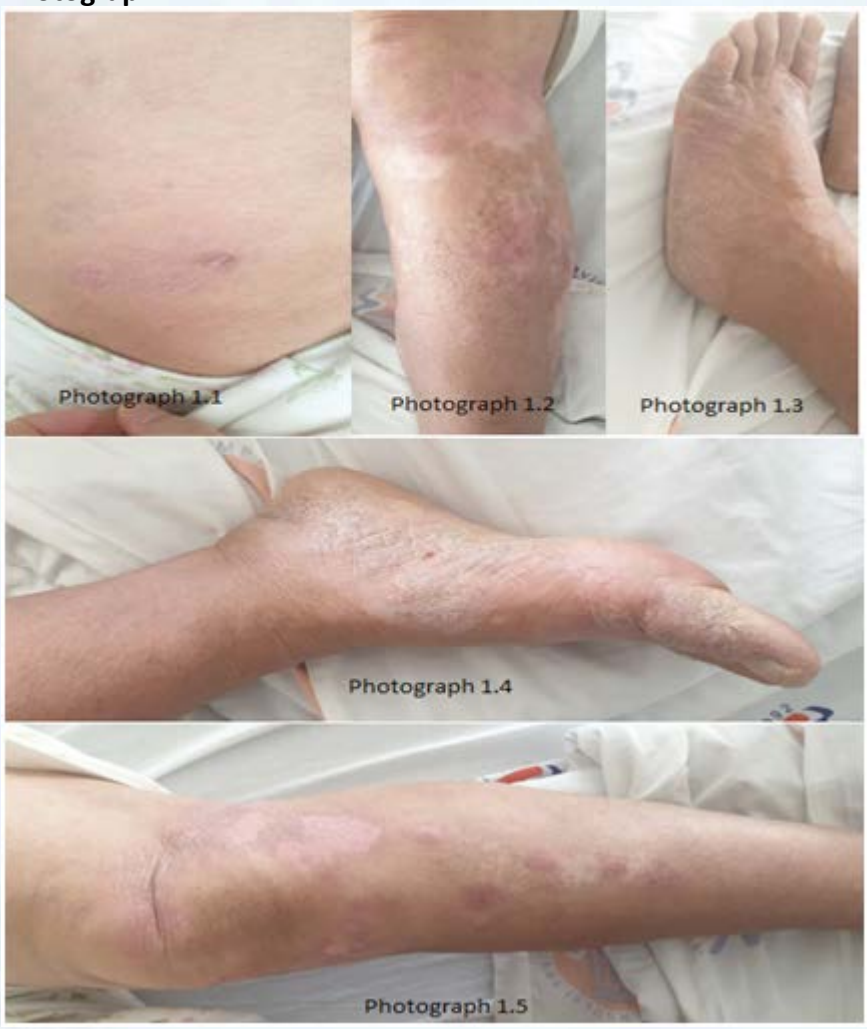
Hyperpigmented plaques in Behcet patients asssociated with Mycosis Fungoides

Emin Gündüz[1], Ümit Türsen[2], Yasemin Yuyucu Karabulut[3]
[1]Dr. Emin Gündüz (Research Asistant- Dermatology)
[2]Prof.Dr. Ümit Türsen (Dermatology)
[3]Dr. Yasemin Yuyucu Karabulut (Associate Professor- Pathology)

A 47-year-old female patient had been followed up with Behcet's disease for 12 years.During the follow-up of the disease in our clinic; Oral aphthae, genital ulcers, erythema nodosum, thrombophlebitis, venous insufficiency and varicosis of the lower extremities were frequently present. The patient had a history of factor V leiden mutation. Family history was unremarkable. The patient was hospitalized and followed up in our clinic in terms of systemic steroid treatment during severe episodes. Short term Systemic steroids and Colchicine 3x0,5mg/day were followed up in remission with topical and oral mucosa care treatments. Ophthalmologic examination revealed no pathological findings. Systemic screening was performed in terms of systemic involvement of Behçet's disease and no systemic involvement was detected except cardiovascular involvement. In remission, the patient was followed up with colchicine 3x0.5 mg / day and nonsteroidal anti-inflammatory drugs. Hyperpigmented, eryhtematous and atrophic plaques were detected in the thigh and abdominal region in the last one year. Subsequently, psoriasiform and hyperpigmented plaques were observed in the lower extremities.In the specimen taken from the abdominal region(Photograph 1.1), histopathologically, the epidermis showed orthokeratosis, irregular acanthosis and mild spongiosis, and it was noted that lymphocytes showing basilar sequencing in large areas of the dermoepidermal junction could also progress to transepidermal. In the papillary dermis, lymphoid cell infiltration, which is characterized by interstitial dispersion in the fibrotic ground around the vessels and which exhibits signs of atypia characterized by nuclear coarseness and hyperchromasia, has been observed, similar to transpepidermal dispersions. It was observed that the lymphoid cells identified in serial sections can also attach to 2 hair follicle epithelium. In the histopathology of psoriasiform and hyperpigmented plaque lesions (Photograph 1.5) in the lower extremities, compact hyperkeratosis, parakeratosis and psoriasiform hyperplasia were observed in the epidermis. It has been observed that lymphocytes showing basilar sequence in the dermoepidermal junction can also progress in transepidermal. Infrequent lymphoid cell infiltration around the thick-walled vascular structures in the papillary dermis, perpendicular to the epidermis on the fibrotic floor, was noted. No specific infectious agent was detected with Methenamine Silver. No specific infectious agent was observed with PAS. Based on the patient's medical history, clinical photographs and biopsy results, the diagnosis of Mycosis Fungoides was made.
The patient was instructed topical therapy (topical clobetasole propionate %0,05, Bexarotene gel, emollients) and phototherapy (narrow-band UVB three times a week). Significant improvement was observed clinically after the current treatment.

Keywords: Behçet's Disease, Atypical (cerebriform) nuclei, Mycosis Fungoides

Photograph 1



Photograph 1.1 and Photograph 1.5 were biopsy localizations. Two biopsies were taken from the anterior lesions.

OP-028 [Dermatopathology]

Mismatch repair protein expression and potential histopathologic predictors for merkel cell carcinoma: A series of 17 cases

Mehmet Arda Inan, Selin Kestel Kayık, Betül Öğüt, Özlem Erdem
Department of Pathology, Gazi University, Ankara, Turkey

Merkel cell carcinoma is a rare and highly aggressive skin cancer with an estimated disease-associated mortality of 33% to 46%. The FDA has granted accelerated approval to pembrolizumab for pediatric and adult patients with microsatellite instability-high (MSI-H) or mismatch repair-deficient solid tumors. We would like to investigate whether microsatellite instability also occurred in Merkel cell carcinoma cases in our center or not. A retrospective review of 17 patients diagnosed with a biopsy-proven Merkel Cell Carcinoma between the years 2012-2019 was performed. The following primary data were extracted: Age, sex, tumor site, tumor size, lymph node status, types of treatments received, lateral or deep surgical margins, recurrence, survival after diagnosis, primary or metastatic status of the tumor which is evaluated, tumor thickness, lymphovascular invasion, mitotic rate, tumor-infiltrating lymphocytes, growth pattern and additional findings such as medical history of the patients when possible to be obtained from the electronic medical records or directly from the patients themselves. The correlation between independent prognostic factors and overall survival were evaluated. Additionally, MMR protein expression was measured by immunohistochemistry. There were 9 male and 8 female patients. The mean age at diagnosis of 63.36 years (range, 52-91). The mean survival was 46.6 months. The overall survival of the 13 patients whose follow-up information was available at 2 years, 5 years was 82% and 46%, respectively. Extremities (n=13) are the most common primary sites followed by the trunk (n=3), face (n=1). One of the cases was presented with metastatic MCC to the brain without a known primary site. The mean follow-up was 29.5 months (range, 2-91). The mean size of the primary tumor was 6.1 cm, while the mean diameter of the primary tumor thickness was 19.32 mm. Lymphovascular invasion was identified in 58.8% of the patients. The mean number of mitoses per 1 mm^2 of the presented cases was 12.4. Regarding the pathological tumor stage, pT1 was found in one patient, pT2 was found in three patients, pT3 was found in three patients and pT4 was found in one patient. 11.7% of the patients treated with surgery only, 29.4% of the patients received surgery with postoperative adjuvant radiation therapy (RT), 29.4% of the patients received surgery with a postoperative combination of adjuvant chemotherapy and radiotherapy (CRT), 5.8% of the patients received surgery with postoperative chemotherapy (CT). MMR protein nuclear expression was intact in 14 cases which were available for immunohistochemical study. In conclusion, to the best of our knowledge this is the first study which preferentially investigates the mismatch repair protein status of Merkel Cell Carcinoma. Mismatch repair deficiency was not identified in our study. But, trials with a larger sample size are necessary to validate this information.

Keywords: Merkel cell carcinoma, mismatch repair, pembrolizumab

Table 1. Main clinicopathologic features of cases diagnosed with MCC

Case no.	Age at diagnosis(yr)	Sex	Tumor Site	Skin lesions age (months)	Tumor Size (cm)	Primary/ Metastatic	Lymph node status (Localisation of lymh node if it's available)	Surgery (If known, surgical method)	Adjuvant treatment	Lateral surgical margin status	Deep surgical magrin status	Recurrence	Survival after diagnosis (months)	The pT category
1	55	F	Left leg	-	-	Primary	-	Surgery	No	-	-	No	91	-
2	68	F	Right arm	-	-	Primary	Negative	Surgery	-	-	-	-	-	-
3	71	M	Left Hand 2nd digit	-	-	Primary	-	Surgery (Amputation)	-	-	-	-	-	-
4	58	M	Left hand, 3rd digit	-	-	Primary	-	Surgery	-	-	-	-	-	-
5	52	F	Right arm	-	-	Primary	-	Surgery	No	-	-	No	51	-
6	59	M	Right leg-suprapatellar region	4	1,8	Primary	-	Surgery	Radiotherapy	Positive	Positive	No	43	pT1
7	79	M	Anal region	-	-	Primary	Positive (Left inguinal)	No	Radiotherapy+ Chemotherapy	-	-	Yes (20 months later)	37 (Death)	-
7 (Reccurence)	80	M	Left inguinal region	-	7	Metastatic	-	Surgery	Radiotherapy+ Chemotherapy	Negative	Positive	-	17 (Death)	pT3
8	56	F	Left periocular region/Parotid gland	-	7/1	Primary	Negative	Surgery (Orbital exenteration)	Radiotherapy+ Chemotherapy	Positive	Positive	No	32 (Loss to follow-up)	pT4
9	65	F	Brain-Right frontal region	-	-	Metastatic	-	-	-	-	-	-	-	-
10	58	M	Right elbow	-	-	Primary	-	Surgery	Radiotherapy	-	Positive	No	30	-
11	63	M	Right ankle	-	-	Primary	Positive	Surgery	Radiotherapy+ Chemotherapy	-	-	Yes	36 (Death)	-
12	91	F	Right thigh	-	-	Primary	Positive	Surgery	Radiotherapy	Negative	Negative	No	22	-
13	73	F	Left elbow	-	2.5	Primary	-	Surgery	Chemotherapy	Positive	Positive	-	8 (Death)	pT2
14	58	M	Right thigh	12	10	Primary	Positive	Surgery	Radiotherapy+ Chemotherapy	Negative	Less than 1 mm	Yes (16 months later)	18	pT3
15	84	F	Left arm	6	6.5	Primary	Negative	Surgery	Radiotherapy	Positive	Less than 1 mm	No	13	pT3
16	63	M	Right supraclavicular region	90	2.9	Primary	-	Surgery	-	Positive	Positive	-	14 (Death)	pT2
17	54	F	Left knee	-	5	Primary	-	Surgery	Radiotherapy	Negative	Positive	-	2	pT2

-, Unknown

Table 2. Histopathological characteristics of cases correlated with Mismatch repair protein expression status

Case no.	Tumor thickness (mm)	Lymphovascular Invasion	Mitotic rate (number of mitoses per mm2)	Tumor Infiltrating Lymphocytes	Growth pattern	Cytokeratin20	Chromogranin	Synaptophysin	MLH1	PMS2	MSH2	MSH6
1	16.98	+	16.05	Non-brisk	Nodular	+	N/A	N/A	+	+	+	+
2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3	14.86	+	20.77	Non-brisk	Nodular	-	+	+	+	+	+	+
4	5.18	-	8.35	Non-brisk	Infiltrative	+	+	+	N/A	N/A	N/A	N/A
5	10.16	-	5	Non-brisk	Nodular	+	+	+	N/A	N/A	N/A	N/A
6	11.58	-	1.45	Brisk	Infiltrative	+	+	+	+	+	+	+
7	14.43	+	14.4	Non-brisk	Nodular	+	+	N/A	+	+	+	+
8	30	+	10	Non-brisk	Infiltrative	+	+	+	+	+	+	+
9	NA	+	4.3	N0n-brisk	Infiltrative	+	+	+	+	+	+	+
10	14.29	-	10	Non-brisk	Nodular	+	+	+	N/A	N/A	N/A	N/A
11	NA	+	3.3	-	Infiltrative	+	+	+	+	+	+	+
12	6	+	50	Non-brisk	Nodular	+	+	+	+	+	+	+
13	23	+	15	Non-brisk	Nodular	+	+	+	+	+	+	+
14	60	+	5.73	Non-brisk	Nodular	+	+	+	+	+	+	+
15	30	-	14.1	Non-brisk	Nodular	+	+	+	+	+	+	+
16	16.69	+	7.05	Non-brisk	Nodular	-	+	+	+	+	+	+
17	22.43	-	14.13	-	Nodular	+	+	+	+	+	+	+

N/A: Not available, (-) Negative, (+) Positive.

Table 3. Additional clinical features of the cases diagnosed with MCC.

Patient no.	Additional Findings
1	Non
2	Incisional biopsy
3	Non
4	Non
5	Later developed ovary cancer which is treated with TAH+BSO and chemotherapy.
6	History of kidney stone, CAG, HT, T2DM
7	History of Renal cell carcinoma, papillary type 2 (8 years before MCC diagnosis). At the time of recurrence in left inguinal region, thyroid metastasis, which is confirmed by aspiration cytology, developed.
8	Patient had a history of kidney transplantation 4 years prior to MCC diagnosis and dialysis 8 years before transplantation due to Familial cystic kidney disease. Other comorbidities: HT, T2DM.
9	Comorbidities: HT, T2DM
10	-
11	Right Radical Nefrectomy due to atrophy (secondary to Stone, 30 years prior to diagnosis), CABG (8 years prior to diagnosis)
12	-
13	-
14	-
15	Breast cancer detection (4 months after diagnosis). Treatment: Surgery+Radiotherapy
16	-
17	History of CAG, T2DM
Abbreviations	TAH+BSO: Total abdominal histerectomy+Bilateral salpingooophorectomy, CAG: Coronary angiography, HT: Hypertension, T2DM: Type 2 diabetes mellitus

OP-029 [Dermatopathology]

Cutaneous metastasis from pathologists' perspective: a tertiary center experience

Ayse Nur Toksoz Yildirim, Rabia Burcin Girgin
Department of Pathology, Istanbul Medeniyet University, Goztepe Training and Research Hospital, Istanbul, Turkey

Introduction & OBJECTIVE: Skin metastasis is the spread of malignant cells from a primary malignancy to the skin. The tumor cells originate either from an internal malignancy or from a primary skin cancer and virtually any tumor can metastasize to the skin. Generally, skin metastases are encountered in 0.7–9% of all patients with cancer and as such the skin is an uncommon site of metastatic disease when compared to other organs. The regional distribution of the skin metastasis, although not always predictable, is related to the location of the primary malignancy and the mechanism of metastatic spread. The relative frequency of skin metastasis correlates with the type of primary cancer. Patterns of cutaneous metastases vary among women and men. Histologically, the skin metastases usually show features reminiscent of the primary malignancy, but with variable degrees of differentiation.Metastasis to the skin is often a pre-terminal event that heralds poor outcome.
This study aims to focus on the experience of a tertiary center encountered throughout 10 years of surgical pathology and dermatopathology practice.

Materials &METHODS: Biopsy-proven skin metastases with available histologic slides were selected from the pathology files at our institution from 2009 to 2019. All the cases had detailed demographic information. Metastases from hematologic malignancies and melanomas were included as well solid organs tumors. Skin tumors and local recurrences in the scar of a previous surgery were excluded.

Results A total of 60 patients with cutaneous metastasis were detected from the pathology archive. Thirty-four patients were male(57%), and 29 patients(43%) were female. Median age was 65.5 years(range 12-92). Thirty-six patients(60%) had a known primary tumor history, and 40%(26 of 47) of the biopsies, the lesions were not suspected of being metastases owing to unusual clinical presentations. On pathologic review, the primary site was breast for 16 patients(26%), malign melanoma for 10 patients(17%), lung for 7 patients(12%) and stomach for 7 patients(12%), kidney for 5 patients(8%), colon for 3 patients(5%), ovary for 2 patients(3%), urinary bladder for 2 patients(3%), bone for 1 patient(2%), nasopharynx for 1 patient(2%), brain for 1 patient(2%), salivary gland for 1 patient(2%), liver for 1 patient(2%), soft tissue for 1 patient(2%), prostate for 1 patient(2%), thyroid for 1 patient(2%)

Conclusions: Excluding the potential for age and gender bias in this study conducted in a retrospective setting, cutaneous metastases represent an uncommon, deadly, and late-developing occurrence in many patients. Compared with previous studies, breast carcinoma remains the most common of the cutaneous metastases, with a relative rise in the incidence of metastatic melanoma. One of our patient had hepatocellular carcinoma metastasis and one patient had clear cell sarcoma metastasis which were very uncommon in the litterature.

Keywords: cutaneous metastasis, skin metastasis, cutaneous spread

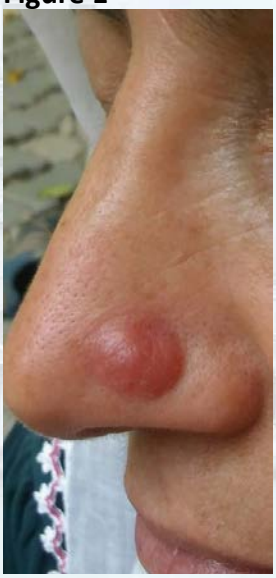
OP-030 [Dermatopathology]
Solitary lymphomatoid papulosis: A rare case

Murat Ozturk[1], Erhan Ayhan[2]
[1]Department of Dermatology, Health Sciences Universty, Van Training and Research Hospital, Van, Turkey
[2]Department of Dermatology, Health Sciences Universty, Diyarbakir Gazi Yaşargil Training and Research Hospital, Diyarbakir, Turkey

A 49-year-old female patient was admitted to our clinic with an asymptomatic nodule that occurred in her nose for about 2 months. In the dermatological examination of the patient, a nodular erythematous lesion of approximately 1.5 cm in size was detected on ala nasi. (Figure 1). As a result of the biopsy of the patient's lesion, atypical lymphoid cells that started under the epidermis and stopped one by one on the inflammatory floor were detected. In the immunohistochemical examination, the rate of atypical cells staining with CD30 was evaluated as less than 5%. Fifty percent of the lymphoid cells forming the lesion were stained by CD3, 50% by CD20 and PAX5, 60% by CD4, and 30% by CD8. Ki67 proliferation index was evaluated as 20%. The neoplastic staining pattern was not observed with S100, CD1a, CD117 and CD56.The patient diagnosed as lymphomatoid papulosis. There wasn't any other lesion. There wasn't any lymphadenomegaly. Blood smear show no sign of atypical cells. Lymphomatoid papulosis (LyP) is a benign chronic often relapsing skin condition that belongs to the CD30-positive cutaneous lymphoproliferative disorders. Most commonly, LyP emerges in the form of itchy pink recurrent papules with a diameter ranging from 0.5 to 1 cm in diameter. In rare cases, there may be a segmental or localized presentation including acral and facial involvement. Although LyP is a self-healing condition, 10% to 40% of patients can develop a second lymphoproliferative disorder such as CD30 positive anaplastic large cell lymphoma (ALCL), Hodgkin lymphoma, or mycosis fungoides. So they must be followed up. In the 10 month follow up of patient, we didn't any find of malignancy. Solitary lymphomatoid papulosis is rare and should be kept in mind in the differential diagnosis of facial solitary nodular lesions.

Keywords: Lymphomatoid papulosis, solitary, malignancy

Figure 1



Nodular erythematous lesion on ala nasi.

OP-031 [Dermatopathology]

Gender comparison of clinical and histopathological findings of 23 patients with Behçet's Disease

Ekrem Civaş
Serbest Hekim, Ankara

Background

Prevalence of BD is highest in countries along the ancient silk road from the Mediterranean Basin to East Asia. Prevalence estimates vary and are reported as 3.8-15.9/100000 in Italy, 7.1/100000 in France, 7.5/100000 in Spain, 7.6/100000 in Egypt, 20-420/100000 in Turkey, 15.2-120/100000 in Israel, 68/100000 in Iran, 14/100000 in China and 7.5-13/100000 in Japan (Skef W, Hamilton MJ, Arayssi T. Gastrointestinal Behçet's disease: a review. World J Gastroenterol. 2015;21(13):3801–3812. doi:10.3748/wjg.v21.i13.3801).

The gender difference in the incidence and the prevalence of the Behçet's Disease is till questionable. (Ucar-Comlekoglu D, Fox A, Sen HN. Gender Differences in Behçet's Disease Associated Uveitis. J Ophthalmology. 2014; Volume 2014, Article ID 820710. doi.org/10.1155/2014/820710)

Male Behçet's Disease patients had more severe course as well as the patients with younger age of onset and the HLA-B51 positive patients (A. Gül, "Behçet's disease as an autoinflammatory disorder," Current Drug Targets: Inflammation & Allergy, vol. 4, no. 1, pp. 81–83, 2005.).

International Study Group strict research level guidelines for diagnosis (1990)
Patients must have:
▯ mouth ulcers (any shape, size or number at least 3 times in any 12 months)
▯ Along with 2 out of the next 4 'hallmark' symptoms:
▯ genital ulcers (including anal ulcers and spots in the genital region and swollen testicles or epididymitis in men)
▯ skin lesions (papulo-pustules, folliculitis, erythema nodosum, acne in post-adolescents not on corticosteroids)
▯ eye inflammation (iritis, uveitis, retinal vasculitis, cells in the vitreous)
▯ pathergy reaction (papule >2 mm diameter, 24-48 hrs or more after needle-prick)

According to the International Study Group (ISG) for Behçet's disease diagnostic guidelines, the patient must have recurrent oral (aphthous) ulceration (at least three times within a 12-month period) along with 2 out of the recurrent genital ulcers, ocular inflammation (anterior and/or posterior uveitis, cells in the vitreous, and retinal vasculitis), skin lesions (including erythema nodosum, pseudofolliculitis, papulopustular lesions, and acne in postadolescents not on corticosteroids), and positive pathergy test (Criteria for diagnosis of Behcet's disease, International Study Group for Behçet's Disease, The Lancet, Volume 335, Issue 8697, 1078–1080.)

The International Criteria for Behçet's Disease (ICBD) (2013)

Sign/Symptom	Points
Ocular lesions	2
Genital apthosis	2
Oral apthosis	2
Skin lesions	1
Neurological manifestations	1
Vascular manifestations	1
Positive pathergy test*	1*

The criteria included ocular lesions (anterior uveitis, posterior uveitis, or retinal vasculitis), genital aphthosis, oral aphthosis, neurological manifestations, skin lesions (pseudofolliculitis, skin aphthosis, erythema nodosum) and vascular manifestations (arterial thrombosis, large vein thrombosis, phlebitis or superficial phlebitis). Oral aphthosis, genital aphthosis and ocular lesions were each given 2 points, whereas 1 point was assigned to each of skin lesions, vascular manifestations and neurological manifestations. A patient scoring 4 points or above was classified as having BD.

*Pathergy test is optional and the primary scoring system does not include pathergy testing. However, where pathergy testing is conducted one extra point may be assigned for a positive result.

(International Team for the Revision of the International Criteria for Behçet's Disease (ITR-ICBD). The International Criteria for Behçet's Disease (ICBD): a collaborative study of 27 countries on the sensitivity and specificity of the new criteria. J Eur Acad Dermatol Venereol. 2014;28(3):338–347. doi:10.1111/jdv.12107)

Aims

The aims of this study were to evaluate the clinical and histopathological findings of the Behçet's Disease and the association between gender and these findings.

Material and Methods

We included the patients admitted to our clinic and diagnosed with Behçet's Disease according to the criteria of the International Study Group for Behçet's Disease between 1998 and 1999.

Evaluation was comprised medical history, clinical examination, consultation to related clinic for the patients had systemic manifestations, magnetic resonance imaging for the patients had neurological manifestations, a pathergy test by inserting a 20 G needle into the dermis of two forearms of the patients, and a histopathologic examination of an excisional biopsy from the lesions.

Results

Table 1. Demographics and clinical characteristics of the patients

Characteristics (n=23)	
Age (years), Median (IQR)	33.0 (25.0-37.0)
Male, n (%)	15 (65.2)
Duration of disease (year), Median (IQR)	3.0 (1.0-8.0)
Initial lesion, n (%)	
Oral aphthae	18 (78.3)
Genital ulcer	2 (8.7)
Both	3 (13.0)
Clinical findings, n (%)	
Recurrent aphthous stomatitis	23 (100.0)
Pathergy test positivity	21 (91.3)
Genital ulcer	20 (87.0)
Papulopustular lesion	20 (87.0)
Erythema nodosum	13 (56.5)

The median age of the patients was 33.0 years, and 15 (65.2%) of the patients were male.
The median duration of the disease was 3.0 years. Of the initial lesion of the patients, 18 were oral aphthae, 2 were genital ulcer and 3 were both of them.
All of the patients had recurrent aphthous stomatitis, 21 patients had positive pathergy test, 20 patients had genital ulcer, 20 patients had papulopustular lesion, and 13 patients had erythema nodosum (Table 1).
There was no statistically significantly difference in the occurrence of initial lesion and the presence of clinical findings among males and females (Data not shown).

Table 2. Comparison of the histopathologic findings among males and females

Histopathologic finding		Males		Females		Total		*p**
		n	%	n	%	n	%	
Vasculitis		6	40.0	2	25.0	8	34.8	0.657
Hydropic degeneration		2	13.3	2	25.0	4	17.4	0.589
Cell infiltration	Lymphocytic	10	66.7	2	25.0	12	52.2	0.062
	Lymphohistiocytic	1	6.7	3	37.5	4	17.4	
	Neutrophilic	2	13.3	0	0.0	2	8.7	
	Mixt	2	13.3	3	37.5	5	21.7	
Pustule		6	40.0	2	25.0	8	34.8	0.657
Panniculitis		1	6.7	2	25.0	3	13.0	0.269
Upper dermal edema		5	33.3	4	50.0	9	39.1	0.657
Total		15	100.0	8	100.0	23	100.0	

* Fisher's exact test was used.

There was no statistically significant difference in histopathologic findings among the males and females.
Vasculitis was found in 6 of the males and two of the females.
Hydropic degeneration was found in two males and in two females.
We found cell infiltration in all patients. The most common cell infiltration type was lymphocytic in males, but whole distribution of the types was statistically similar.
There was pustule formation in six males and two females; panniculitis in one male and two females; and upper dermal edema in 5 males and 4 females.

Table 3. Comparison of the systemic findings among males and females

Histopathologic finding	Males		Females		Total		*p**
	n	%	n	%	n	%	
Uveitis	6	40.0	2	25.0	8	34.8	0.657
Headache	8	53.3	8	100.0	16	69.6	0.052
Gastrointestinal involvements	2	13.3	2	25.0	4	17.4	0.589
Arthralgia	10	66.7	8	100.0	18	78.3	0.122
Cardiovascular involvements	2	13.3	0	0.0	2	8.7	0.526
Total	15	100.0	8	100.0	23	100.0	

* Fisher's exact test was used.

There was no statistically significant difference in systemic findings among the males and females.
Uveitis was found in 6 of the males and two of the females.
Headache was found nearly two-fold higher in females. But this is not statistically significantly different.
Gastrointestinal manifestations were found in two males and in two females.
Arthralgia was found in 10 males and in 8 females.
Cardiovascular manifestations were found only in two males.

The frequency of GI involvement among patients with BD varies in different countries. Lower frequency has been reported in Turkey (2.8%), India (3.4%) and Saudi Arabia (4%), moderate frequency in China (10%) and Taiwan (32%) and the highest frequency has been reported in the United Kingdom (38%-53%) and Japan (50%-60%) *(Skef W, Hamilton MJ, Arayssi T. Gastrointestinal Behçet's disease: a review. World J Gastroenterol. 2015;21(13):3801–3812. doi:10.3748/wjg.v21.i13.3801).*
Only genital aphthae and erythema nodosum were more frequent in females. On the other hand papulopustular eruptions, thrombophlebitis, ocular, neurologic, pulmonary and vascular involvement were more frequent in males. While female patients had the best prognosis, male patients had a worse overall prognosis than females.

(Tursen, U., Gurler, A. and Boyvat, A. (2003), Evaluation of clinical findings according to sex in 2313 Turkish patients with Behçet's disease. International Journal of Dermatology, 42: 346-351. doi:10.1046/j.1365-4362.2003.01741.x)
Dilatation of the proximal aorta, interatrial septal aneurysm, mitral valve prolapse, and mitral regurgitation are the common findings of cardiac involvement in Behçet's disease *(Gürgün C, Ercan E, Ceyhan C, Yavuzgil O, Zoghi M, Aksu K, Çınar CS, Türkoğlu C. Cardiovascular Involvement in Behçet's Disease. Jpn Heart J 2002;43(4):389-398.*

Right ventricular and left ventricular function is impaired in patients with BD.
(Aksu T, Güler E, Arat N, Zorlu A, Yılmaz B, Güray Ü, Tüfekçioğlu O, Kısacık H. Cardiovascular Involvement in Behçet's Disease. Arch Rheumatol 2015;30(0):i-vii. doi: 10.5606/ArchRheumatol.2015.5019)

Behçet's disease and gender differences in clinical manifestations.*

Clinical finding	Incidence/prevalence	Severity*
Mucocutaneous lesions	Erythema nodosum more common in females Papulopustular lesions more common in males	Comparable
Oral ulcers	More in females	Comparable
Genital ulcers	More in females	More severe in females
Skin pathergy test	More in males	Comparable
Arthritis and arthralgia	More in females**	Comparable
Vascular involvement	More in males	More severe in males
Central nervous system involvement	More in males	More severe in males
Gastrointestinal manifestation	Comparable	Comparable
Uveitis	More in males (anterior uveitis is more common in women; panuveitis is more common in men)	More severe in males
Comparable indicates that the severity of these clinical manifestations were not significantly different in most studies. Some studies indicated arthritis to be more common in females while others showed comparable incidence		

** (Ucar-Comlekoglu D, Fox A, Sen HN. Gender Differences in Behçet's Disease Associated Uveitis. J Ophthalmology. 2014; Volume 2014, Article ID 820710. doi.org/10.1155/2014/820710)*

Possible Explanations for Gender Differences in Behçet's Disease

Autoimmune diseases tend to be more common in women of childbearing age. However, Behçet's disease is equally prevalent among males and females in some geographic regions and more prevalent in males in others. Overall, the disease has a more severe course and higher mortality among male patients. Despite numerous studies indicating notable gender differences in ocular and extraocular manifestations as well as severity and mortality of the disease, there is no clear evidence as to what this difference stems from. Although its etiology is unknown, both genetic and environmental factors (smoking, infection, vitamin D, and immune dysregulation) have been blamed. Whether males are more prone to such environmental risk factors has yet to be determined. Both smoking and cessation of smoking have been implicated in severity of clinical manifestations of BD including vasculitis and mucocutaneous lesions. Smoking was more common among male patients with BD in some studies raising the question of possible association. Similarly, low vitamin D3 levels have been associated with BD or its severity; however, these studies failed to show significant differences in vitamin D3 levels between male and female BD patients. Both male gender and HLA-B51 have been consistently associated with a severe disease course and poor prognosis in BD. In fact, a recent meta-analysis study indicated that HLA-B51 was more common among male BD patients, suggesting there could be a genetic basis for poor prognosis among men with BD. While most other autoimmune diseases are more common among women of childbearing age, BD seems to differ with either equal gender distribution or male predominance. The relationship between BD and pregnancy is also poorly studied. Effects of pregnancy on

Behçet's disease in 27 patients showed worsening of disease in 2/3 of patients during pregnancy, particularly in the 1st trimester. This same group also noted exacerbations in oral and genital ulcers during premenstrual periods. These findings suggest that progesterone may play a role in the disease course among women in a complex manner. Whether other reproductive or sex hormones play any role or to what extent has yet to be determined.

(Ucar-Comlekoglu D, Fox A, Sen HN. Gender Differences in Behçet's Disease Associated Uveitis. J Ophthalmology. 2014; Volume 2014, Article ID 820710. doi.org/10.1155/2014/820710)

OP-032 [Dermatopathology]
Fibrohistiocytic and Macrophage Markers for Skin Tumors

Deniz Ates Ozdemir
Department of Pathology, Hacettepe University, Ankara, Turkey

Fibrohistiocytic tumors are group of heterogeneous lesions sharing microscopic features with fibroblasts and histiocytes, by definition it does not designate a lineage differentiation. WHO 2018 Classification Skin Tumors grouped all fibroblastic, myofibroblastic and fibrohistiocytic tumors together. Variants of fibrohistiocytoma, angiomatoid fibrous histiocytoma and epithelioid fibrous histiocytoma are superficial cutaneous tumors that are accepted in fibrohistiocytic tumor family. Atypical fibroxantoma and malignant fibrous histiocytoma; so called fibrohistiocytic tumors are now known to be mesenchyme originated tumors. Even immunohistochemistry may have a role to differentiate this group of tumors from each other and their potential mimickers, light microscopic appearance is fundamental. CD34 expression is rare in dermatofibroma whereas common in dermatofibrosarcoma. However in fibrosarcomatous transformed areas in dermatofibrosarcoma, loss of CD34 expression is expected. Although S100 positivity is not a feature in dermatofibroma, the lesion can be populated by S100 positive dendritic macrophages. In the cellular variant of dermatofibroma SMA and desmin expression can be variable. Desmin and S100 are not expressed in dermatofibrosarcoma. Epithelioid fibrous histiocytoma characteristically has ALK rearrangements resulting in diffuse cytoplasmic ALK overexpression by immunohistochemistry. Epithelioid fibrous histiocytoma's negative S100 immunostaining can be helpful to rule out a Spitz tumor.

Histiocytic and dendritic cell tumors can be of hematopoetic origin (Langerhans cell histiocytosis, Langerhans cell sarcoma, interdigitating cell sarcoma, indeterminated cell tumor, histiocytic sarcoma and Rosai-Dorfman Disease) or mesenchymal origin (follicular dendritic cell sarcoma and fibroblastic reticular cell sarcoma). Monocyte/macrophage proliferative lesions (Juvenile Xantogranuloma, Reticulohistiocytosis, Erdheim-Chester disease and indetermined cell histiocytosis) will also be covered due to their frequency in skin. Langerhans cell histiocytosis is a prevalent member of this group. With its commonness and distinct immunophenotype (CD1a and langerin +), it is very well known among the pathologists. Follicular dendritic originated tumors also have a distinct immunophenotype (CD21, CD23 and CD35 positive). Mononuclear histiocytes in juvenile xantogranuloma and reticulohistiocytoma show strong CD68 and CD163 and positivity. They can express focal scattered positivity with S100 but CD1a and langerin are expected to be negative. There is no immunohistochemical marker to distinct reticulohistiocytoma from multicentric reticulohistiocytosis; however, morphologically the latter one is composed of more smaller and more lipidized cells. Histologic hallmark of Rosai-Dorfman disease is emperipolesis that is highlighted by cytoplasmic S100 positive cells.

Keywords: Fibrohistiocytic, macrophage, histiocytic, immunohistochemistry

OP-033 [Dermatopathology]
Metastasis to Skin: Clinicopathologic Findings of 21 Patients
Betul Ogut, Mehmet Arda Inan, Ozlem Erdem
Department of Pathology, Gazi University, Ankara, Turkey

Introduction & OBJECTIVES: Cutaneous metastasis is so uncommon that less than 10% of cancer patients suffer from it. 1 Lung carcinoma (24%) and breast carcinoma (69%) are the most common malignancies in men and women, respectively. 2 In this study, we aimed to present demographic information, primary tumor site and clinical course of 21 skin metastasis patients.

Materials & METHODS: A search in our pathology database between years of 2017-2019 was done, twenty-one patients who were undergone skin biopsy for cutaneous metastasis were found. Medical records of patients and tissue sections were examined again.

RESULTS: Between 21 patients, the mean age was 58.7. Nine patients (42.9%) were male and 12 patients (57.1%) were female. Four patients were not diagnosed as cancer before skin biopsy. Of the other 17 patients, 7 breast, 5 lung, 3 gastrointestinal tract (2 colorectum, 1 stomach), 1 kidney and 1 thyroid primary was diagnosed (Table 1).

CONCLUSIONS: As cutaneous metastasis of cancer is uncommon, in order to obtain an accurate and rapid diagnosis, a detailed history of the patient is required. Since, primary adnexal carcinoma is the main differential diagnosis of cutaneous metastatic carcinoma.

1. Ruiz SJ, Al Salihi S, Prieto VG, et al. Unusual cutaneous metastatic carcinoma. Annals of diagnostic pathology. 2019;43:151399.
2. Hussein MR. Skin metastasis: a pathologist's perspective. Journal of cutaneous pathology. 2010;37:e1-20.

Keywords: Skin metastasis, malignancy, tumor

Table 1

Patient number	Age	Gender	Pathologic diagnosis	Skin metastasis site	Primary tumor site	Immunohistochemical study
1	60	F	Adenocarcinoma metastasis	-	Lung	-
2	58	M	Squamous cell carcinoma metastasis	Left cruris	Lung	-
3	74	M	Adenocarcinoma metastasis	Right inferior of abdomen	Unknown	LMWK, CK7, CK19, CDX-2 and p-CEA
4	34	F	Ductal carcinoma metastasis	Sternum	Breast	GATA-3, ER, PR, c-ERB B2, ki67
5	73	F	Ductal carcinoma metastasis	Back of the neck	Breast	ER, PR, c-ERB B2, ki67
6	70	F	Adenocarcinoma metastasis	Body	Rectum	PANCK, CDX-2, Villin, CK7, CK20
7	58	M	Carcinoma metastasis	Neck	Breast	GATA-3, ER, PR, c-ERB B2, ki67
8	67	M	Papillary carcinoma metastasis	Right body	Thyroid	-
9	56	M	Adenocarcinoma metastasis	Cheek	Lung	-
10	83	M	Adenocarcinoma metastasis	Right inferior of abdomen	Lung	CK7, TTF-1, CD34, CDX-2
11	62	F	Renal cell carcinoma	Right leg	Kidney	-
12	57	F	Malignant melanoma metastasis	Anterior body	Unknown	s-100, MART-1, HMB-45, PANCK
13	42	F	Ductal carcinoma metastasis	Right leg	Breast	GATA-3, ER, PR, c-ERB B2, ki67, Mamoglobin, GCDFP-15, EGFR, CK5/6
14	57	F	Malignant melanoma metastasis	-	Malignant melanoma	HMB-45
15	60	F	Ductal carcinoma metastasis	-	Breast	E-cadherin, ER, PR, c-ERB B2, ki67
16	38	M	Adenocarcinoma metastasis	Sternum	Unknown	CK20 and CDX-2
17	57	F	Carcinoma metastasis	-	Breast	ER, PR, c-ERB B2, ki67
18	65	F	Breast carcinoma metastasis	-	Breast	GATA-3, ER, PR, c-ERB B2, ki67
19	46	F	Adenocarcinoma metastasis	Right breast skin	Breast	GATA-3, ER, PR, c-ERB B2, ki67
20	48	M	Epitheloid malignant mesothelioma metastasis	Anterior chest	Pleura	Kalretinin, WT-1, CK5/6, D2-40, MOC-31, TTF-1
21	68	M	Adenocarcinoma metastasis	-	Lung	TTF-1, Napsin-A, CK-7

Clinicopathologic findings of patients

OP-034 [Dermatopathology]

Spitz nevus, atypical spitz tumor and spitz melanoma: the clinicopathological discriminative features

Ayça Kırmızı
Department of Pathology, Ankara University Medical School, Ankara, Turkey

Introduction & OBJECTIVES: Spitz tumors comprise one of the challenging melanocytic lesions that clinicopathological correlation is essential for the diagnosis and management of the patients. Even histopathologically, a clear-cut differentiation between benign and malignant spitzoid neoplasms can be very difficult and intermediate lesions are often seen. For this reason we aimed to emphasize the clinicopathological features in benign, intermediate and malign spitz tumors.

Materials & METHODS: We evaluated 87 spitz nevus, 22 atypical spitz tumor and 12 spitz melanoma cases diagnosed in our department between 2005-2019. We described the clinical characteristics, pathological features on Hematoxylin Eosin and immunohistochemical stained slides, and results for FISH analysis.

RESULTS: Our results are shown in Table 1.

CONCLUSIONS: The age of the patient, the diameter of the lesion, pagetoid spread at the periphery of the lesion, mitosis count, atypical mitosis, ulceration, Ki-67 proliferation index, HMB-45 and p16 staining paterns are the most important tools, that can be used for the classification of spitz tumors correctly.

Keywords: Spitz nevus, atypical spitz tumor, spitz melanoma, differential diagnosis, discriminative features

Table 1

	Spitz nevus n=87	Atypical spitz tumor n=22	Spitz melanoma n=12
Mean age (min-max)	22.9 (6-67)	26.3 (6-42)	31.4 (11-64)
Gender (Female/Male)	0.9	0.6	0.7
Mean diameter of the lesion (milimeter) (min-max)	2.9 (1-6)	4.4 (2-8)	6.5 (4-11)
Localisation (%) Trunk Extremities Face Acral	 32.6% 45.0% 14.3% 8.1%	 41.8% 46.2% 4.9% 7.1%	 45.2% 51.8% 0.0% 3.0%
Cell type (%) Epitheloid Spindle Both	 43.2% 44.8% 12.0%	 42.0% 38.2% 19.8%	 40.2% 38.0% 21.8%
Mitosis/mm2 (min-max)	0.8 (0-4)	2.4 (1-8)	4.7 (3-8)
Atypical mitosis (% of the cases)	None	None	33%
Peripheral pagetoid spread (% of the cases)	None	12%	%28
Ulceration (% of the cases)	None	8%	32%
Brisk tumor infiltrating lymphocytes (TIL) (% of the cases)	None	10.2%	26.4%
Ki-67 proliferation index	1.4%	6%	12%
Deep HMB-45 positivity (% of the cases)	None	32%	%74
P16 loss (Immunohistochemistry) (% of the cases)	None	21.4%	32.1%
9p21 deletion (FISH analysis)	Not done	None (n=6)	Not done

The clinical and histopathological features of the cases

OP-035 [Dermatopathology]

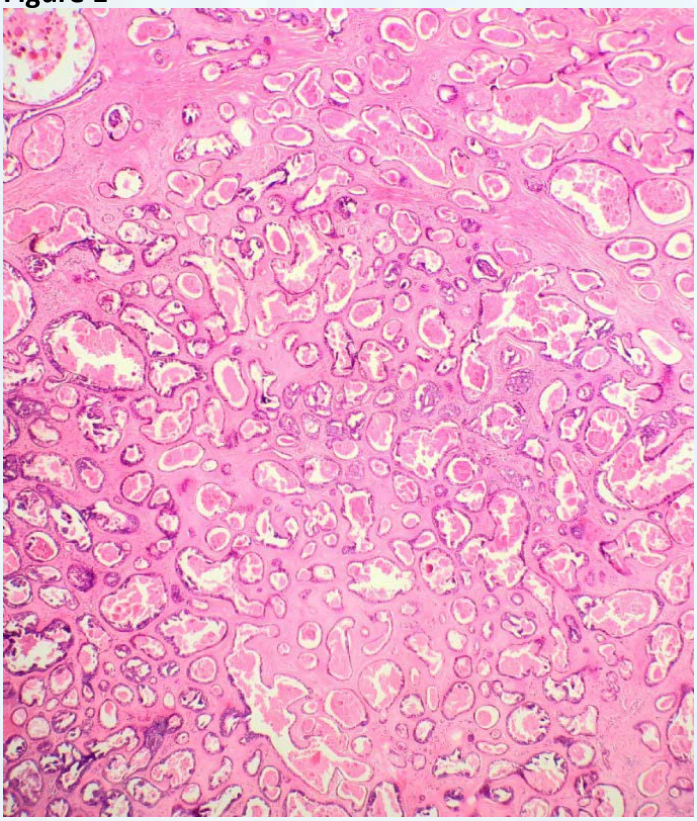
An Important Cutaneous Tumor In Differential Diagnosis; Papillary Eccrine Adenoma

Murat Çelik[1], Ömer Faruk Elmas[2]
[1]Department of Medical Pathology, Selcuk University,Konya, Turkey
[2]Department of Dermatology, Ahi Evran University, Kırşehir, Turkey

Papillary eccrine adenoma (PEA) is a rare, benign cutaneous tumor and it is origin from sweat glands. It was first named by Rulon and Helwig in 1977. PEA most commonly occurs as a slow growing solitary dermal nodule and it is usually asemptomatic. PEA shows similar histological features with tubular apocrine adenoma. So, the terms 'tubulopapillary hidradenoma or papillary tubular adenoma' are common used for two entity. The tumors are usually presented on the extremities,rarely seen head, trunk and abdomen. PEA is most commonly seen in middle-aged female patients. Microscopically, these tumors are unencapsulated but have a prominent border and composed of multiple dilated intraductal papillae. The ducts are generally lined by double layers epithelial cells and some tubules have eosinophilic amorphous material within the lümen. The suggested treatment is surgical excision. We report a case of papillary eccrine adenoma in a 56-year-old male and he had a solid, dark brown nodule on the left dorsal hand. Histologically, the tumor was consisted of multiple dilated ducts lined by two or more layers of epithelial cells. The luminal cells showed papillary projections that resemble cribriform patern into the lumen in some tubules. Eccrine papillary adenoma is an entity that should be considered in the differential diagnosis despite it is characteristic histological features. In particular, cribriform-like structures within the lesion can be confused with metastatic tumors.

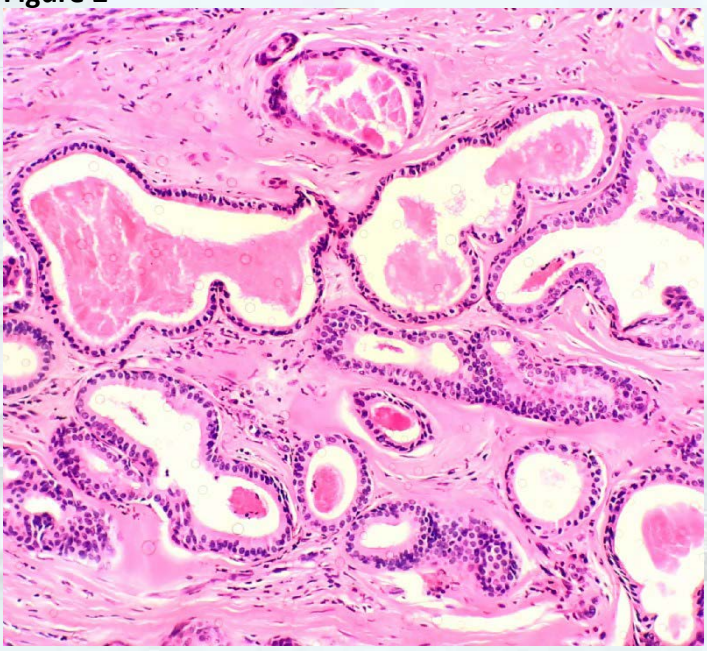
Keywords: papillary, eccrine, sweat, cribriform

Figure 1



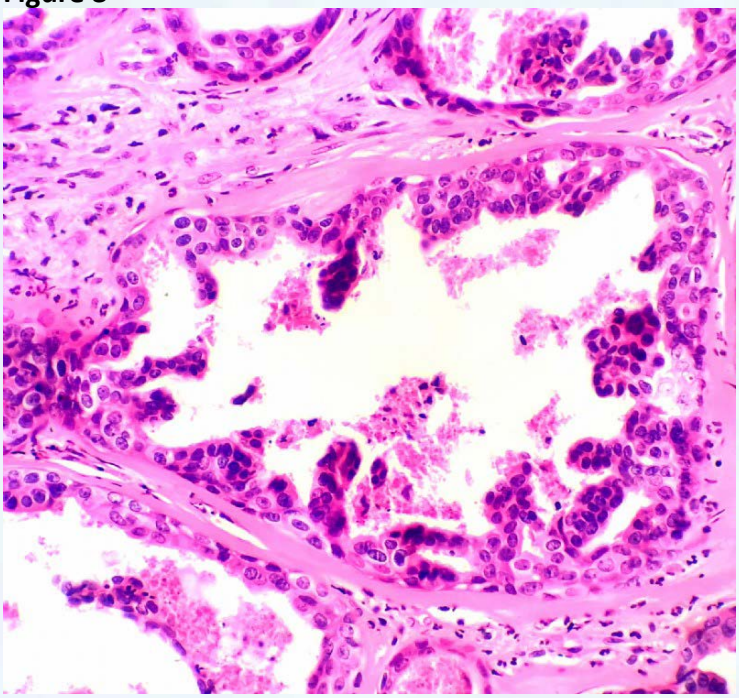
Multiple dilated ductus of varying sizes (H&E X40)

Figure 2



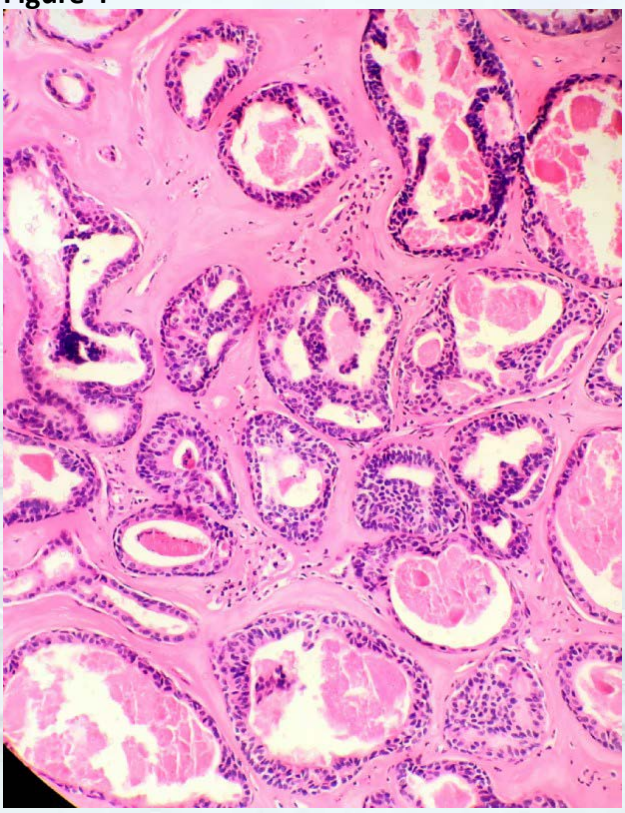
The tubules lined by two or more layers of epithelial cells and some lumens comprise eosinophilic amorphous material (H&E 200)

Figure 3



The tubules showed often papillary projections protruding into the lumen(H&E 400)

Figure 4



Some tubules showed cribriform like structure (H&E200)

OP-036 [Dermatopathology]

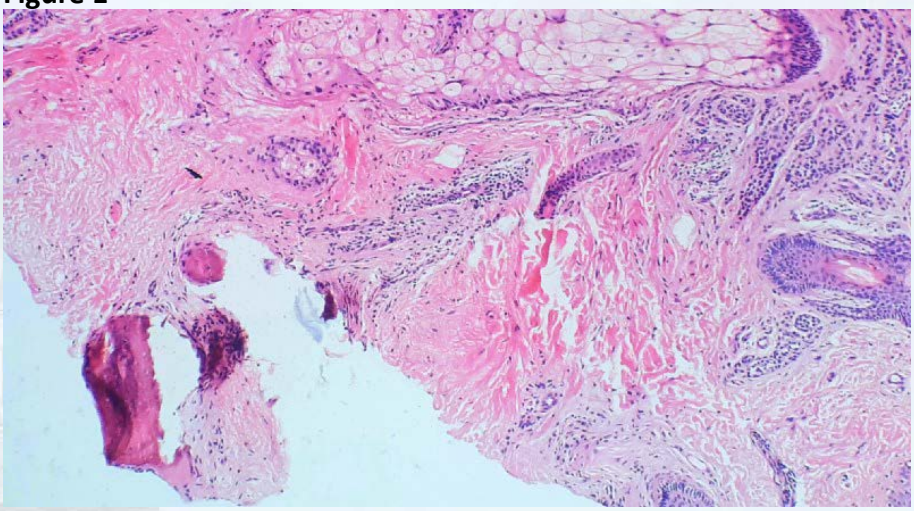
Osteo-Nevus of Nanta, Three cases reports

Murat Çelik[1], Ömer Faruk Elmas[2]
[1]Department of Medical Pathology, Selcuk University,Konya, Turkey
[2]Department of Dermatology, Ahi Evran University, Kırşehir, Turkey

Many different changes can uncommonly be seen in benign conventional nevus.These are neurotization, sebaceous alteration, adipose metaplasia, amyloid deposition,calcifications,osseous metaplasia, pseudovascular lacunae, foreign body reaction,etc. Intradermal melanocytic nevi with secondary ossification is rare consisted in routine dermatopathological practice. The bone formation in intradermal nevus is known as osteonevus of Nanta. Bone formation usually encounter at the base of the melanocytic lesions and there are a higher incidence in females. These lesions tend to be located in the upper part of the body. We aimed to present three rare osteonevus of nanta cases.

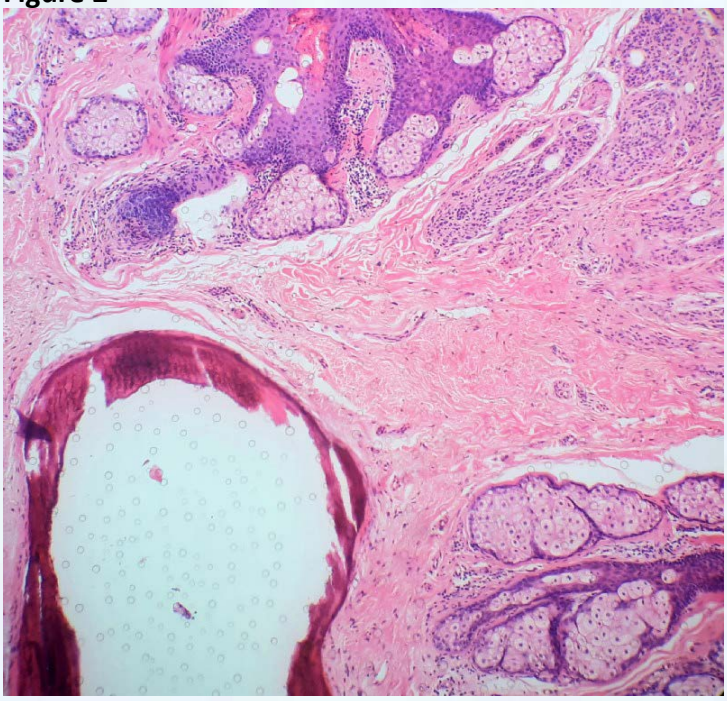
Keywords: nevus, ossification, bone, metaplasia

Figure 1



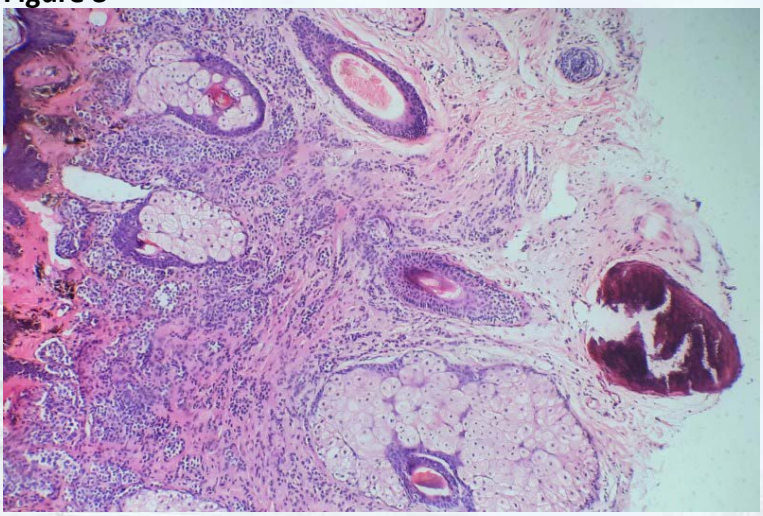
First case, bone metaplasia which is seen adjacent to nevus cell (H&E X100)

Figure 2



Second case, bone metaplasia which is seen adjacent to nevus cell (H&E X100)

Figure 3



Third case, bone metaplasia which is seen adjacent to nevus cell (H&E X100)

OP-037 [Dermatopathology]

Melanocytic lesions in pediatric age group: our experience over 10 years

Zeynep Bayramoğlu[1], Betül Ünal[2]
[1]Konya Training and Research Hospital
[2]Akdeniz University Faculty of Medicine

INTRODUCTION: Melanocytic lesions are common in pediatric age group and they are mostly benign. In young patients, melanocytic lesions may be precursor lesion of melanoma or it may be difficult to distinguish them from melanoma. However, melanoma is a rarely seen tumor in children. We aimed to discuss melanocytic lesions in pediatric age group over 10 years with literature.

MATERIAL-METHOD: A total of 1188 patients between the ages of 0-18 who were diagnosed with melanocytic lesion at our hospital between 2009 and 2019 were retrospectively analysed and macroscopic features, histopathologic features and immunohistochemical stains of these lesions were retrospectively evaluated.

RESULTS: A total of 1188 patients between the ages of 0-18 who were diagnosed with melanocytic lesion at our hospital between 2009 and 2019 were included in this study. Out of 1188 patients, 680 were female and 508 were male. Two (0.16%) of our patients were diagnosed with melanoma (Figure 1), 2 (016%) with halo nevus, 3 (0.25%) with congenital nevus, 4 (0.33%) with special site nevus, 25 (2.10%) with spitz nevus(Figure 2) and 1152 (96.9%) with conventional nevus.

DISCUSSION: Although pediatric melanoma is very rare it is known that its incidence has increased recently. Xeroderma pigmentosum, giant congenital melanocytic nevus, dysplastic nevus syndrome, atypical nevus, several acquired melanocytic nevi, family history of melanoma and immunosuppression may be among the risk factors for melanoma. Therefore, when melanocytic lesions are evaluated in pediatric age group melanoma and lesions in which melanoma may develop should be definitely kept in mind although they are very rare, because early diagnosis and treatment of melanoma change the prognosis. In histopathologic analysis, some cases are very easily diagnosed while some of them may require a large number of serial section analyses, immunohistochemical analyses and even molecular analyses. In recent years, there has been a molecular data boom from the studies in which various methods including whole genome or exome sequencing, targeted sequencing, comparative genomic hybridization (CGH), and fluorescence in situ hybridization (FISH) are used on melanocytic neoplasms especially in adult patients. These data have considerably increased our knowledge of the occurrence of melanocytic lesions and melanomagenesis. Moreover, our hope in that new therapeutic targets can be found increased as a result of these studies. In conclusion, pediatric melanocytic lesions are mostly benign and should be evaluated together with clinical, dermoscopic and histopathologic findings, but early diagnosis is also very important in malignant lesions.

Keywords: Melanocytic lesions, melanoma, spitz nevüs, nevüs

OP-038 [Dermatopathology]

Deep Learning as a Tool in The Diagnosis of Mycosis Fungoides

Emre Çağatay Köse[1], Uğur Dinç[2], Yasemin Yuyucu Karabulut[1]
[1]Department of Medical Pathology, Mersin University, Mersin, Turkey
[2]Faculty of Medicine, Mersin University, Mersin, Turkey

BACKGROUND: Mycosis Fungoides (MF) makes up most of the cutaneous lymphomas. As a malignant disease, the greatest diagnostical challenge is to differentiate MF from inflammatory diseases as early as possible. Contemporary computational methods successfully identify cell nuclei in histological specimens. Deep learning methods are especially favored for such tasks.

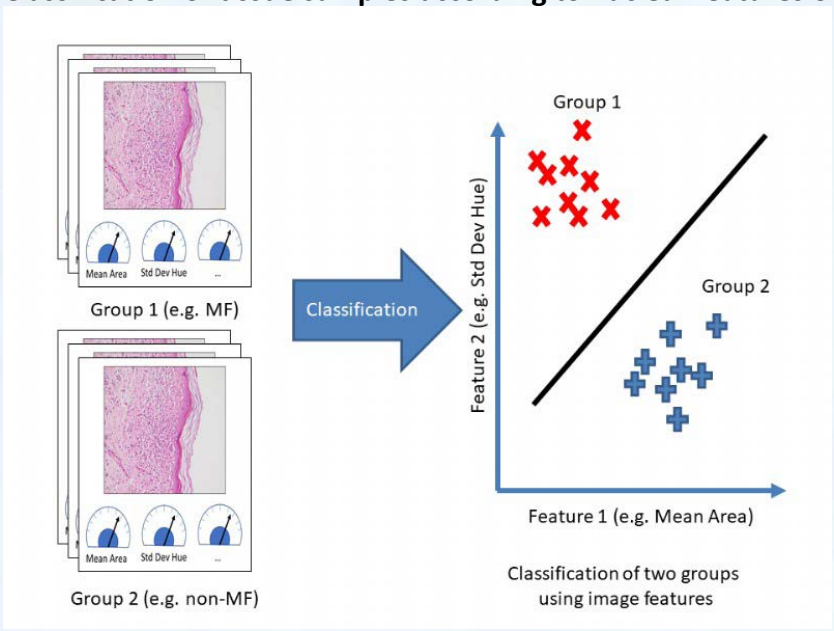
METHODS: A deep learning model was used to detect nuclei in Hematoxylin-Eosin (H-E) stained micrographs. Nuclear properties are extracted after detection. A multi-layer perceptron classifier is employed to classify lymphocytes specifically among the detected nuclei. MF and non-MF nuclear properties of lymphocytes were compared to provide descriptive features. Random forest classifier method is used to build a model to classify MF and non-MF lymphocytes.

RESULTS: All nuclear properties showed statistically significant differences between MF and non-MF groups. Nuclei of lymphocytes in MF cases were smaller, darker and chromatically more heterogeneous. Lymphocyte detection model had an average 90.5% accuracy and MF diagnosis model had an average 94.2% accuracy.

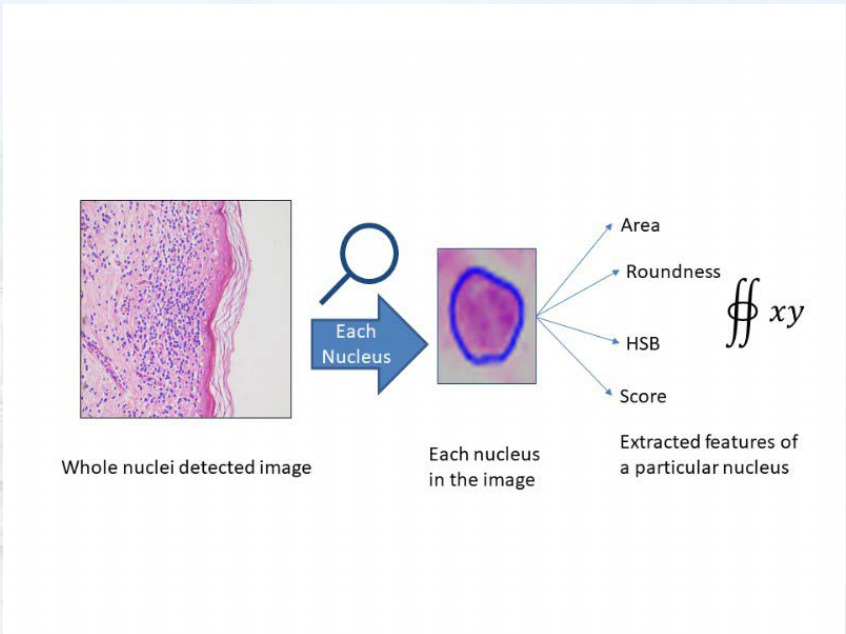
CONCLUSION: The lymphocyte detection and MF diagnosis models could be utilized to make MF diagnoses easier, more accurate and faster. We present a novel approach to MF diagnosis and this project aims to act as a bridge between modern artificial intelligence and medical practice.

Keywords: Mycosis Fungoides, nucleus detection, lymphocyte detection, deep learning, computer-aided diagnosis

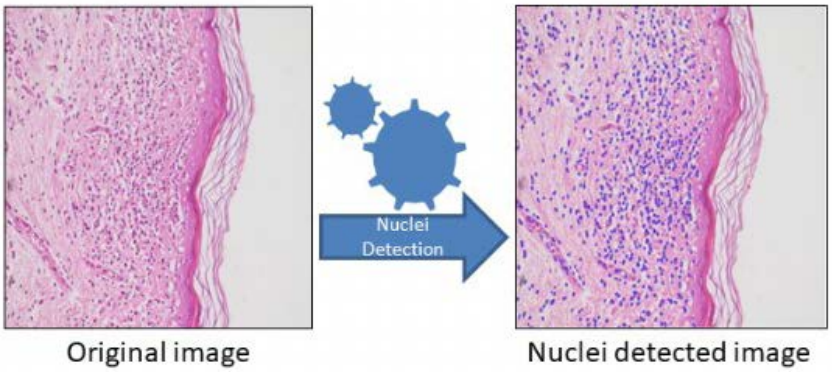
Classification of tissue samples according to nuclear features of lymphocytes



Schematic illustration of feature extraction



Schematic illustration of nuclei detection



OP-039 [Dermatopathology]

Digital and extradigital Glomus Tumors: A clinicopathological analysis of 16 cases

Asuman Kilitci[1], Ömer Faruk Elmas[2]
[1]Department of Pathology, Ahi Evran University Faculty of Medicine, Kırşehir, Turkey
[2]Department of Dermatology, Ahi Evran University Faculty of Medicine, Kırşehir, Turkey

INTRODUCTION: Glomus tumors refer to a group of perivascular tumors usually involved digital region. The tumor is histologically composed of vessels and glomus cells in varying proportions. The aim of this study is to document the clinicopathologic findings of the entity in a series of 16 cases.

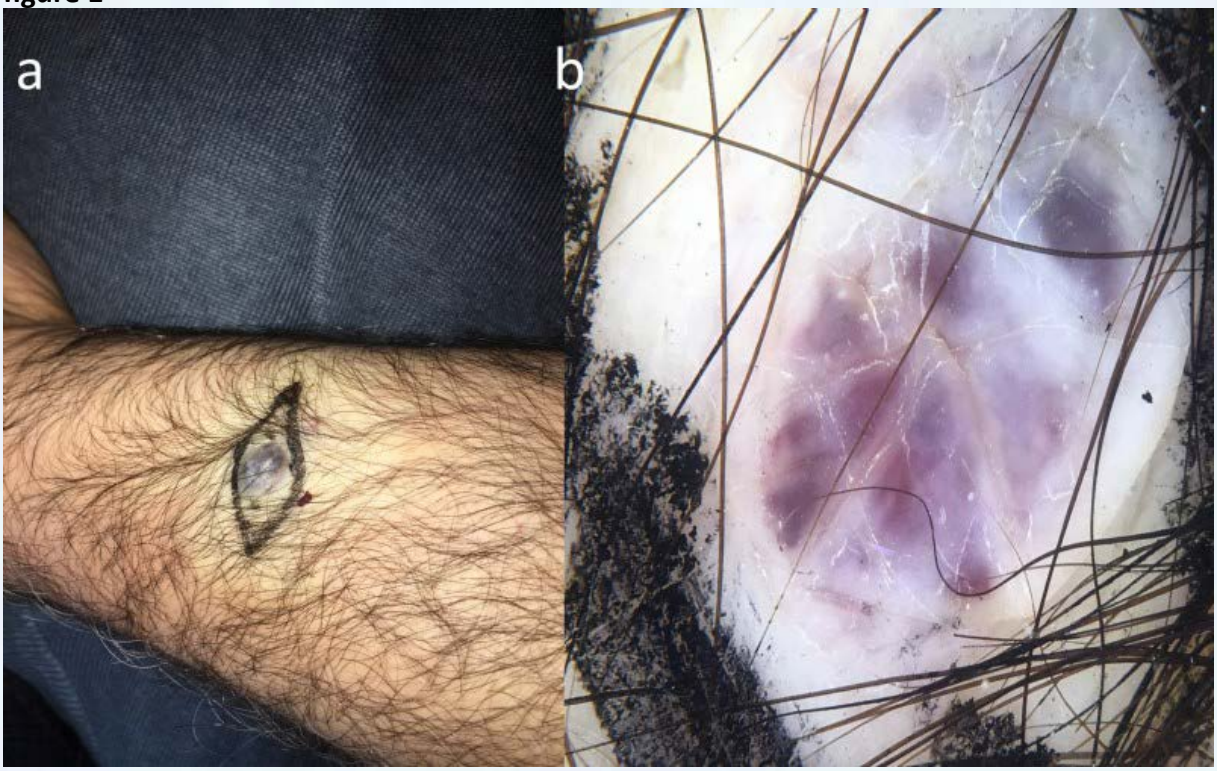
MATERIAL&METHODS: We reviewed the medical data and pathology specimens of 16 patients with glomus tumors who admitted to our tertiary center during the last ten years.

RESULTS: The mean age of the patients was 57.8 years, 9 men and 7 women. The most frequent location was finger (subungual area) (n=5). The other locations included chest wall (n=2), elbow (n=1), arm (n=1), nose (n=1), anterior abdominal wall (n=1), hip (n=1), back (n=1), thigh (n=1), knee (n=1), and foot (n=1). Seven patients presented with localized tenderness. Subungual involvement was more frequent in female patients (n=4), when compared to male patients (n=1). All the lesions were solitary. Macroscopically, the tumors were soft in consistency, usually yellowish/brown in color and regular in shape with smooth contours. The size of the lesions varied from 0.5 to 2.5 cm (average size: 1.25 cm). Histopathologically, 16 cases were classified as solid type, glomangioma type and glomangiomyoma type. Edematous and extensive myxoid stromal changes were found in 4 cases. Immunhistochemically, CD31, CD34, Desmin, SMA were applied to support the diagnosis. Ki-67 expression levels were found to be “low” for all the specimens. All the cases were managed with total excision and no recurrence was observed in any case during at least one-year period follow-up.

CONCLUSION: In this study, extradigital glomus tumor was found to be more frequent than the digital ones. It should be kept in mind that the glomus tumor has the ability to involve different sites over the body. The differential diagnosis of painful and painless subcutaneous nodules in any location should include glomus tumors.

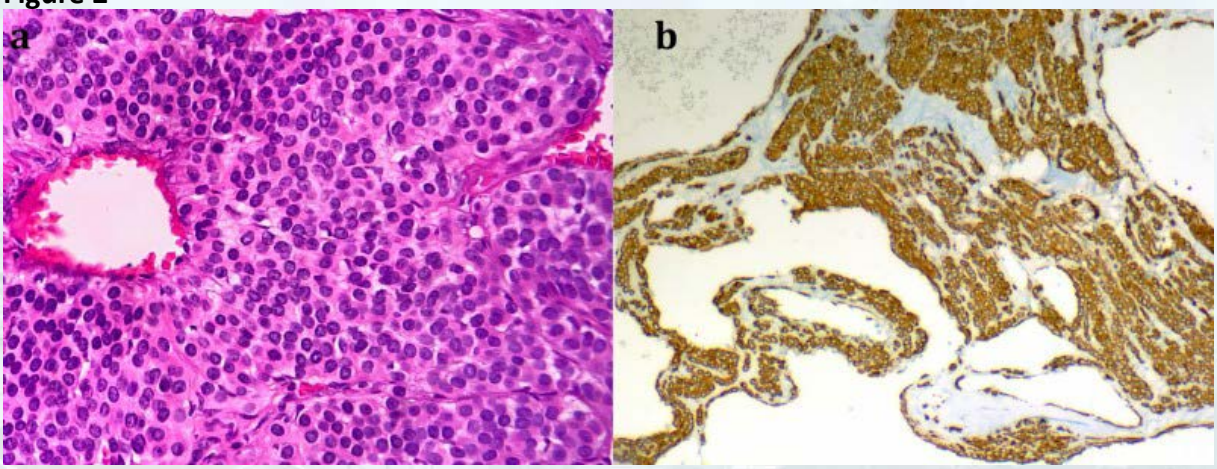
Keywords: glomus tumor, histopathology, digital, extradigital

figure 1



A painful purple nodule located on the extansor surface of the left arm (a). Large purple clods arranged in a jigsaw-like fashion on a white structureless background (b).

Figure 2



Tumoral lesion is characterized by solid aggregates of glomus cells around small capillary sized vessels (H&E, x200) (a). The glomus cells stain positively for SMA (H&E, x100) (b).

POSTER PRESENTATIONS

PP-01 [Corrective, Aesthetic and Cosmetic Dermatology]
Treatment of Refractory Melasma with Oral Tranexamic acid: A Case Report

Elaine Alcalde
Elaine Alcalde, International Clinical Private Practice

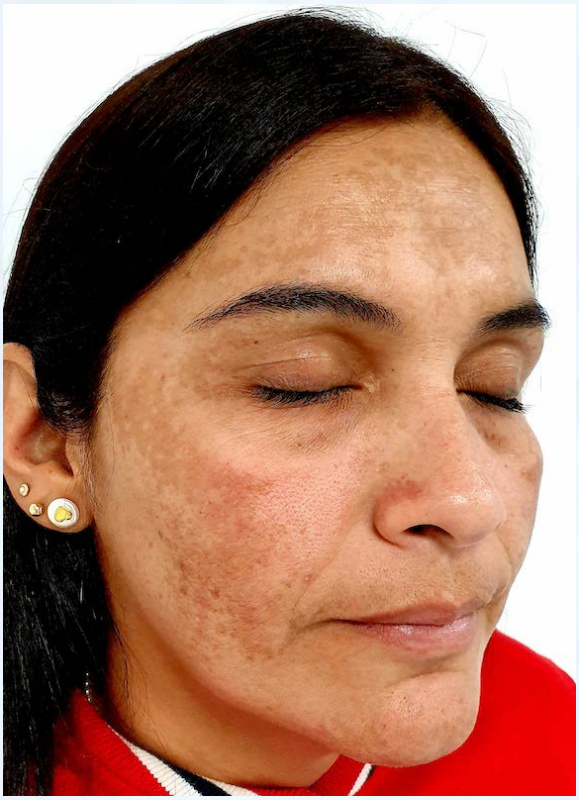
Hyperpigmentation disorders are common within the Peruvian population. Melasma is an acquired disorder of hyperpigmentation characterized by many light-to-dark brown macules distributed symmetrically on the sun-exposed parts of the body. The disorder has a severe impact on the quality of life (QOL), causing deep psychological and social stress. Multiple factors implicated in the pathogenesis of melasma include genetic predisposition, pregnancy, ultraviolet radiation, thyroid dysfunction and certain drugs. Topical skin-lightening agents remain the mainstay of treatment but have variable success. In patients who are refractory to topical therapy, intense pulsed light or laser interventions may be a second line option; however, the reported success rates of these procedures are low and paradoxical darkening is a recognised side-effect. Oral tranexamic acid (TA) is a new potential treatment for refractory melasma. We present the case of a female patient who showed dramatic improvement of refractory melasma 10 weeks after oral TA administration.

Case Report: A 35 year old female presented with dark brownish colour patches on centrofacial region. Skin examination showed dark brownish hyperpigmented patches on cheeks and upper lip (Figure 1). The MASI score was 5.6. This patient had been initially applying topical Hydroquinone 4%, for 12 weeks. However, there was no clinically reduction in the pigmentation. There was no family history of coronary heart disease or coagulopathy. We initiated oral Tranexamic acid 250 mg twice daily. During the treatment the patient was also given sunscreen with SPF 50.Treatment was continued for 10 weeks. The results were visible post treatment in this case of refractory melasma. The MASI score at 10th week post treatment was 2. There was an improvement in the overall disease and patient satisfaction with visible skin whitening effect (Figure 2). The patient was followed up for further 3 months with no recurrence.

Discussion: Management of melasma remains a challenge and the search for a safe and effective treatment option continues. TA is a synthetic derivative of the amino acid lysine and exerts its effect by reversibly blocking lysine binding sites on plasminogen molecules, thus inhibiting plasminogen activator (PA) from converting plasminogen to plasmin. Plasminogen is also present in human epidermal basal cells and cultured human keratinocyte are known to produce PA thus, there is basic rationale that TA will affect keratinocyte function and interaction. In our case we found a decrease in MASI score with visual reduction in pigmentation after 10 weeks of treatment. Oral TA is a safe and efficacious treatment for refractory melasma. In our case, we reported a meaningful reduction in MASI score during treatment with oral tranexamic acid. Also, we found no recurrence in the follow-up period of 3 months. Thus, it can be concluded that oral tranexamic acid can be used in the treatment of refractory melasma.

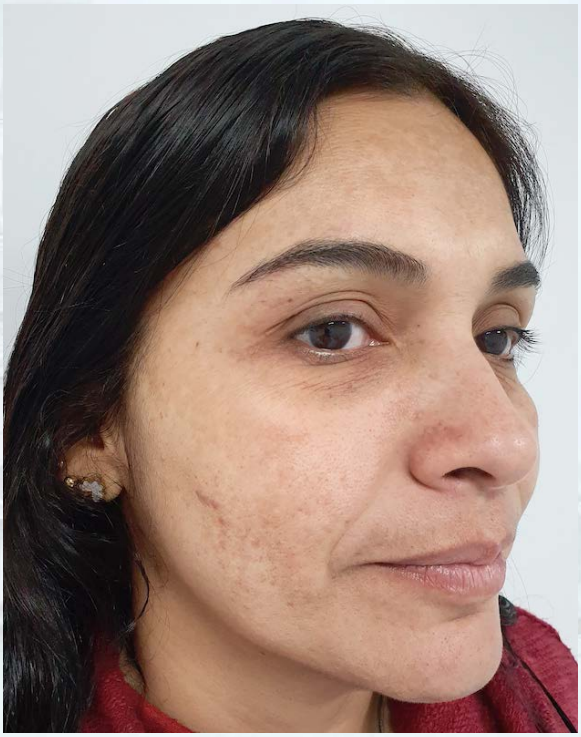
Keywords: Tranexamic acid, oral, Melasma

1



Before TA Treatment

2



After 3 Month treatment TA

PP-02 [Corrective, Aesthetic and Cosmetic Dermatology]
Oral Tranexamic Acid in the Treatment of Melasma Refractory to Topical Therapy

Elaine Alcalde
Department of Dermatology, Private Practice, Boutique de la Piel, Talara

Melasma is a acquired hyperpigmentary disorder, particularly among Asians and Hispanics. Although genetic influence plays an important role, the exact pathomechanism of melasma remains incompletely understood. Melasma is associated with epidermal hyperpigmentation, weak basement membrane, vascular proliferation and increased numbers of mast cell.
Tranexamic acid or trans-4 aminomethylcyclohexanecarboxylic acid, is an antifibrinolytic agent that inhibits plasminogen activator, through the reversible blockade of lysine-binding sites on plasminogen molecules.

Tranexamic acid has been found to inhibit melanin synthesis in melanocytes by interfering with the interaction of melanocytes and keratinocytes through inhibition of the plasminogen/ plasmin system.

OBJECTIVE: To evaluate the therapeutic effects of oral tranexamic acid in the treatment of melasma refractory to topical skin lightening agents. METHODS: This study is a retrospective analysis of patients with melasma, recruited from a Private dermatological centre between 1st August 2017 and 1st August 2019. The patients chosen had refractory melasma who were treated with oral tranexamic acid 500mg daily in addition to pre-existing combination topical therapy. Patients who had a history of severe renal failure, thrombophilic disorders or thromboembolic disease, or hypersensitivity to tranexamic acid were excluded. Objective assessment using the Physician's Global Assessment (PGA) and Melasma Area and Severity Index (MASI) scores were performed based on post-hoc analysis of photographic records. A paired t-test was used to evaluate the changes in the MASI scores pre- and post- treatment. Statistical significance was defined as p-value <0.05.

RESULTS: Twenty-five patients were treated with tranexamic acid for a mean period of 3.7± 0.33 months, in addition to combination topical therapy. Their mean age was 31.2±1.61 years. The mean MASI scores after tranexamic acid treatment (2.6 ±0.43) were significantly lower (p<0.01) than those prior to treatment (10.1±1.13). The mean improvement in scores was 70.1± 4.24%. The follow-up period was up to 6 months. Two (8%) patients relapsed after stopping tranexamic acid.

CONCLUSION: Low dose oral tranexamic acid can serve as a safe and useful adjunct in the treatment of refractory melasma.

Keywords: Oral Tranexamic Acid, Treatment, Melasma Refractory, Topical Therapy

PP-03 [Cutaneous Oncology]

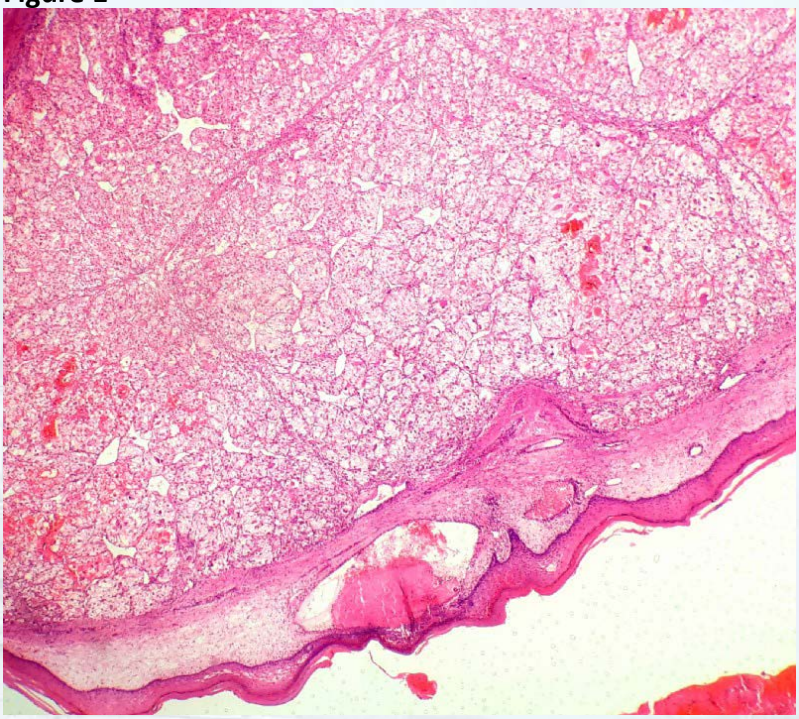
A Case Report; Finger Skin Metastasis of Renal Cell Carcinoma

Murat Çelik[1], Ömer Faruk Elmas[2]
[1]Department of Medical Pathology, Selcuk University,Konya, Turkey
[2]Department of Dermatology,Ahi Evran University,Kırşehir, Turkey

Renal cell carcinoma(RCC) accounts for nearly %60-80 of primer renal carcinomas. Metastasis of RCC occurs mainly to lungs, bone, liver and brain. Skin metastasis from RCC is a rare entity which accounts for 1.3–3% of cases. Skin metastases are usually considered late manifestations of the disease, bearing a poor prognosis. We aimed to present the a 73-year-old female of RCC metastasis in the left hand's 5th finger of the patient with known RCC history.

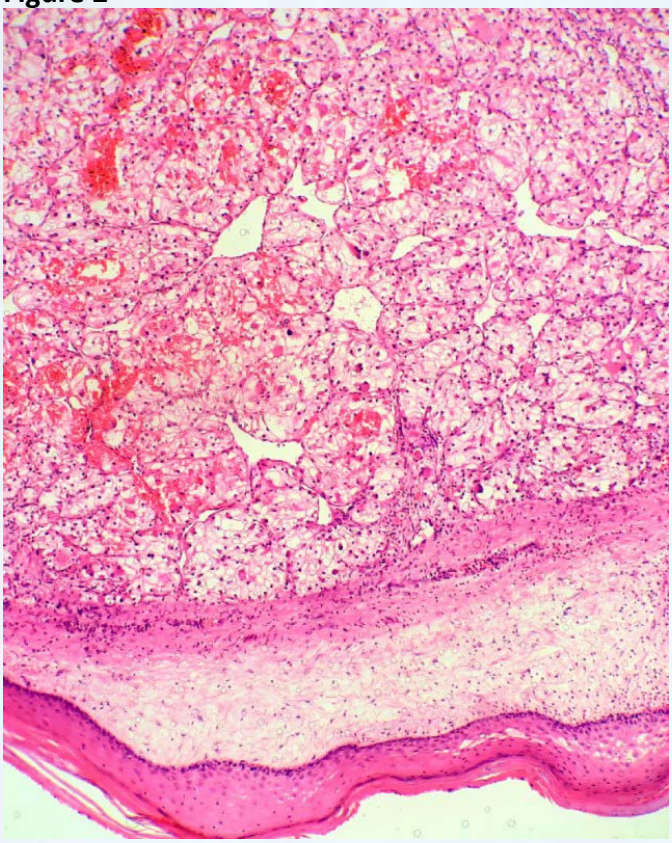
Keywords: RCC, finger, cutaneous, metastasis

Figure 1



Clear cell renal cell carcinoma metastasis in the dermis (H&E X40)

Figure 2



Goups of irregular cells with cytological atipical nuclei and clear cytoplasm are observed in dermis. Prominent vascularity is another finding (H&E X100).

PP-04 [Infectious Diseases, Parasitic Diseases, Infestations]

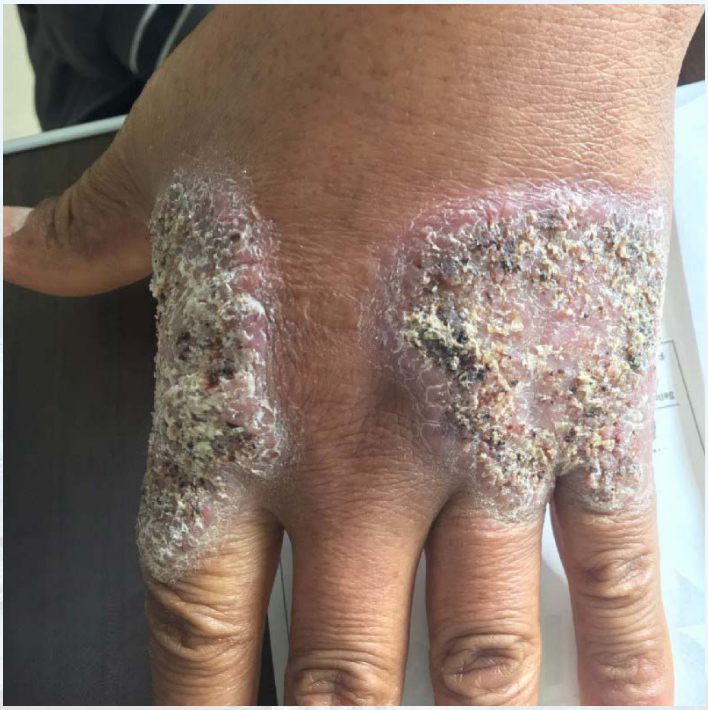
Successful treatment of cutaneous leishmaniasis with intralesional Sodium stibogluconate: A case report

Elaine Alcalde
Department of Dermatology, Simon Bolivar Hospital, Cajamarca Peru

Cutaneous leishmaniasis (CL) is a high-morbidity, vector-borne disease endemic to Peru. Unlike conventional systemic antileishmanial therapy, intralesional Sodium stibogluconate administration has fewer adverse effects and can be as effective and safe. We describe 1 patient treated with intralesional Sodium stibogluconate with recurrent lesions. The patient present all cure criteria after 5 sessions of Sodium stibogluconate administration (1-5 mL). Adverse effects comprised mainly of local pain and edema. Intralesional Sodium stibogluconate administration could be an excellent alternative treatment for uncomplicated CL; however, controlled clinical trials are needed to test the efficacy and safety thereof.

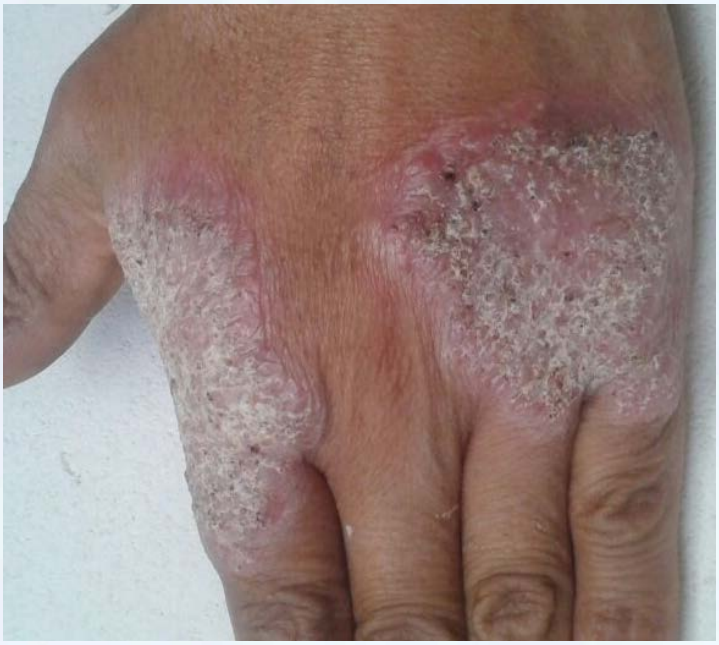
Keywords: Cutaneous leishmaniasis, Intralesional, Sodium stibogluconate, Treatment

A



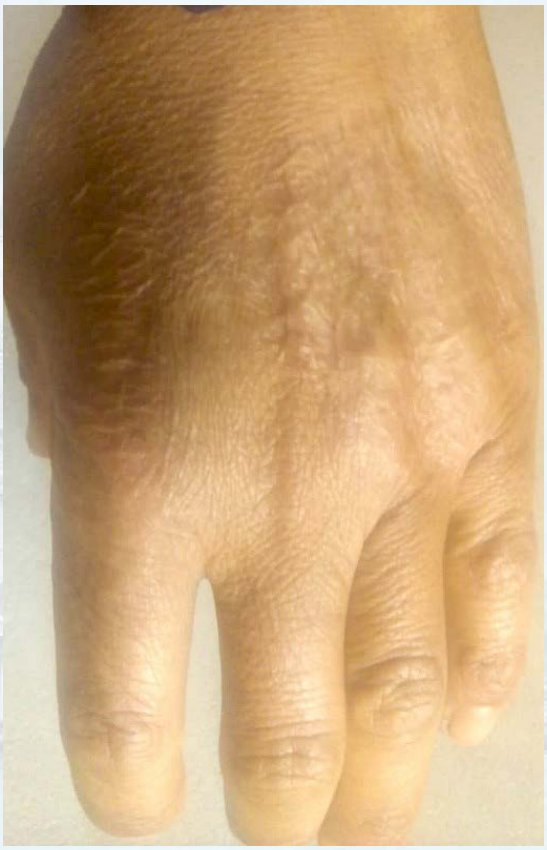
BEFORE TREATMENT

B



AFTER 3 WEEKS TREATMENT

C



AFTER 5 WEEKS TREATMENT

PP-05 [Dermatopathology]

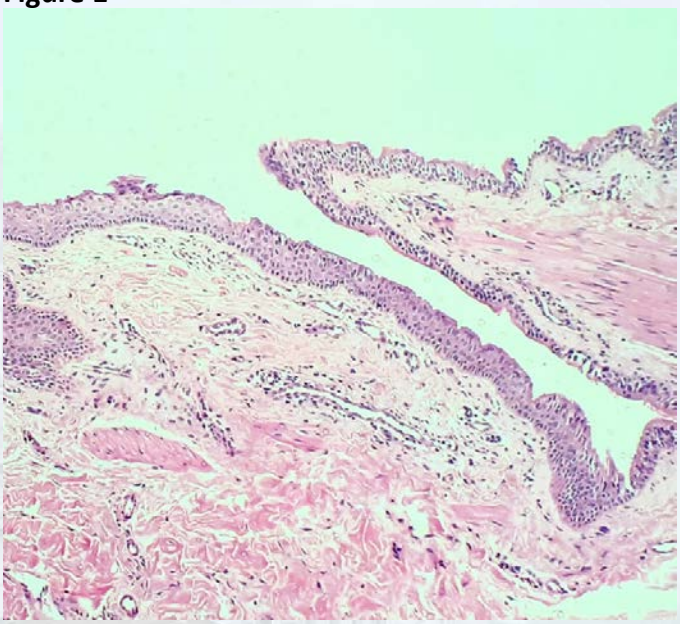
Cutaneous Ciliated Cyst; Rarely Occurring in Male Patient

Murat Çelik[1], Ömer Faruk Elmas[2]
[1]Department of Medical Pathology, Selcuk University,Konya, Turkey
[2]Department of Dermatology, Ahi Evran University, Kırşehir, Turkey

Cutaneous ciliated cysts are rare benign lesions. It is encountered as a painless cyst occurring on the lower extremity of young women. Cutaneous ciliated cysts are typically lined by a cuboidal to columnar ciliated epithelium. Some areas show pseudostratified ciliated epithelium and squamous metaplasia. Because of the similarities between the epithelium of the fallopian tubes and cutaneous ciliated cysts, mullerian heterotopias have been suggested as a possible pathogenesis. With that's it, in recent years, there have been other hypotheses such as eccrine origin because of case reports of ciliated cysts in male patients. We report a rare case of cutaneous ciliated cyst on the back of a 13 years old male and it is the 9th cases known in the literature.

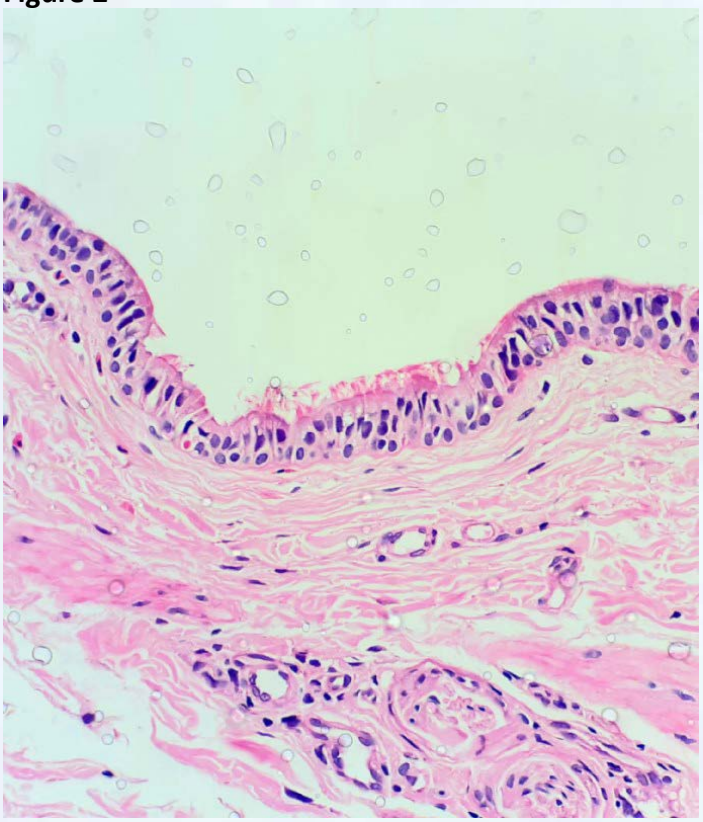
Keywords: cutaneous ciliated cyst, male, eccrine,mullerian heterotopias

Figure 1



The cyst is covered by ciliated columnar epithelium with squamous metaplasia

Figure 2



Simple cyst lining composed of ciliated columnar cells

PP-06 [Dermatopathology]

A Rare Case Report; Apocrine Hidrocystoma

Murat Çelik[1], Ömer Faruk Elmas[2]
[1]Department of Medical Pathology, Selcuk University,Konya, Turkey
[2]Department of Dermatology, Ahi Evran University, Kırşehir, Turkey

Introduction: Apocrine hidrocystoma(AH) is a rare, benign, cystic tumor of the apocrine sweat glands. Clinically, It most commonly consists as a solitary, well-defined, dome-shaped, asymptomatic, nodule (1,2). Apocrine hidrocystoma is most often located on the head and neck and commonly affecting periorbital area. It also occurs on the lips, ears, neck, scalp, chest, shoulders, or feet(3). Apocrine hidrocystoma is mainly observed in adults aged 30 to 70 years(1). Histologically, AH is well-circumscribed cystic lesion that characterized by the presence of one to several layers of cuboidal or columnar cells showing decapitation secretion(4). We reported a rare case of apocrine hidrocystoma on the scalp.

Case report: A 39-year-old man presented with a solitary lesion on his scalp. He first noticed three monhts ago. Clinically, the lesion was mobile, non-tender, gray-purple cystic nodule measured 1,5 × 1.0 cm. The patient had no other known symptoms. The lesion was surgically excised. Microscopically, the cystic lumens are lined by a two and more layer of epithelial cells(Figure 1). The inner layer was cuboidal- columnar cells with eosinophilic cytoplasm and the outer layer was flat. The cystic space showing decapitation secretion(Figure 2). Together with these findings, we reported the case as apocrine hydrocystoma in the scalp.

Discussion and Conclusion: Apocrine hidrocystoma is an uncommon cystic lesion and is most often located on the head and neck. It is often present as solitary cystic lesions. It was firstly described by Mehregan in 1964(5). Apocrine hidrocystoma is not associated with a familial incidence. Hidrocystoma may occur eccrine or apocrine differentiation. The presence of decapitation secretion is evaluated in favor of apocrine hydrocystomas(5). The diagnosis may be suspected from some clinical indicators, but the accurate diagnosis is based on histopathologic evalation(1). Apocrine cystadenoma should be considered in the differential diagnosis of eccrine hidrocystoma, epidermoid or pilar cysts, cystic basal cell epithelioma, and melanoma of the scalp(1,5).

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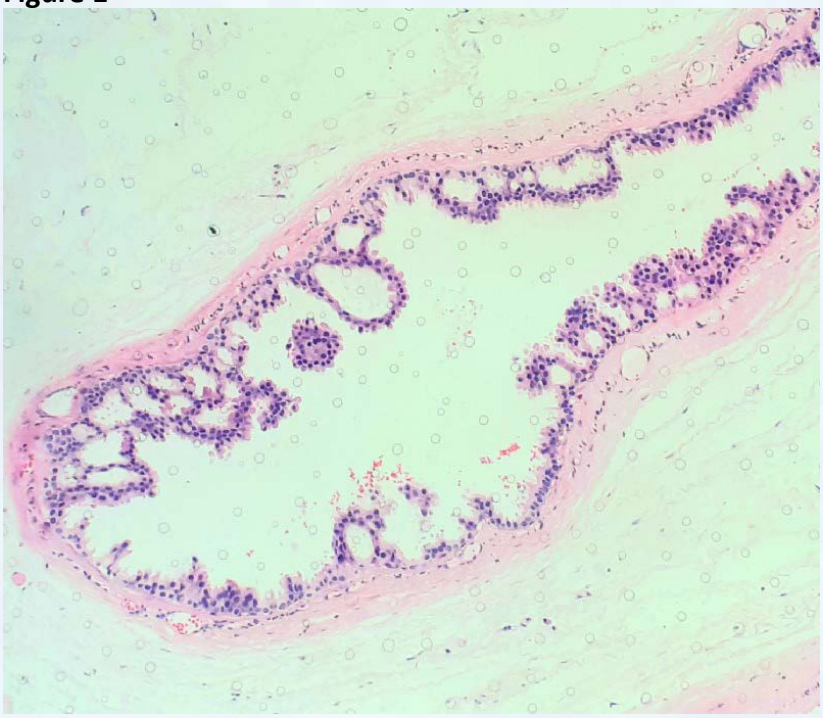
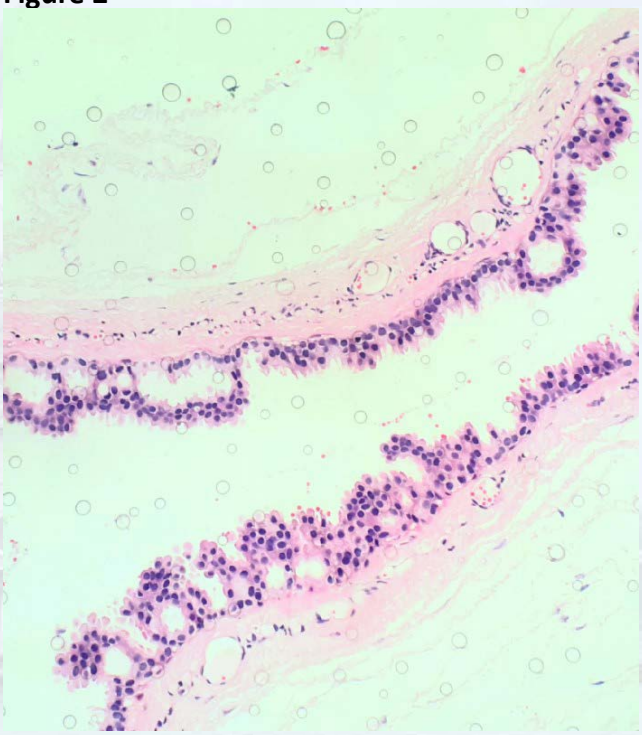
Keywords: apocrine hidrocystoma, cyst,decapitation

Figure 1



Apocrine hydrocystoma; the cystic lumen is lined by a two and more layer of epithelial cells.(H&E 100)

Figure 2



Apocrine hidrocystoma: epithelium showing decapitation secretion.(H&E X200)

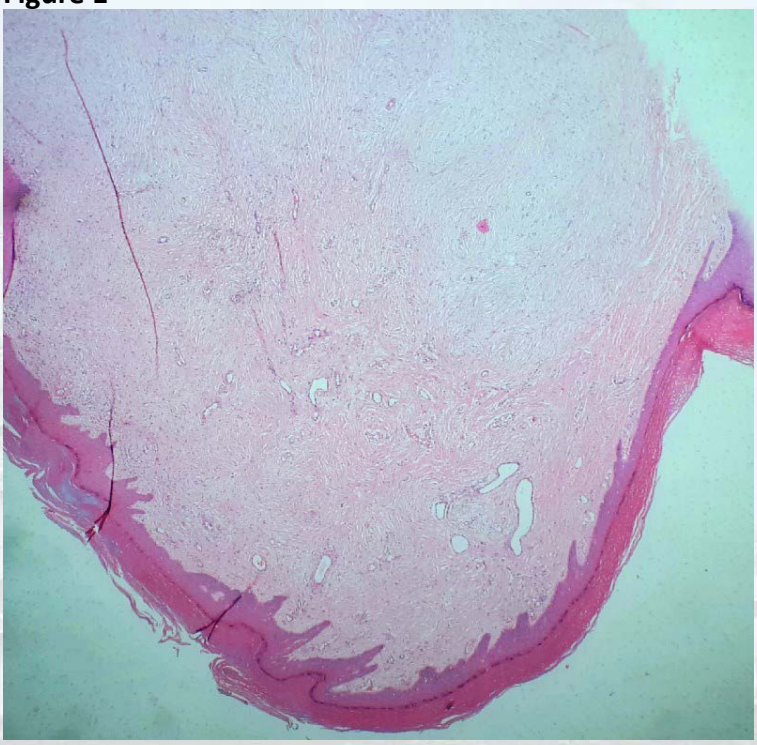
PP-07 [Dermatopathology]
Sclerotic Fibroma; Two Cases Reports

Murat Çelik[1], Ömer Faruk Elmas[2]
[1]Department of Medical Pathology, Selcuk University,Konya, Turkey
[2]Department of Dermatology, Ahi Evran University, Kırşehir, Turkey

Sclerotic fibroma or storiform collagenoma is a rare cutaneous neoplasm that may occur sporadically or as a component of cowden syndrome. It was first reported in 1972 by Weary et al. It is usually occured in adults. Clinically, Sclerotic fibroma has a rounded-oval, skin-colored, well-circumscribed nodule and is usually smaller than 1 cm. Histologically sclerotik fibroma is hypocellular, well-demercated fibrous tumor and it occurs sclerotic, thick, hyalinized collagen bundles. The collagen bundles were ordered in a peculiar whorled or plywood-like pattern with notable clefts between collagen bundles. We offer two cases of solitary sclerotic fibroma with no evidence of Cowden's disease. First case, a 35-year-old female patient presented with a lesion on the right ankle and second case, a 65-year-old male patient presented with a lesion on the left nasolabial sulcus.

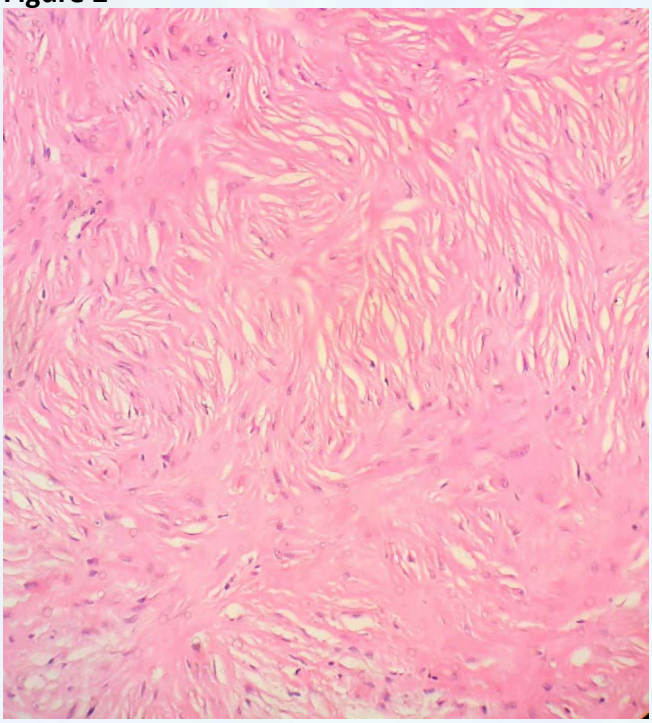
Keywords: fibroma, sclerotic, storiform, cowden

Figure 1



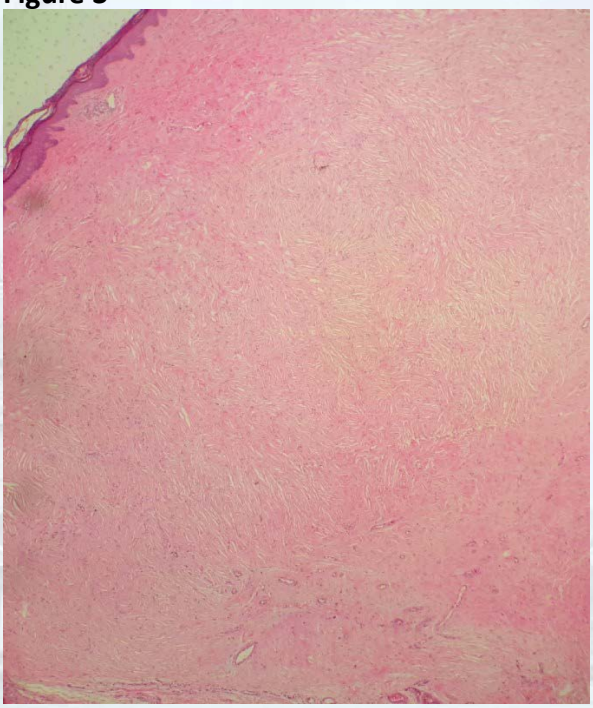
Case 1, Hyalinized sclerotic collagen bundles with interwoven parallel arrangement.(H&E,X40)

Figure 2



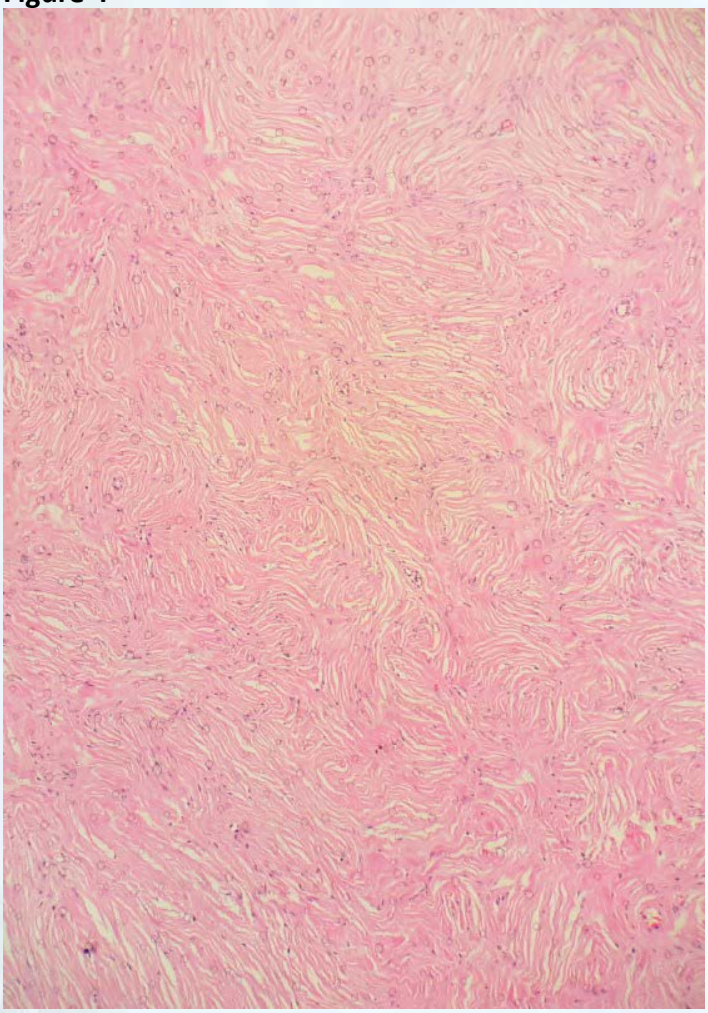
Case1, Prominent clefts between collagen bundles (H&E, X200)

Figure 3



Case 2, Hypocellular, well-demercated fibrous tumor.(H&E, X40)

Figure 4



Case 2, The classic plywood-like pattern with prominent clefts(H&E. 100)

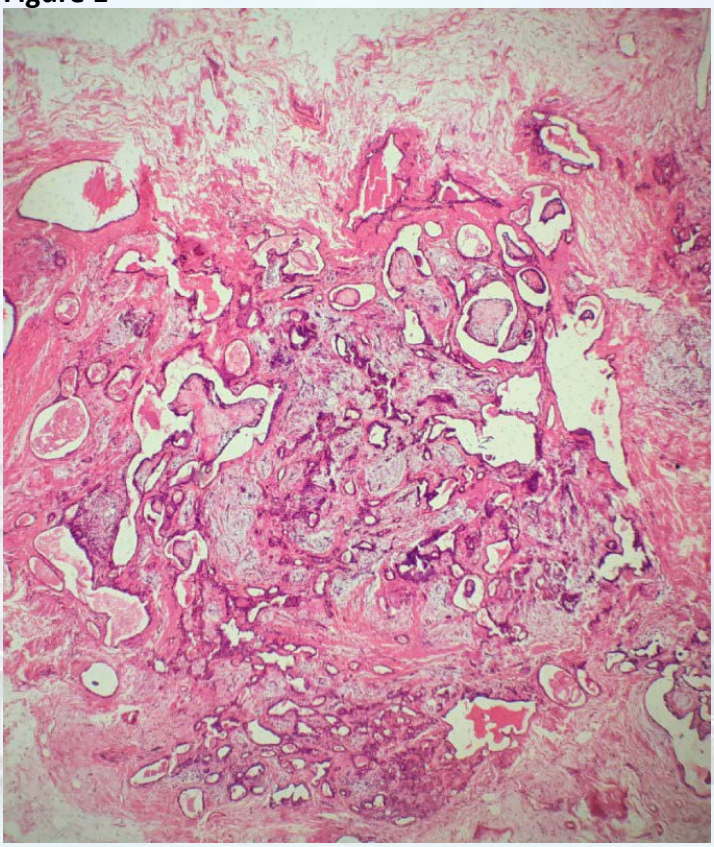
PP-08 [Dermatopathology]
Case Report; Two Cases with Chondroid Syringoma

Murat Çelik[1], Ömer Faruk Elmas[2]
[1]Department of Medical Pathology, Selcuk University,Konya, Turkey
[2]Department of Dermatology, Ahi Evran University, Kırşehir, Turkey

Chondroid syringoma is a rare benign cutaneous tumor and is histologically similar to benign mixed tumors of salivary glands. It is originating from the apocrine / eccrine glands. Chondroid syringoma usually consists nontender, slowly growing, well-defined, solitary nodule. It is often located in the head and neck region. Microscopically, they compose of epithelial component and mesenchymal stroma. The epithelial component consists of single or double ordered cuboidal cells from ductus, tubuloalveolar and cord structures, and mesenchymal component consists of myxoid, chondroid and fibrous areas. We present two cases diagnosed with chondroid syringoma. First case, a 58-year-old male patient presented with a mass on the glabella. Second case, a 36-year-old female patient presented with a mass on mandible.

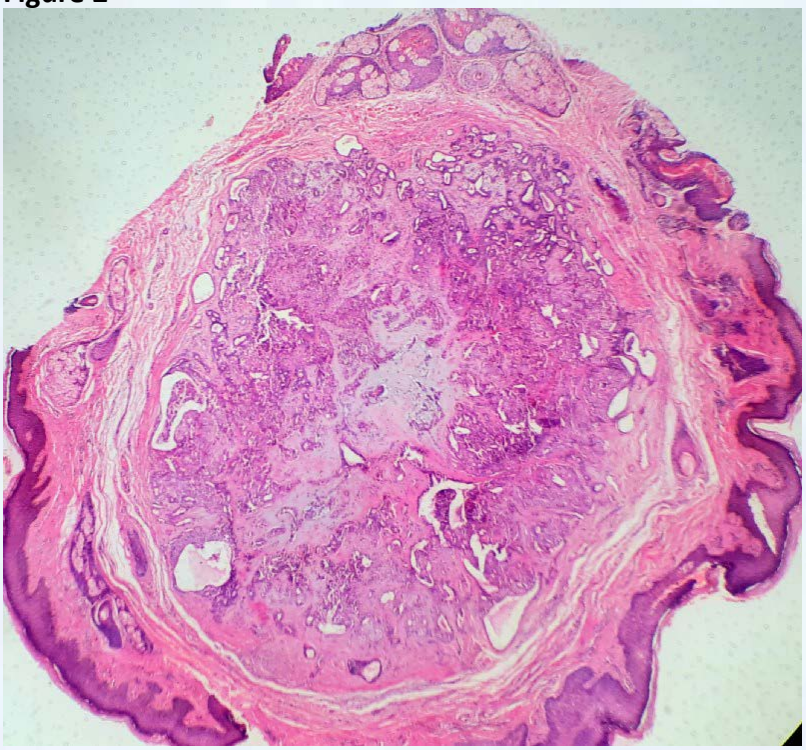
Keywords: chondroid,apocrine, eccrin, myxoid

Figure 1



First case, A prominent chondroid or myxoid stroma enveloping benign bland appearing epithelial and myoepithelial cells. (H&E X40)

Figure 2



Second case, A well circumscribed but unencapsulated mass centered in deep dermis with epitelial and stromal component.(H&E X40)

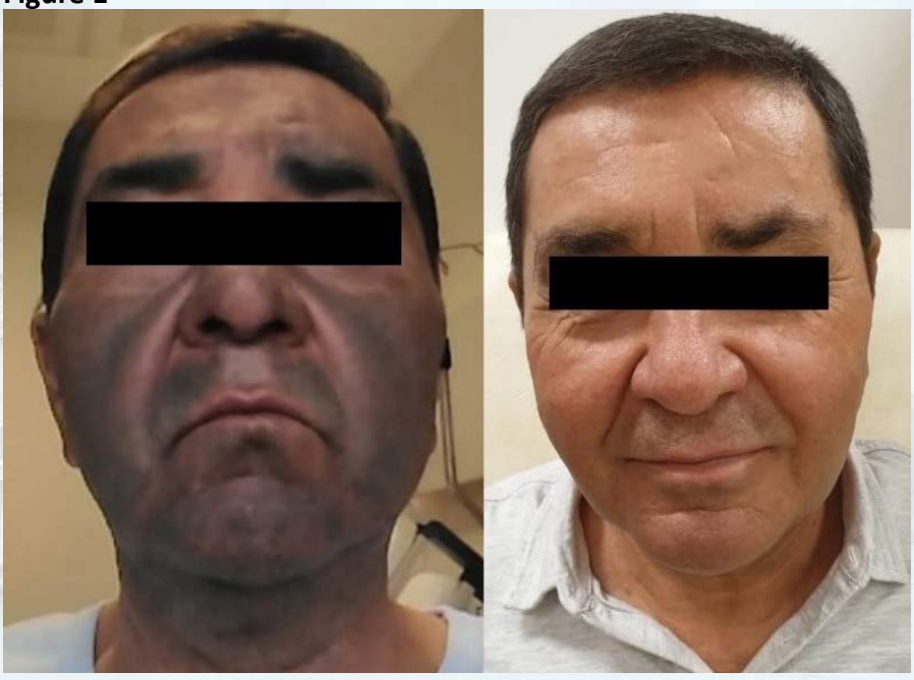
PP-09 [Pigmentary Diseases]
An elderly *masked* man

Gözde Arslan[1], Yasemin Yuyucu Karabulut[1], Ümit Türsen[2]
[1]Department of Pathology, Mersin University, Mersin, Turkey
[2]Department of Dermatology, Mersin University, Mersin, Turkey

A 58-year-old male patient was admitted to cardiology clinic with the complaint of color change of his face. He was taken amidaron 400mg/daily about 5 years, ramipril 2.5mg/daily, asetil salicylic acid 100mg/daily, sotalol 160mg/daily. It was thought that the color change on the face of the patient using amiodarone was related to drug use and directed to dermatology for biopsy. In the histological serial sections mild orthokeratosis, follicular plugging and mild epidermal atrophy were observed in the epidermis, and granular accumulations consistent with light brown-yellow lipofuscin pigment were observed in histiocyte cytoplasms, which were accompanied by a few number of lymphocytes perivascular concentrating in the papillary and superficial dermis. The diagnosis of pigmentation due to amiodorone effect was confirmed by these histomorphological findings. Patients symptoms dissapeared in 15 months after stopping the use of amiodarone. Amiodarone is an anti-arrhythmic and coronary vasodilator and associated with a phototoxic/photosensitivity reaction is up to %50 of patiens. The deposit of lipofuscin in dermal histiocytes which contain dense bodies of osmiophilic material. Melanin pigmentation of the epidermis isn't increased; indeed its absence in involved skin has recently been documented.

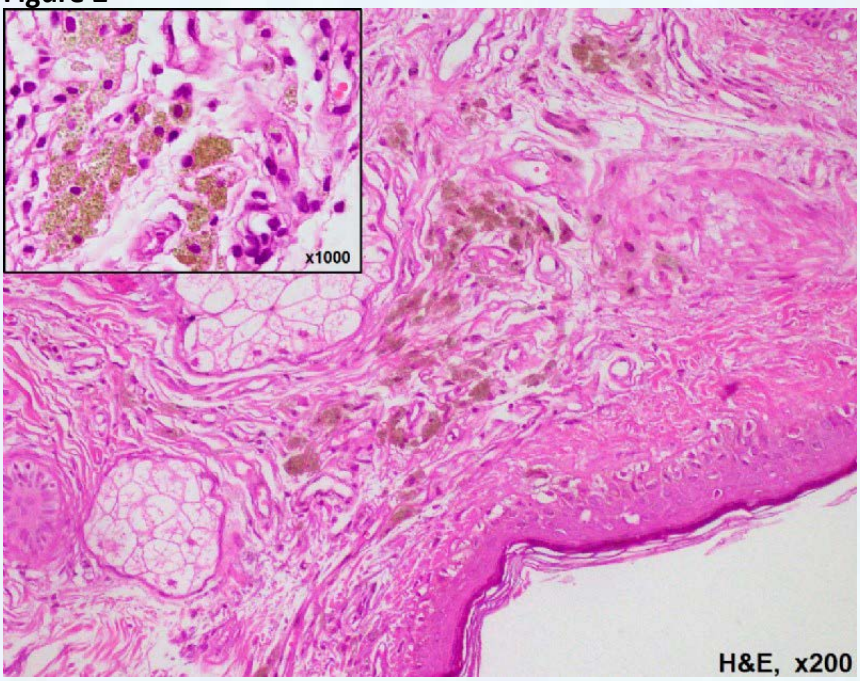
Keywords: Amiodarone, lipofuscin, pigment, skin

Figure 1



Blue–gray discoloration appeared on the face spreading to the neck, particularly on the nose, cheeks and chin and disappeared after stopping the use of amiodarone.

Figure 2



Granular accumulations consistent with light brown-yellow lipofuscin pigment were observed in histiocyte cytoplasms (H&E, x200)

PP-10 [Dermatopathology]
Trichoblastoma: 13 Cases

Zeynep Bayramoğlu[1], Betül Ünal[2]
[1]Konya Training and Research Hospital Departmant of Pathology
[2]Akdeniz University Faculty of Medicine Departmant of Pathology

INTRODUCTION: Trichoblastoma is a benign biphasic neoplasm with dual differentiation. Most cases of trichoblastoma are sporadic, but multiple lesions are usually associated with Brooke-Spiegler syndrome. We aimed to discuss trichoblastoma with literature.

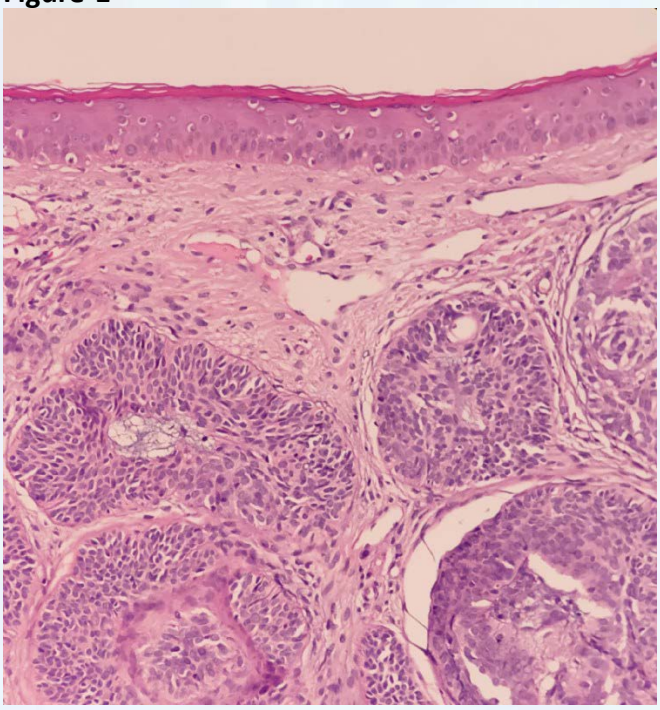
MATERIAL-METHOD: A total of 13 patients between the ages of 48-66 who were diagnosed with trichoblastoma at our hospital between 2015 and 2019 were retrospectively analyzed and histopathologic features and immunohistochemical stains of these lesions were retrospectively evaluated.

RESULTS: Out of 13 patients, 9 were female and 4 were male. 13 cases were solitary. 12 cases were located in the head and neck and only one case was located in the upper extremity. The mean lesion diameter was 0.9 cm. Histopathologic examination revealed a well-circumscribed lesion located in the dermis. Uniform basaloid cells (hair germ) are seen in the fibrotic stroma. Also, infundibular or isthmic differentiating cells and keratin-containing microcysts are seen. Characteristically inflammation is not seen. Immunohistochemically, the epithelial cells are positive for BerEP-4 and when present, ductal structures stain positively for EMA and CEA.

DISCUSSION: Trichoblastomas are benign biphasic tumors originating from the follicular germinative epithelium and specific follicular stroma. They are usually seen as solitary in the fifth and sixth decades. However, syndromic cases may occur during puberty. Our cases were also seen in the fifth and sixth decades following the literature. Sporadic lesions are typically solitary, asymptomatic, skin-colored or reddish and 0.5-3 cm in size. Syndromic tumors appear as bilateral and small. The histopathological differential diagnosis of trichoblastomas includes basal cell carcinoma and microcystic adnexal carcinoma. The distinction between tricoblastoma and basal cell carcinoma may be difficult especially in superficial incisional biopsies. The presence of cellular-fibrotic stroma, intra-tumor infundibular and germinative papilla is in favor of trichoblastoma. In basal cell carcinomas, it is important to have myxoid stroma and cleft around each tumor island. Infiltrative growth patterns, perineural invasion, and ductal differentiation are prominent in microcystic adnexal carcinoma. As a result, trichoblastomas; are rare tumors that may be associated with syndromes when multiple, and may be confused with basal cell carcinoma and microcystic adnexal carcinomas, especially in shave biopsies.

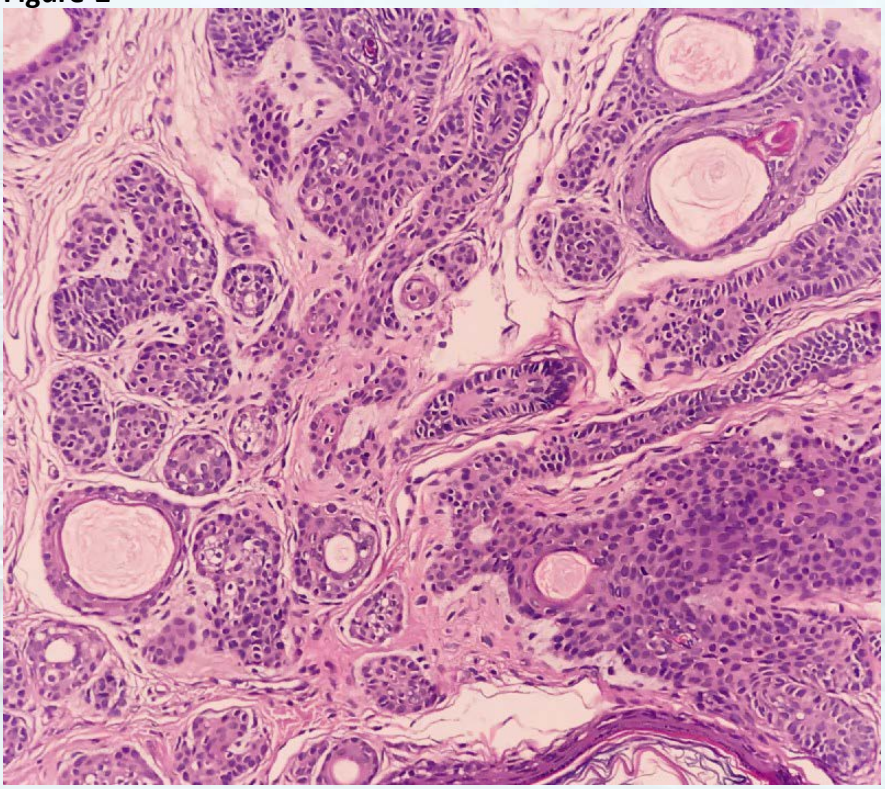
Keywords: Trichoblastoma, benign appendageal tumors, skin

Figure-1



The tumor is composed of islands of basaloid cells within a fibrous stroma (Hematoxylin-Eosin Stain 200x).

Figure-2



Basaloid proliferation with dense stroma (Hematoxylin-Eosin Stain 200x)

PP-11 [Dermatopathology]
Merkel Cell Carcinoma: A Rare Case

Zeynep Bayramoğlu[1], Betül Ünal[2]
[1]Konya Training and Research Hospital Departmant of Pathology
[2]Akdeniz University Faculty of Medicine Departmant of Pathology

INTRODUCTION: Merkel cell carcinoma is a rare, aggressive cutaneous neuroendocrine neoplasm. It is usually seen in elderly and immune-suppressed patients in sun-exposed areas of the skin. It is most commonly seen in the head and neck and upper extremities. It usually develops as a clinically nonspecific, rapidly growing, asymptomatic, red-blue dermal papule or nodule. Herein, we report a case of Merkel cell carcinoma of the right malar region in a 57-year-old woman with a review of the literature.

CASE: A 57-year-old female patient presented to the dermatology department with a red-colored nodule on the right malar area. Clinically, the patient underwent medical treatment with preliminary diagnoses, but the lesion continued to grow rapidly. For this reason, excision was performed. Macroscopic examination showed a red-colored smooth surface with a soft consistency of 2,8 cm in diameter. In microscopic examination; fine granular salt-and-pepper chromatin pattern, nuclear molding and high mitotic activity were observed. No lymphovascular invasion was observed. Immunohistochemical examination revealed diffuse positive staining with synaptophysin, chromogranin A and CD56 in tumor cells. Perinuclear dot-like positive staining was detected with CK20. The negative reaction was observed with CD45, CDX2, p63, S100, HMB45, BerEP4 and TTF1. The patient was diagnosed as Merkel cell carcinoma with histopathological and immunohistochemical findings.

DISCUSSION: Merkel cell carcinoma was first described by Toker in 1972. It is thought that it originated from Merkel cells located in the basal layer in the epidermis. Merkel cell carcinoma is defined as a rapidly growing, pink-blue nodular lesion that occurs without clinical specific features. The most important distinguishing feature is its rapid growth. Histopathologically, the differential diagnosis should include basal cell carcinoma, amelanotic melanoma, metastatic neuroendocrine carcinomas, Ewing's sarcoma, and lymphoma. Merkel cell carcinoma is an aggressive tumor. Local recurrence rate was 27-60%, regional lymph node metastasis rate was 45-91% and distant metastasis rate was 18-52%. In conclusion, Merkel cell carcinoma should be kept in mind in the differential diagnosis of hard-growing rapidly growing lesions that develop as small pink-red papule-nodules especially in sun-exposed areas.

Keywords: Merkel Cell Carcinoma, neuroendocrine neoplasm, skin, tumour

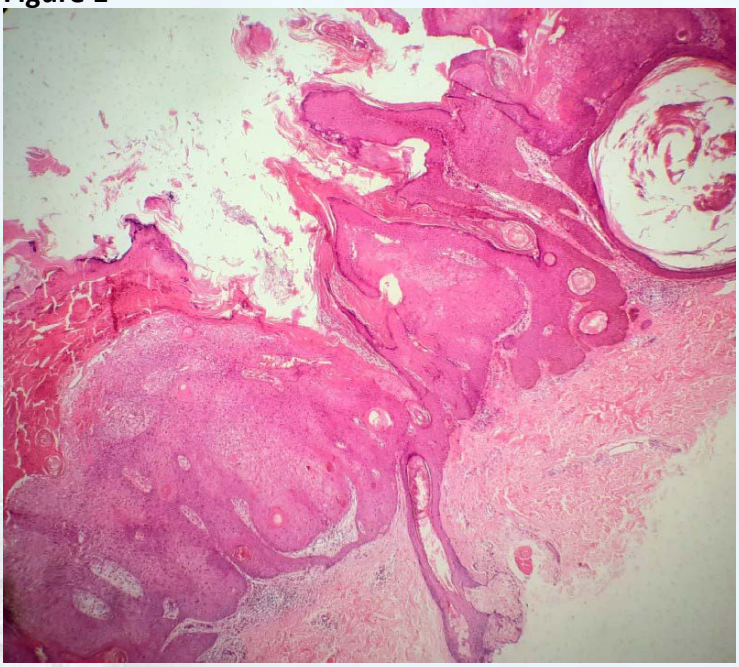
PP-12 [Dermatopathology]
Case Report; Bowen Disease Occuring in Seborrheic Keratoses

Murat Çelik[1], Ömer Faruk Elmas[2]
[1]Department of Medical Pathology, Selcuk University,Konya, Turkey
[2]Department of Dermatology, Ahi Evran University, Kırşehir, Turkey

Seborrheic keratosis (SK) is one of the most common benign skin tumor. It arises in middle-aged or elderly people and most commonly seen on the face, neck and extremites. SK may have different histological apparance and all have benign features. Bowenoid transformation of SK is very rare and It frequently arises in sun-exposed areas. Herein, we report a case of bowenoid tranformation seborrhoeic keratosis in 64-year old male on the dorsal right hand.

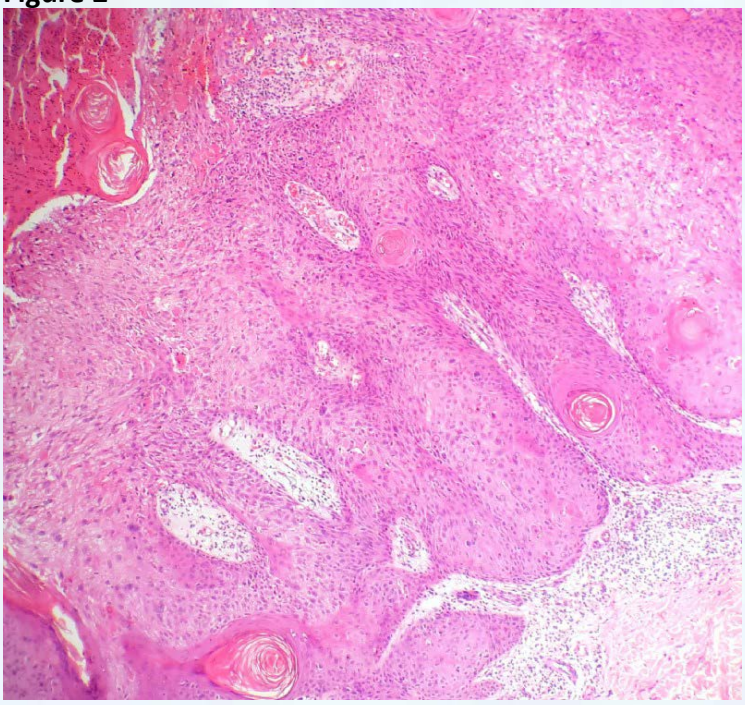
Keywords: bowen, seborrheic keratosis, skin

Figure 1



Seborrheic keratosis (on the right side) contiguously associated with a bowen disaese(on the left side).

Figure 2



Dysplastic pleomorphic squamous cells and increased mitotic figure.

PP-13 [Dermatopathology]

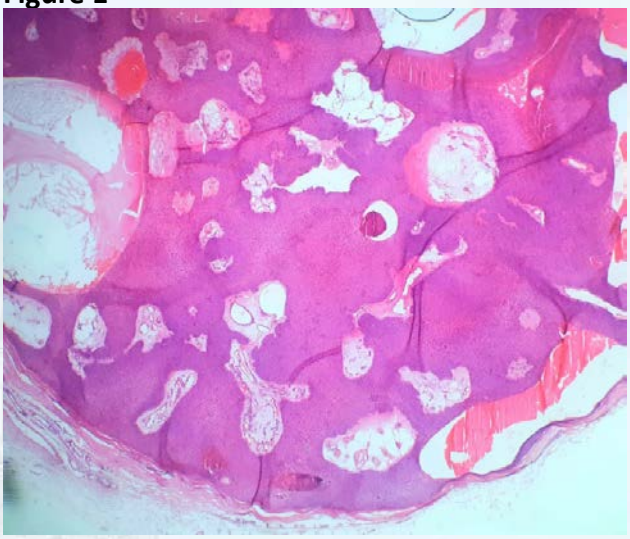
Poroid Hidradenoma: A Rare Cutaneous Neoplasm

Murat Çelik[1], Ömer Faruk Elmas[2]
[1]Department of Medical Pathology, Selcuk University,Konya, Turkey
[2]Department of Dermatology, Ahi Evran University, Kırşehir, Turkey

Poroid hidradenoma is a rare skin tumor, most commonly seen on the head and neck. It presents as an asymptomatic solitary, tender nodule. Poroid hidradenoma arises in middle-aged or elderly people. It occurs structural features of hidradenoma, with solid and cystic regions and cytological features of poroid neoplasm such as poroid and cuticular cells. The tumor is characteristically well circumscribed and completely intra-dermal. Treatment is surgical excision. We present a case of poroid hidradenoma in a 52-year-old male with a nodulary lesion on his hand.

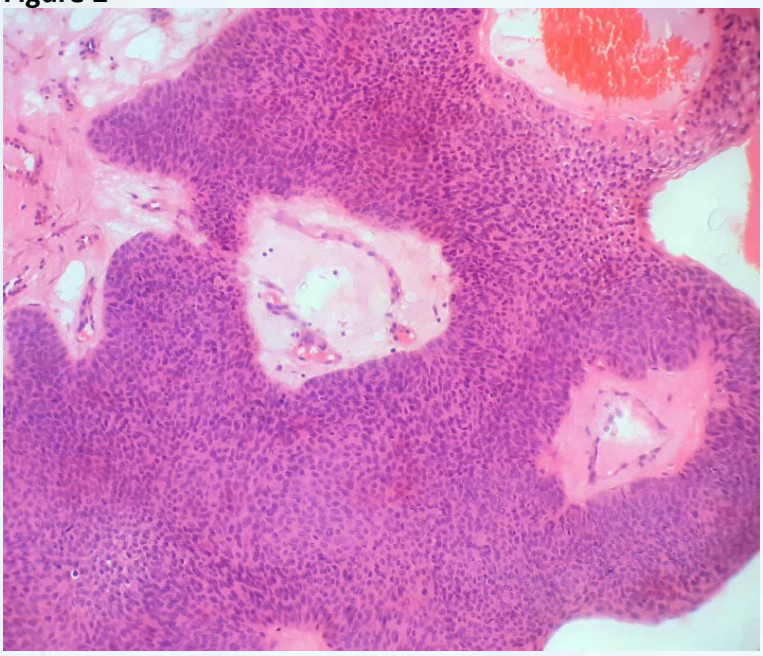
Keywords: poroid hidradenoma, rare, skin

Figure 1



Well circumscribed, cystic and solid nodule(H&E X40).

Figure 2



Poroid cells seen with a small, uniform, rounded nucleus and slightly basophilic cytoplasm(H&E X200)

PP-14 [Dermatology and Internal Medicine, including Skin Manifestations of Systemic Diseases]
Nail lichen planus successfully treated with Topical Clobetasol Ointment

Omima Eruk
Dr Omima Eruk

INTRODUCTION: Nail Lichen planus and linear lichen planus are separated uncommon inflammatory dermatoses. Being having these two entities exist in one patient that extremely rare. 10% of lichen planus patients could present with changes in the nails, however no association with linear lichen planus has been documented. To the best of our knowledge is the first case presenting with combination of Linear and nail lichen planus.

MATERIALS-METHODS:
RESULTS:

CASE: 24 years old lady presented to the secondary care referring from her general practitioner doctor with a few months' history of developing a linear pattern of limited erythematous pruritic rash on her right dorsal hand and that extending to the nail plate. She has had a mycology studies which was negative. She has no past medical history and she is not taking any medication for any reason. The physical examination on presentation there was an erythematous flat topped papules without scales extended from the dorsal aspect of the right hand to the ring finger nail in a linear pattern. Longitudinal ridging and thinning on the right ring finger nail plate with significant distal splitting was noted. No other skin lesions were found. Skin biopsy was performed to confirm diagnosis of lichen planus and that reveals with typical hyperkeratosis and underlying band like chronic inflammatory cells infiltrate with dermo-epidermal interface activity, occasional colloid body formation is present. According to the histological report it has been treated for Lichen Planus with topical strong potent steroid under occlusion to apply on the finger and the nail, after three months of the therapy the cutaneous LP has resolved completely. However the Onychodystrophy of the fingernail has a dramatic improvement 6 months following topical Clobetasol treatment under occlusion.

CONCLUSION: The clinical picture of lichen planus of the nail depends upon which components of the nail unit are involved in the pathologic process. Early diagnosis and treatment are essential because permanent destruction occurs in a significant number of patients. Nail Lichen planus is a rare disease that can be easily misdiagnosed. This case report emphasizes s the role of the biopsy when presented with such patients

Keywords: Nail Lichen Planus, Onychodystrophy, Inflammatory dermatosis

PP-15 [Allergology and Immunology]

Antithyroid drug-induced vasculitis associated with antineutrophil cytoplasmic antibody (ANCA)

Branka Bonaci Nikolic[1], Milos Nikolic[2]

[1]Clinic of Allergy and Immunology, Clinical Center of Serbia, University of Belgrade School of Medicine, Belgrade, Serbia

[2]Clinic of Dermatovenereology, Clinical Center of Serbia, University of Belgrade School of Medicine, Belgrade, Serbia

Introduction and OBJECTIVES: Clinical and serological profiles of idiopathic and drug-induced autoimmune diseases can be very similar. We compared the data from patients with idiopathic systemic antineutrophil cytoplasmic antibody (ANCA)-vasculitis (ISV) with antithyroid drug (ATD)-induced ANCA-positive patients.

MATERIALS-METHODS: From 1995 to 2018, we compared clinically and serologically 56 patients with ISV (29 granulomatosis with polyangiitis - GPA, 23 microscopic polyangiitis (MPA) and 4 eosinophilic granulomatosis with polyangiitis - EGPA) with 17 patients who became ANCA-positive during ATD therapy (13 receiving propylthiouracil and 4 receiving methimazole). We determined antinuclear antibodies (ANA) by IIF; ANCA profile: myeloperoxidase (MPO), proteinase 3 (PR3), lactoferrin, elastase, bactericidal/permeability-increasing protein), anticardiolipin (aCL) by ELISA, and cryoglobulins by precipitation. Complement components C3 and C4 were measured by nephelometry.

RESULTS: Of 17 ATD-treated patients, 4 had drug-induced ANCA vasculitis (3 MPA and one GPA), while 12 had lupus-like disease (LLD). ATD-induced ANCA-positive patients more frequently had skin manifestations (11/17) than ISV (14/56) ($p<0.01$), but less frequently had arthritis, renal, lung and neurological manifestations ($p<0.01$). 7/17 patients with ATD-induced disease had urticaria-like vasculitis ($p<0.01$) and 6/17 had purpura ($p<0.01$). ATD-induced LLS patients more frequently had polyspecific ANCA (anti-MPO, anti-elastase and anti-PR3 were most commonly detected) ($p<0.01$). We have found association between decreased C4, presence of ANA, aCL and cryoglobulins with urticaria-like vasculitis in patients with ATD-induced LLS. ANCA-positive ISV had a more severe course in comparison with ATD-induced ANCA-positive diseases.

CONCLUSION: Different serological profiles could help in the differential diagnosis and adequate therapeutic approach to ANCA-positive ATD-treated patients with symptoms of systemic disease. Urticaria-like vasculitis and purpura associated with polyspecific ANCA, ANA, low complement and cryoglobulins are useful markers in differential diagnosis between ISV and ATD-induced LLS.

Keywords: vasculitis, ANCA, drug-induced vasculitis, cryoglobulins

PP-16 [Dermatopathology]
Basal cell carcinoma in young adults

Ayşe Nur Uğur Kılınç, Zeynep Bayramoğlu
Konya Training and Research Hospital Departmant of Pathology

Introduction: Basal cell carcinoma (BCC) is a carcinoma derived from basal cells of the interfollicular epidermis and/or hair follicle BCCs exhibit morphological variability, but they invariably contain islands or nests of peripherally palisaded basaloid cells with hyperchromatic nuclei and scant cytoplasm.BCC is the most common malignancy in humans. Incidence rates are inversely related to geographical latitude and are higher in light skinned populations. The risk of BCC steadily increases with age. However, incidence rates are increasing faster in younger age groups, particularly among women. Our study aimed to determine the incidence rate of BCC in early ages and demographic data of patients with BCC in our region.

Material and Method: We included 31 young adult patients with BCC admitted to our hospital between 2010 and 2020. A total of 1600 patients were diagnosed with BCC at our hospital between these years. Mean age and standard deviation of these patients were 70.6±13.8. The rate of patients under the age of 35 was 31/1600 (0.019%). Mean age of all the patients was 26.3. While the youngest age was 6, the oldest age was 35. BCC was located in the left arm extremity in 1 male patient at the age of 35 and other patients had BCC located in the head. Its histological subtypes were nodular and superficial BCC. BCC had multifocal locations in 3 patients and other patients had solitary lesions. One of our patients with BCC in multifocal locations had history of Xeroderma pigmentosum and was 19 years old and the locations of the lesions were in 4 different localizations on face. Other 2 patients with BCC in multifocal locations were 30 and 32 years old respectively. The lesions in both patients were located in 2 different localizations on face and had no accompanying additional disease.

Discussion: Regarding the progressive increase in the incidence of BCC (in the old and non-syndromic young patients), there is a consensus on the prominent local aggressiveness that may follow deformities and even metastases. The growth in this cancer incidence in the young population may mean exponential growth in the future formation of the old population, because if patients with BCC or squamous cell carcinoma (SCC) do not largely change their habits especially related to the environmental factors, the risk of tumor relapse during their lifetimes becomes higher. Some phenomena with BCC in the young population were observed in order to understand the incidence rates, histological features and natural story. In our study, although BCC mostly developed in the old patients a considerable amount of young patients had BCC as well. Therefore, BCC should clinicopathologically be kept in mind for differential diagnosis in the young population. Moreover, habits to prevent the formation of tumors are still regarded as the most effective solution to decrease the increasing incidence rate of BCC.

Keywords: Basal cell carcinoma, young adults, skin

PP-17 [Allergology and Immunology]

Single-center study; Clinical features and evaluation of omalizumab efficacy in patients with chronic urticaria

Guzin Ozden[1], Ayse Turan[2]
[1]Department of Allergy and Immunology, Adana City Training and Research Hospital, Adana, Turkey
[2]Department of Chest Diseases, Adana Seyhan Hospital, Adana, Turkey

PURPOSE: In this study, we aimed to determine the possible responsible factors in the etiology of urticaria in the laboratory parameters, as well as the characteristics of patients who applied to our clinic from 2016 to 2017 and who were diagnosed with chronic urticaria and to evaluate the effectiveness of Omalizumab treatment.

MATERIALS-METHODS: 182 patients who were followed up and treated with chronic urticaria between 2016 and 2017 were included in the study. Patients' records were evaluated retrospectively and those under 18 years of age, who were in pregnancy / lactation period and who had serious additional disease other than urticaria were excluded. Data analyzes were evaluated in the statistical software.

RESULTS: Mean age of 182 people included in the study is 40.56 ± 13.02 (min = 18, max = 72), 128 (70.3%) of the patients were women, 137 (75.3%) of them were married, 76 (41.8%) of them had primary school graduates and 111 (61.0%) of them were unemployed. Time of disease varied between 2 months and 130 months, but the mean disease duration is 24.48 ± 28.93 months. The rate of chronic urticaria patients accompanied by angioedema is 47.8%. Autologous serum skin test (OSDT) performed for the purpose of evaluating autoimmunity was performed on 98 patients and positivity was detected in 29.7% of them. 24.7% of patients smoke, 41.2% of them had a history of allergic disease, 31.3% of them had dermographism and 75.3% of them had phadiatop positivity. Specific Ig E was evaluated as positive in 29(15.9%) patients while specific Ig E of 84 patients could not be evaluated. Skin Prick Test could not be performed to 68 patients for various reasons, and 42 patients' test results were evaluated as positive. Autoantibody was evaluated as negative in 147 patients (80.8%), and 83 patients (45.6%) were known to have resistance to doses up to four times higher than second-generation antihistamines and leukotriene receptor antagonist drugs, and 83 (45.6%) of them were started on Omalizumab treatment. Dosage and application times varied in line with patient complaints, with 300 mg / 4 weeks of omalizumab treatment. The treatment averages of patients receiving omalizumab were 7.90 ± 4.7 (min = 2, max = 21), and only 3 patients had hair loss complaints. There was no significant difference between gender, profession, skin prick test, OSDT, autoantibody and smoking and omalizumab response($p>0.05$). When the urticaria activity score (UAS) used to determine the effectiveness of omalizumab treatment was compared before and after treatment, the first UAS average was 5.53 ± 0.6, while the final UAS average was 1.24 ± 0.9, and the difference was statistically significant ($p<0.000$).

Results: Significant improvement in resistant urticaria activity score was observed with omalizumab treatment. There was no relationship between gender, profession, skin prick test, OSDT, autoantibody and smoking and omalizumab response.

Keywords: Chronic urticaria, Allergy, omalizumab

TABLE 1.Sociodemographic Features of patients

FEATURES	n	%
GENDER		
FEMALE	128	70.3
MALE	54	29.7
MARİTAL STATUS		
MARRİAGE	137	75.3
SİNGLE	45	24.7
EDUCATİON		
NO LİTERATE	5	2.7
LİTERATE	13	7.1
PRİMARY SCHOOL	76	41.8
MİDDLE SCHOOL	36	19.8
HİGH SCHOOL	36	19.8
UNİVERSTY	16	8.8
PROFESSION		
UNEMPLOYED	111	61.0
WORKER	20	11
SELF-EMPLOYMENT OFFİCER	25 26	13.7 14.2

PP-18 [Psoriasis]

The role of cytokines in the pathogenesis of psoriasis

Khachik Khachikyan, Shushanik Karapetyan, Ani Alexanyan, Anahit Topchyan, Inga Mkhitaryan, Veronika Navasardyan
Department of Dermatology and STIs, Yerevan State Medical University, Yerevan, Armenia

Aim. The aim of this study is the determination of the role of certain pro-inflammatory and anti-inflammatory cytokines in the pathogenesis of psoriasis.

Material and methods. The 132 patients with plaque form of psoriasis of moderate severity were examinated, who were divided into 2 groups.
Group 1 includes 65 patients from 18 to 64 years old (43 men and 22 women) with a duration of disease from 0 to 47 years. The traditional treatment (detoxification, antioxidant, antihistamine, multivitamin, membrane stabilizing, local anti-inflammatory) was prescribed to the patients of group 1.
Group 2 includes 67 patients from 18 to 69 years old (41 men and 26 women) with a duration of disease from 0 to 48 years. The alternative treatment (with traditional therapy, the hepatoprotectors was also used) was prescribed to the patients of group 2.
The control group makes 18 practically healthy periodic donors (9 men and 9 women) from 19 to 57 years old.
The level of IFNγ, TNFα, IL-1α, IL-2, IL-10 and TGFβ was investigated in the serum of psoriatic patients by ELISA (commercial kits of Demeditec Diagnostics GmbH were used).
Statistical analysis was performed by the usage of SPSS 16.0 statistical package.

Results. Before the treatment, the significant increase of level of circulating pro-inflammatory cytokines and significant decrease of level of anti-inflammatory cytokines were seen in both groups of patients with psoriasis compared with the control group.
After the treatment, the level of proinflammatory cytokines is significantly reduced and the level of anti-inflammatory cytokines is significantly increased in group 1, approaching to the normal values.
In group 2, the level of proinflammatory cytokines decreases more than in group 1 after the treatment. The level of anti-inflammatory cytokines also increases more than in group 1 (high treatment efficiency).
The intensity of the rate of decrease of PASI after treatment in patients of group 2 is at least 1,17 times higher than in I group.
The intensity of the rate of decrease of DLQI after treatment in patients of group 2 is at least 1,39 times higher than in group 1.
Conclusions. The registered changes in the serum of patients with moderate severity of papular-plaque form of psoriasis indicate their essential role in the pathogenesis of psoriasis.

Keywords: papular-plaque psoriasis, cytokines, interleukins

PP-19 [Psoriasis]

Mycosis Fungoides in Patient with Psoriasis

Esra Pancar Yüksel
Ondokuz Mayıs Üniversitesi, Deri ve Zührevi Hastalıklar Ana Bilim Dalı, Samsun

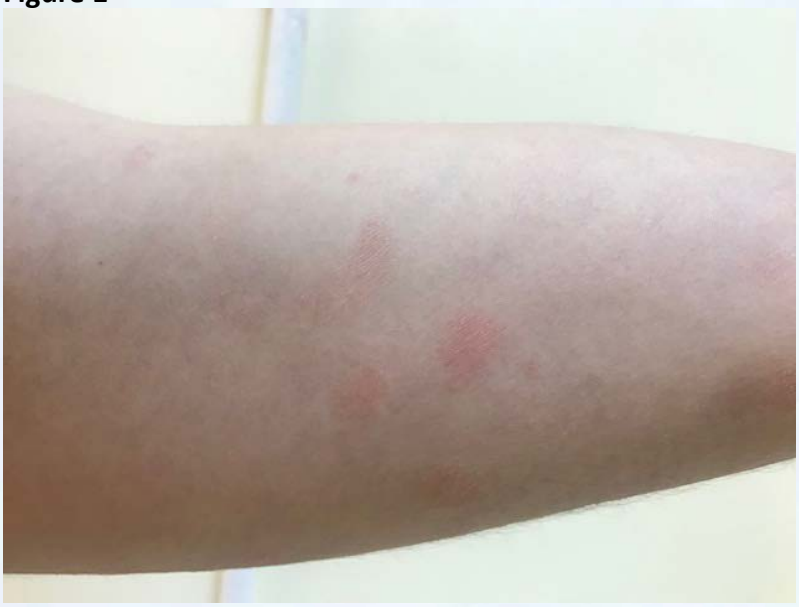
Introduction: Psoriasis is a common, chronic inflammatory disease with pathogenesis involving interactions between macrophages, dendritic cells, T cells, and inflammatory cytokines including TNF, IL-17, and IL23. Although psoriasis typically affects the skin, it has been suggested to be associated with a number of diseases. Metabolic syndrome, hypertension, coronary artery disease, type 2 diabetes are more frequent in psoriasis patients. It has been also suggested that patients with psoriasis might be at increased risk of cancer especially lymphomas including cutaneous T-cell lymphomas. But the relationship between psoriasis and mycosis fungoides has been less studied. Tendency for immune dysregulation or immunosuppressive treatments were supposed for the evolution to mycosis fungoides. We report a patient with the diagnosis of psoriasis and mycosis fungoides whose clinical lesions occurred at the same time and support the idea that the association between psoriasis and mycosis fungoides does exist apart from cases who progress to mycosis fungoides.

Case Report: A 24 year old man admitted to dermatology clinic with the asymptomatic lesions that appeared at the same time on the arms and body for three months. Dermatologic examination revealed erythematous, finely scaly patches on the body and on the flexor surfaces of the upper extremities (Figure 1) and erythematous, thick white scaly plaques on the extensor surfaces of the upper extremities(Figure 2). Two biopsies were taken one from thick scaly plaque and one from the finely scaly patch and reported as psoriasis vulgaris and early mycosis fungoides respectively. Narrowband ultraviolet treatment was recommended to the patient.

Discussion: It has been reported that patients with psoriasis have an increased risk of developing cutaneous T-cell lymphoma. The risk was usually evaluated due to the chronic inflammatory nature of the psoriasis and the potential use of immunosuppressants in the treatment of psoriasis. It was reported that psoriasis lesions might gradually evolve into mycosis fungoides. However there is another group of patients in which psoriasis coexists with mycosis fungoides. So, it is important to take biopsy from different lesions to be able to diagnose both diseases. This case was reported to emphasize that both diseases can coexist and reporting each case may improve our understanding of this association.

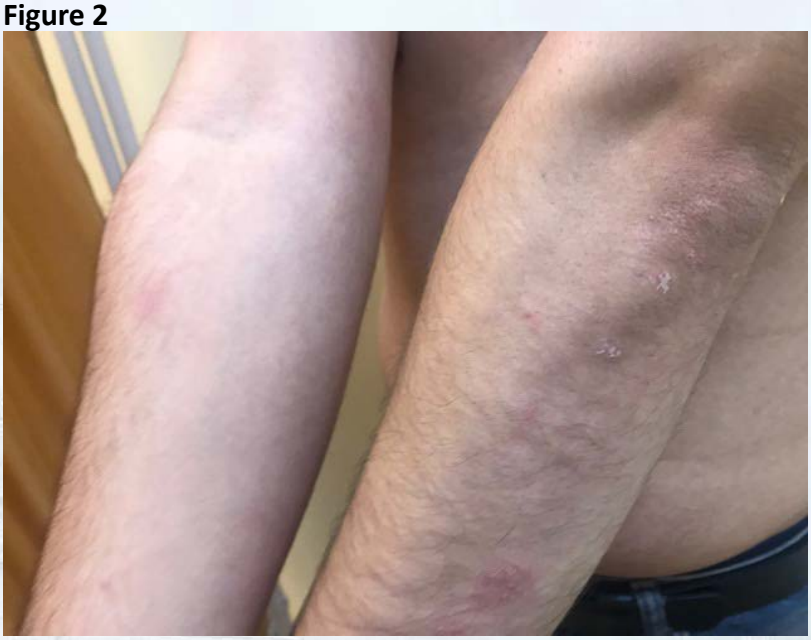
Keywords: cutaneous lymphoma, mycosis fungoides, psoriasis

Figure 1



Erythematous, scaly patches on the flexor surface of the arm

Figure 2



Erythematous, thick white scaly plaques on the extensor surface of the arm

PP-20 [Adverse Drug Reactions, TEN]

A Case of Toxic Epidermal Necrolysis Successfully Treated with Cyclosporine

Burçin Cansu Bozca[1], Ceren Memiş Irican[1], Cumhur Ibrahim Başsorgun[2], Atilla Ramazanoğlu[3], Ayşe Akman Karakaş[1]

[1]Department of Dermatology and Venerology, Akdeniz University School of Medicine, Antalya, Turkey
[2]Department of Pathology, Akdeniz University School of Medicine, Antalya, Turkey
[3]Department of Anesthesiology and Reanimation,Akdeniz University School of Medicine, Antalya, Turkey

Introduction and OBJECTIVES:: Stevens-Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN) is a rare acute and severe drug reaction of skin and mucous membranes characterized by epidermal detachment and mucositis. There is no common approach to the treatment and care of SJS and TEN patients. In recent years, cyclosporine has been reported to stop disease progression in SJS / TEN, accelerate reepithelialization and thus reduce mortality. Here, we aimed to present a case of TEN successfully treated with cyclosporine.

MATERIALS-METHODS: A 45-year-old female patient with no known disease was consulted for dermatology due to skin rash for 2 days. The patient had been using moxifloxacin and diclofenac for 16 days. In physical examination, sensitive erythematous and purpuric macular eruption with palpation on face, neck, trunk, back, upper extremities and bilateral thighs and in the bilateral palmoplantar region atypical targetoid lesions were observed. Nikolski sign was positive. Oral mucosal examination revealed eroded areas in the lips and hemorrhagic crusts and yellowish discharge in the nasal mucosa, as well as hemorrhagic crusting. Erythema in the conjunctiva and eroded lesions in the genital area were observed. Because the potential body surface dissociation rate was 10-30%, the patient was considered as SJS / TEN overlap syndrome and the SCORTEN score was calculated as 1. Possible responsible agents, moxifloxacin and diclofenac, were discontinued. Systemic methylprenizolone was started at a dose of 1 mg \ kg \ day. However, the body surface involvement of the patient reached 50% after 2 days and systemic methylprednisolone was discontinued due to rapid disease progression to TEN, and cyclosporine 5 mg \ kg \ day was started. New erosion with cyclosporine treatment stopped on day 6 and reepithelialization started on day 12. On the 13th day of treatment, the dose was reduced to 3 mg \ kg \ day; no relapse was observed with dose reduction and no side effects were observed during the treatment and cyclosporine treatment was discontinued on the 30th day.

RESULTS: Cyclosporine selectively blocks immunological changes in SJS \ TEN leading to keratinocyte death and inhibits keratinocyte apoptosis. Few studies have reported that cyclosporine may be an effective treatment option especially in young patients who do not have comorbidity. In this group of patients, it seems to be a good choice due to its rapid stopping of disease progression, rapid re-epithelialization, low mortality rate and good side effect profile.

CONCLUSION: In our case, we think that cyclosporine treatment might have contributed to the effect of the treatment because of the relatively young age, lack of comorbid disease, low SCORTEN score, early diagnosis, early discontinuation of responsible agents and early initiation of treatment. Double-blind placebo-controlled prospective studies are needed to support the success of cyclosporine in SJS / TEN.

Keywords: Stevens-Johnson syndrome, toxic epidermal necrolysis, cyclosporin

PP-21 [Adverse Drug Reactions, TEN]

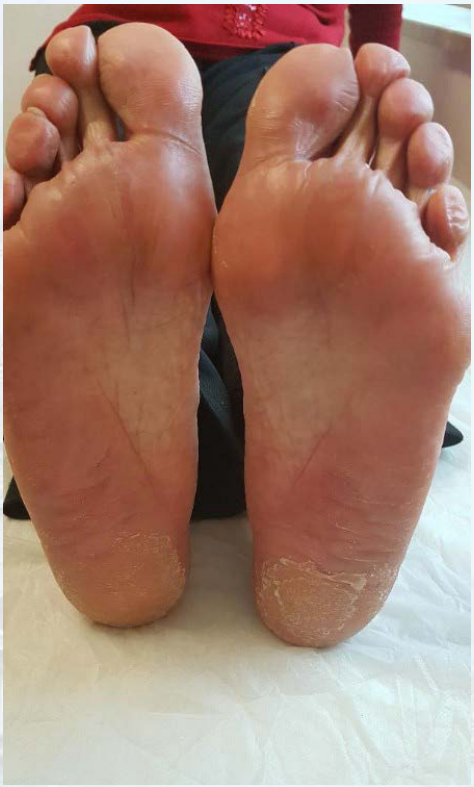
Two case reports of hand-foot syndrome related to chemotherapeutic agents

Abdullah Demirbaş[1], Mehmet Demirel[2]
[1]Department of Dermatology, Konya Numune Hospital, Konya,Turkey
[2]Department of Dermatology, Mersin City Training and Research Hospital,Mersin,Turkey

Hand foot syndrome is an acute drug reaction develop following the intake of chemotherapeutic agents and characterized by various degrees of erythema, dysesthesia or paraesthesia and edema in palmar and plantar areas that. The most common agents that cause this reaction include capecitabine, 5-fluorouracil (5-FU), erlotinib, cytarabine, doxorubicin, cyclophosphamide, hydroxyurea, vinorelbine. In recent years, with the come into use of multiple kinase inhibitors in oncology, palmoplantar reactions, called hand-foot skin reactions, which have specific clinical features, have been reported. Most common agents cause of this reaction are multiple kinase inhibitors such as sorafenib, sunitinib, pazopanib, aksitinib and regorafenib, and BRAF inhibitors such as vemurafenib, dabrafenib. In this presentation, hand-foot syndrome developing in patients receiving sorafenib with the diagnosis of hepatocellular cancer and in patients receiving cetuximab and 5-fluorouracil with the diagnosis of colon cancer were discussed.

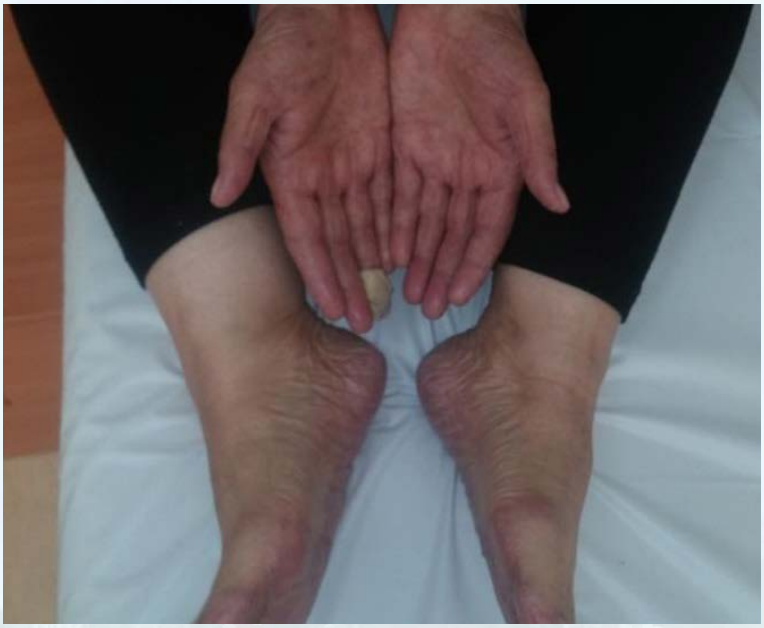
Keywords: chemotherapeutic agents, drug reaction,hand-foot syndrome,

figure 1



Erythema and desquamation in both palmar areas

figure 2



Erythema and desquamation in hands and feet

PP-22 [Psoriasis]

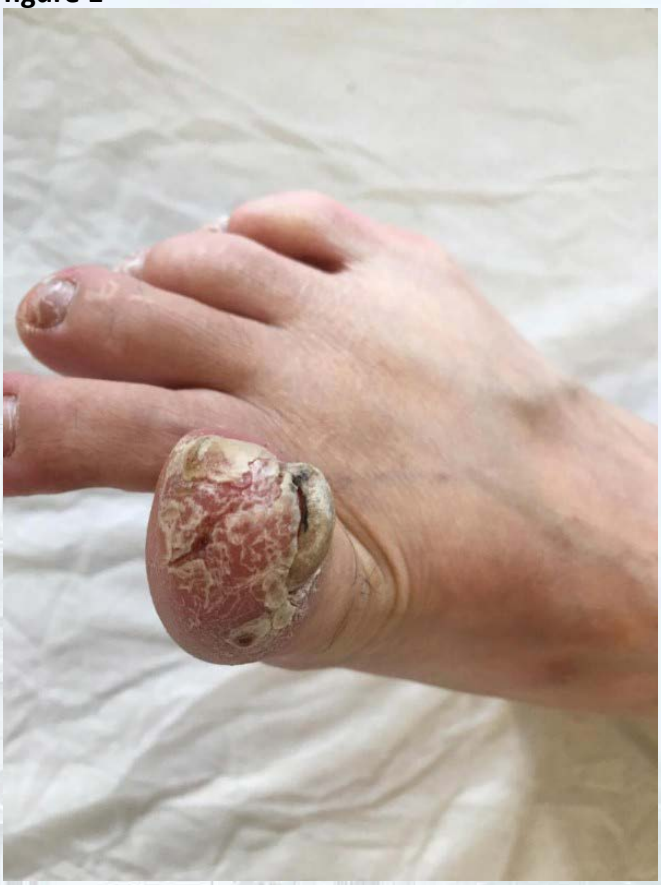
A case of Hallopeau type acrodermatitis continua with diagnostic delay

Abdullah Demirbaş[1], Ayşe Gül Aygüneş[1], Mehmet Demirel[2]
[1]Department of Dermatology, Konya Numune Hospital, Konya,Turkey
[2]Department of Dermatology, Mersin City Training and Research Hospital,Mersin,Turkey

Hallopeau type acrodermatitis continua (HAC) is a rare erythematous sterile pustular eruption of acral regions. These patients may have nail dystrophy, matrix damage, anonychia and bone-joint deformations. In this presentation, we will discuss the case of HAC, which previously received tinea pedis treatment and whose diagnosis was delayed.

Keywords: Hallopeau type acrodermatitis continua, delay, tinea pedis

figure 1



Erythema, desquamation and subungual hyperkeratosis in the right toe.

PP-23 [Dermoscopy]

Spitzoid micromelanoma - a dermoscopic challenge: case report

Verche Todorovska[1], Pawel Pietkiewicz[2]
[1]Private pratice Derma Medika, Skopje, North Macedonia
[2]General and Oncological Surgery Clinic I, Greater Poland Cancer Center, Poznan, Poland

Spitzoid melanoma is a rare melanoma subtype that, clinically and histologically may resemble a Spitz nevus. [1] It can arise *de novo* or within the existing Spitz naevus.[2,3] Clinically, it presents as a growing papule or nodule that can be either hypo/amelanotic (non-pigmented, red) or pigmented (brown, black or blue). Advanced spitzoid melanomas may become ulcerated and covered with crusts. The typical sites include head and extremities. As spitzoid melanoma tends to be round in shape and uniform in colour, it often evades the commonly used ABCDE criteria for melanoma.[4]

A 44 y/o female was referred for a second opinion on the asymptomatic, but rapidly growing nodule on her shoulder that appeared 3 months before the visit. She had a personal history of sunburns in a childhood, sunbed addiction (>10 sessions/year in the past decade) and a family history of melanoma (uncle). On physical examination, the patient was extensively sundamaged Fitzpatrick III phototype, had <50 moles (mainly junctional naevi with reticular pattern) and none of them was atypical. Clinically, the lesion was an asymptomatic solitary non-ulcerated centrally hyperkeratotic blue-black papule located on the upper arm (Fig. 1A). Dermoscopically, there was one pattern – structureless and 3 colours: blue, black and white. A striking difference between polarized and non-polarized images was observed - polarization-specific shiny white radial lines (strands), a strong clue towards malignancy (Fig. 1B,C). Insuficent dermoscopy clues made a long list of differentials: solitary epithelioid melanocytoma, pigmented basal cell carcinoma, angiokeratoma, pigmented adnexal tumours (including pigmented eccrine poroma) and pigmented Spitz naevus with homogenous pattern. Further pathology report confirmed the diagnosis of spitzoid melanoma pT1aN0M0, IA (Fig. 3).

Pigmented spitzoid melanomas are very rare, they grow rapidly and are characterized by unusual appearance. The presented case indicates the importance of polarization-dependent structures (shiny white lines), that might be the only clue to malignancy, highlighting their importance in detecting featureless melanoma, EFG rule (elevated, firm and growing), and black and blue rule.[4-6]

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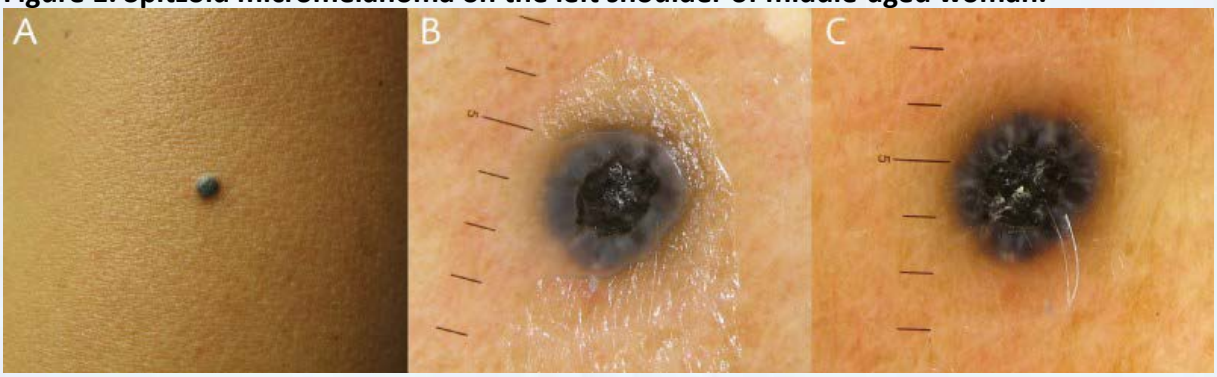
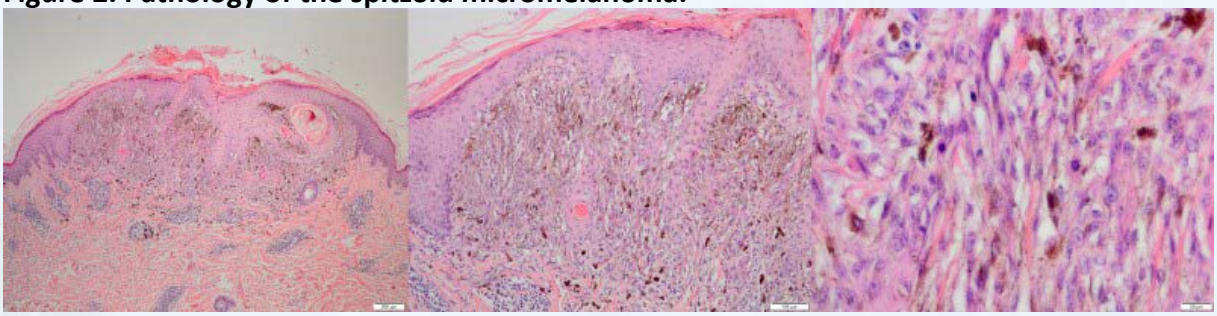
Keywords: shiny white structures, spitzoid melanoma, homogenous pattern, dermoscopy

Figure 1. Spitzoid micromelanoma on the left shoulder of middle-aged woman.



A. Clinical presentation. Solitary non-ulcerated hyperkeratotic blue-black firm papule (dia. 3mm) with a slight central dimple. B. Non-polarized dermoscopy: 1 pattern: structureless; 3 colours: blue, black and white. Peripheral grey-whitish homogeneous ring surrounds the central hyperkeratotic black structureless area. C. Polarized dermoscopy: Prominent polarization-specific shiny white lines (strands) of radial arrangement. No vascular pattern visible.

Figure 2. Pathology of the spitzoid micromelanoma.



Intense hyperkeratosis and acanthosis present as pseudoepitheliomatous hyperplasia. Multiple single malignant cells infiltrating the skin down to the border of papillary dermis. Reticular dermis infiltrated with polygonal malignant melanocytes with oval, hyperchromic and fusiform nuclei and acidophilic nucleoli. No ulceration. Mitotic index 4/mm2. Abundance of free and phagocytized melanin across the neoplastic tissue. Tumour lymphocytic infiltrate around the nests: moderate non-brisk. Immunohistochemical studies were not performed due to the small size of the specimen.

PP-24 [Autoimmune Bullous Diseases]

Retrospective Evaluation of Frequency of Autoimmune Bullous Disease in Chronic Pruritus Etiology

Burçin Cansu Bozca, Servinaz Enli, Ayşe Akman Karakaş
Department of Dermatology and Venerology, Akdeniz University School of Medicine, Antalya, Turkey

Introduction and OBJECTIVES: Autoimmune blistering diseases (AIBD) may be involved in the etiology of chronic pruritus (CP). Here, we aimed to evaluate the etiology of OBH retrospectively in patients admitted to our clinic with CP.

MATERIALS-METHODS: 236 patients who applied to our clinic between May 2014 and November 2019 and who had CP complaints were reviewed retrospectively. The diagnosis was made with OBH serology, pathological examination and / or direct immunofluorescence test (DIF) findings.

RESULTS: Of the 236 patients, 170 were female (72.1%) and 66 were male. (27.9%) The mean age of the patients was 51.1 years, and the mean pruritus duration was 40.6 months. Of 50 patients (21.1%) diagnosed with AIBD, 28 were female (56%) and 22 (44%) were male. The average age was 60.5 and the time from onset of symptoms to diagnosis was found to be 28.9 months. While the majority of the patients were BP (26 patients, 52%), 13 of these patients (50%) developed a classical bullous form at follow-up. 6 patients were diagnosed as non-bullous BP, 3 prurigo nodularis-like BP, 3 lichen planus pemphigoides, and 1 non-bullous and localized BP. While anti BP 180 antibody was found positive in 92.3% of the patients diagnosed with BP, the anti BP 180 antibody was negative in 1 of 2 patients, the diagnosis was made by DIF and the biochip method in the other. DIF was positive in 34.6% of patients with BP. While topical clobetasol propionate treatment was sufficient in 12 (46.1%) of the patients diagnosed with BP, systemic steroid was also used in 7 patients due to widespread disease. 2 of 5 patients who did not respond to topical and systemic steroids were treated with methotrexate, 2 with omalizumab and 1 with rituximab, and complete remission was achieved with these treatments. DH was observed in 20 patients (40%), while 2 patients (4%) had linear Ig A dermatosis and 2 patients (4%) had pemphigoid gestationes. While the positivity of celiac antibody serology was 30% in patients diagnosed with DH, DIF positivity was detected in only 1 patient, and the diagnosis was confirmed in all patients with a response to gluten-free diet and / or dapson therapy.

CONCLUSION: Our findings in the study show that AIBD should be included in the differential diagnosis so that the diagnosis is not delayed in patients of any age, especially in elderly patients with or without primary skin lesions presenting with CP. In our study, the frequency of AIBD in CP etiology was found to be as high as 21.1%, it may be due to our clinic being a reference center for AIBD. Prospective studies investigating the frequency of AIBD in CP etiology are also needed.

Keywords: Chronic pruritus, autoimmune bullous disease, bullous pemphigoid, dermatitis herpetiformis

PP-25 [Inflammatory Skin Diseases]

Perforating folliculitis in a patient with diabetes mellitus and chronic renal failure

Burçe Can Kuru[1], Gizem Gökçedağ[1], Bilgen Erdoğan[1], Zeynep Topkarcı[1], Damlanur Sakız[2]
[1]Bakırköy Dr.Sadi Konuk Training and Research Hospital, Department of Dermatology
[2]Bakırköy Dr.Sadi Konuk Training and Research Hospital, Department of Pathology

Perforating folliculitis (PF) is an entity that altered dermal material is eliminated from the epidermis through a follicular unit resulting in erythematous, follicular-based papules with small, central, keratinous cores primarily on the extremities. PF is most commonly associated with diabetes mellitus and chronic renal failure. We report the case of a 45-year old male presented with a 6-month history of an intensely pruritic eruption on the legs. His medical history included diabetes mellitus type 1, hypertension and chronic renal failure. Dermatological examination revealed folliculocentric, erythematous, excoriated hyperkeratotic papules on the lower extremities. Histopathologic examination of the skin biopsy showed dilated hair follicle containing keratine; and dermal material was seen entering the perforated follicle along with inflammatory infiltrate in the surrounding dermis. These aspects were correlated with those of PF. Topical antibiotic, topical corticosteroid and topical retinoid treatment was ineffective. After this regime, topical keratolytic (10% salicylic acid) and oral antihistamine for antipruritic purpose were prescribed. After one month, significant improve in pruritus and flattening of the lesions were observed. The patient was referred to relevant departments for the treatment of underlying diabetes mellitus and chronic renal disease. Even though this is a rare disease, we believe that perforating folliculitis must be considered in diferential diagnosis process in patients with diabetes mellitus and chronic renal disease especially when hyperkeratotic papules were spotted. In such situations, underlying systemic diseases must be addressed along with perforating folliculitis.

Keywords: perforating folliculitis, diabetes mellitus, chronic renal failure

PP-26 [Cutaneous Oncology]
Dermatofibrosarcoma protuberans: A case report

Esra Pancar Yüksel
Department of Dermatology, Ondokuz Mayis University, Samsun, Turkey

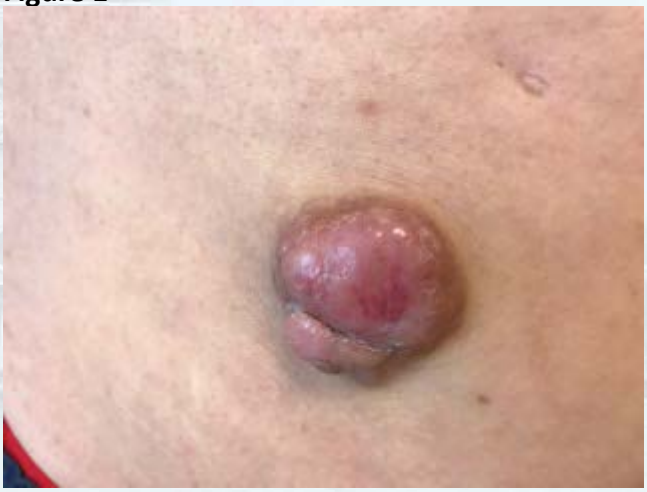
Introduction: Dermatofibrosarcoma protuberans is a rare, locally aggressive sarcoma. It is most commonly located on the trunk, proximal extremities, head and neck respectively. It presents with slow growing, indurated skin-colored plaque, eventually develops violaceous to red–brown nodules. They are usually characterized by locally aggressive behavior. We report a case of dermatofibrosarcoma protuberans with a lesion becoming a large nodule within a month.

Case Report: A 52-year-old male patient admitted to dermatology clinic and reported an increasing size of the tumor in one month located on his hip. Dermatologic examination revealed a pink firm nodule on the left side of gluteal region (Figure 1). The patient did not have any recent weight loss, fever, night sweats or chills. The lesion was removed by excisional biopsy and histopathologic examination identified it to be dermatofibrosarcoma protuberans.

Discussion: Dermatofibrosarcoma protuberans is a rare, locally aggressive sarcoma mostly occur on the trunk. There is a predilection for the shoulder or pelvic region. Although the lesion is described slowly progressing, our patient described a growing nodule for one month. Surgical excision with wide margins is the main stay of treatment. However, the early plaque stage might be misdiagnosed as a benign tumor and incompletely excised. And it can easily recur if not completely removed. Our case was diagnosed with dermatofibrosarcoma protuberans in consideration of its clinical features and histopathological findings. Dermatofibrosarcoma protuberans should be kept in mind in patients with hard, nodular mass on the skin.

Keywords: Dermatofibrosarcoma protuberans, nodule, sarcoma

Figure 1



A pink firm nodule

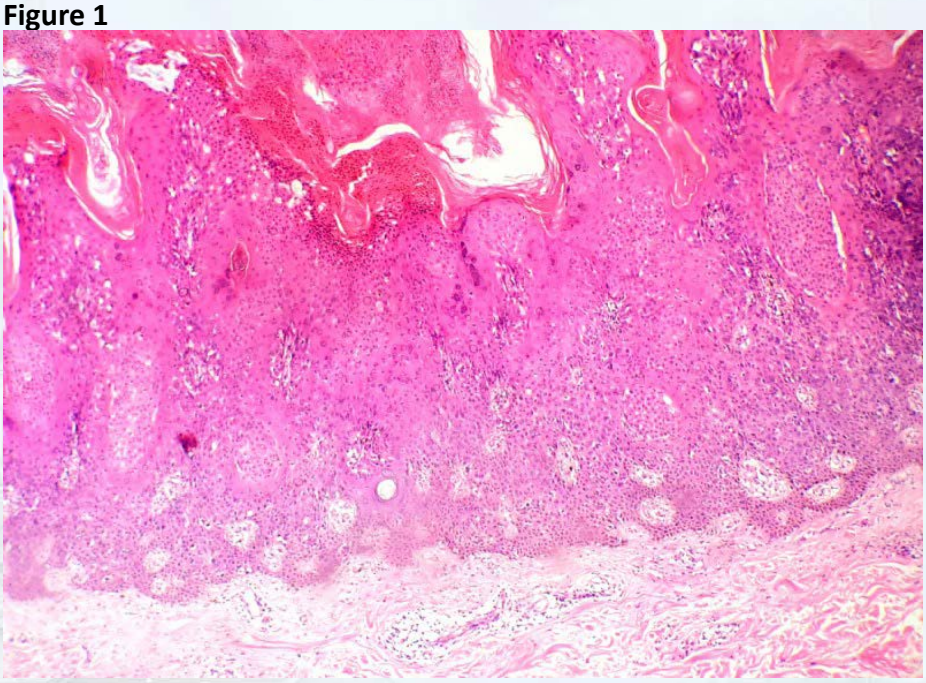
PP-27 [Dermatopathology]
Case Report; Clonal Seborrheic Keratosis

Murat Çelik[1], Ömer Faruk Elmas[2]
[1]Department of Medical Pathology, Selcuk University,Konya, Turkey
[2]Department of Dermatology,Ahi Evran University,Kırşehir, Turkey

Seborrheic keratosis(SK) is a benign cutaneous neoplasm that it is one of the most common skin tumors. Clonal seborrheic keratosis is a rare histological type of SK. It is a unusual lesion that may resemble other benign or malignant lesions.We report a case of a 37-year-old woman presented with sharply delineated, oval, brown-black warty plaques, cutaneous lesion on the her left breast. Histopathological examination occured the presence of sharply demarcated intraepithelial nests of basaloid or pale cells within an acanthotic epidermis. The tumor cells were small and monomorphic. We diagnosed this tumor as clonal seborrheic keratosis.

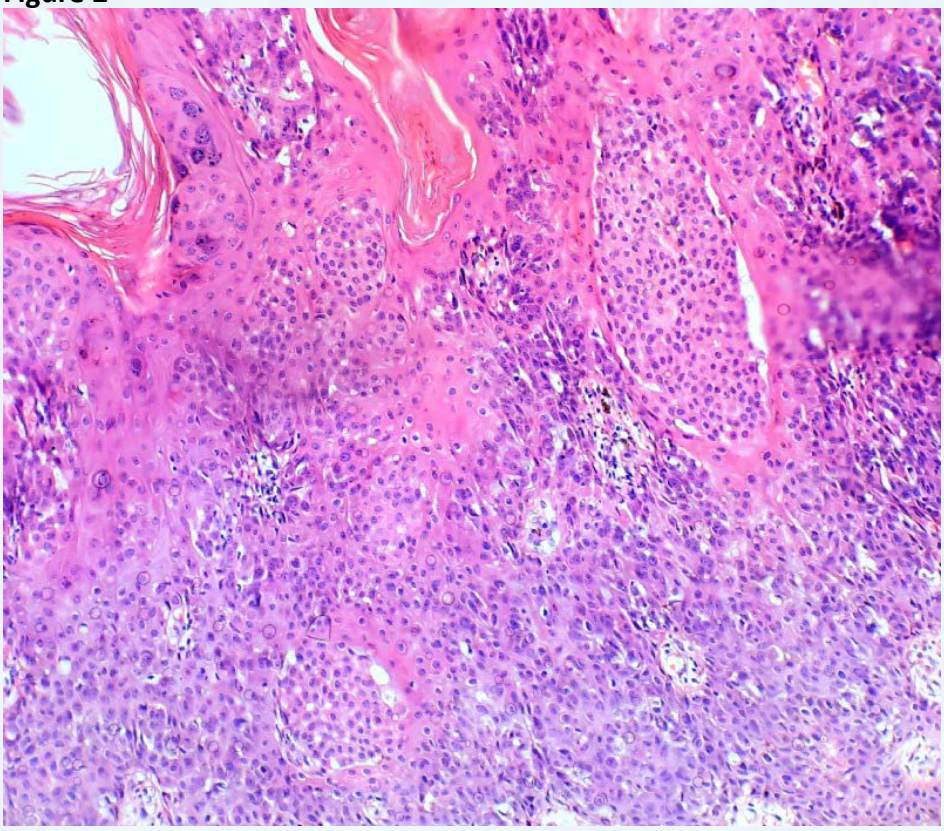
Keywords: clonal, SK, benign, skin

Figure 1



Histopathology of a clonal SK with several intraepidermal nests(H&E x100).

Figure 2



Histopathology shows an intraepidermal well defined nests of basaloid keratinocytes

PP-28 [Dermatopathology]

Cutaneous leishmaniasis mimicking carcinoma: a case report

Betül Ünal[1], Irem Buldum[1], Soner Uzun[2], Elif Betül Türkoğlu[3], Cumhur Ibrahim Başsorgun[1]
[1]Department of Pathology, Akdeniz University, Antalya, Turkey
[2]Department of Dermatology, Akdeniz University, Antalya, Turkey
[3]Department of Ophthalmology, Akdeniz University, Antalya, Turkey

Leishmaniasis describes a number of diseases caused by leishmania species and transmitted to humans by the bite of infected female sandflies. There are 3 different clinical pictures of leishmaniasis. These are cutaneous, visceral and mucocutaneous. Cutaneous leishmaniasis is endemic in Turkey. In this case report, a 81-year-old female patient who presented to the clinic with a lesion adjacent to the right medial canthus is reported. Clinical pre-diagnosis of the patient is squamous cell carcinoma and abscess. Leishmaniasis was seen in the skin biopsy evaluated in our center. This case shows that cutaneous leshmaniasis can even be confused with skin cancer and because it is endemic in our country, it should be in our differential diagnoses.

Keywords: leishmaniasis, carcinoma, pathology, skin biopsy

PP-29 [Dermatopathology]

Clinicopathological analysis of skin drug reactions: a single center study

Anıl Alpsoy[1], Betül Ünal[1], Ayşe Akman Karakaş[2], Cumhur Ibrahim Başsorgun[1]
[1]Department of Pathology, Akdeniz University, Antalya, Turkey
[2]Department of Dermatology, Akdeniz University, Antalya, Turkey

Introduction and Objectives; Adverse cutaneous drug reactions are considered a health problem worldwide, causing noticeable costs for health care systems. Depending on the presentation, adverse drug reactions are managed by a host of clinical specialities, including paediatricians, and primary care physicians as well as dermatologists, allergists and clinical immunologists. Most adverse cutaneous drug reactions follow a benign course; however, up to %2 of all adverse cutaneous drug reactions are considered severe and life-threatening. These include acute generalized exanthematous pustulosis (AGEP), drug reactions with eosinophilia and systemic symptoms (DRESS), Stevens-Johnson Syndrome (SJS), and toxic epidermal necrolysis(TEN). Our goal is to determine the clinical and etiological features of drug reactions confirmed by histopathologically attending to the Dermatology Department in the last five years. Materials and Methods; Patients who were diagnosed as drug reaction in the Dermatology department between 2015-2019 and confirmed histopathologically were included in the study. Besides, patients' suspicious drugs, patients' demographic and clinical features have also been recorded. Results; Severe drug reaction was detected in 23 (%18,4) of 125 (70 female, 55 male; female / male=1,27) patients (AGEP; 5, DRESS; 10, SJS/TEN; 8). The most common diagnosis among non-severe drug reactions was maculopapular drug reaction. Among all the drugs recorded, the most common suspicious drugs were paracetamol (5 patients). The other frequent suspicious drugs were allopurinol (4 patients) and metformin (4 patients). In severe drug reactions, the most common reason was the use of allopurinol in 3 patients. Also, ceftriaxone (2 patients) and amlodipine (2 patients) were other common medications. Conclusion; In our country, the rate of severe drug reactions in all drug reactions was found to be higher than the literature. The reason for this may be that patients with mild or moderate drug reactions do not apply to the hospital or clinicians do not take a biopsy from these patients.

Keywords: drug reactions, pathology, dress, ten, agep, skin biopsy

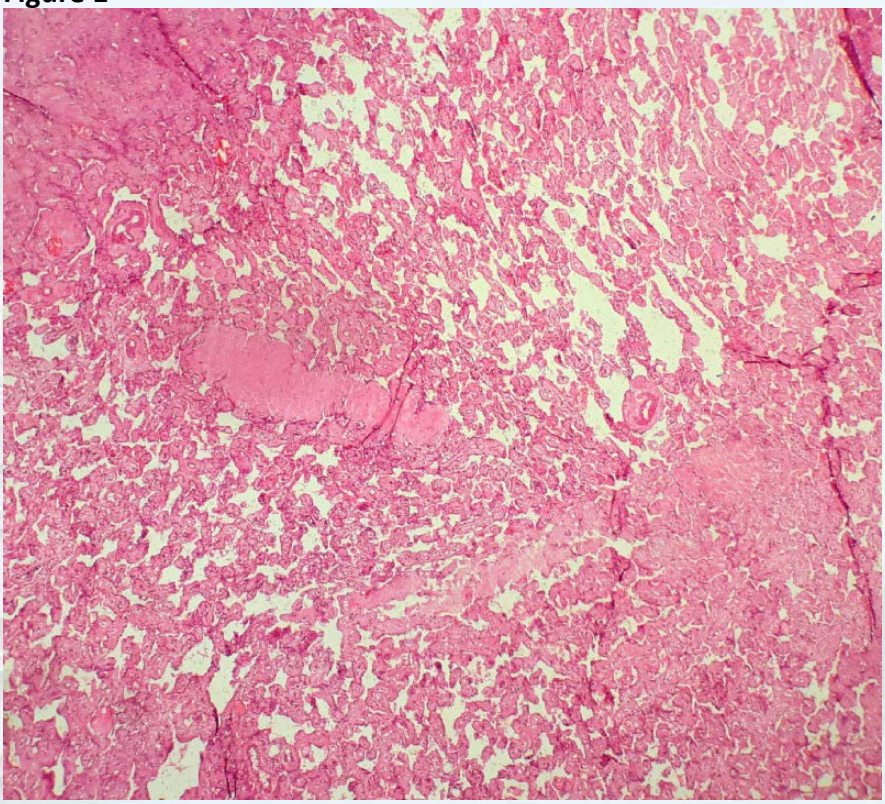
PP-30 [Dermatopathology]
Case Report; Retiform hemangioendotelioma

Murat Çelik[1], Ömer Faruk Elmas[2]
[1]Department of Medical Pathology, Selcuk University,Konya, Turkey
[2]Department of Dermatology,Ahi Evran University,Kırşehir, Turkey

Retiform hemangioendothelioma(RH) is a borderline tumor of vascular structures. It is characterized by intercommunicating vascular channels lined by hobnail or cuboidal endothelial cells. It occurs clinically as a slow growing asymptomatic solitary nodule or plaque on extremities or trunk. It is usually seen in young adults. Microscopically, arborizing blood vessels are arranged in retiform pattern resembling the normal rete testis. Vasculary structures are lined by monomorphic hobnail endothelial cells and infiltrated by lymphocytes. RH differs from angiosarcoma in lacking cytologic atypia and high mitotic rates. This neoplasm grows slowly and frequently recurs, but rarely metastasizes. Herein, we report a case of a 19-year-old female patient with retiform variety of hemangioendothelioma on the upper extremite.

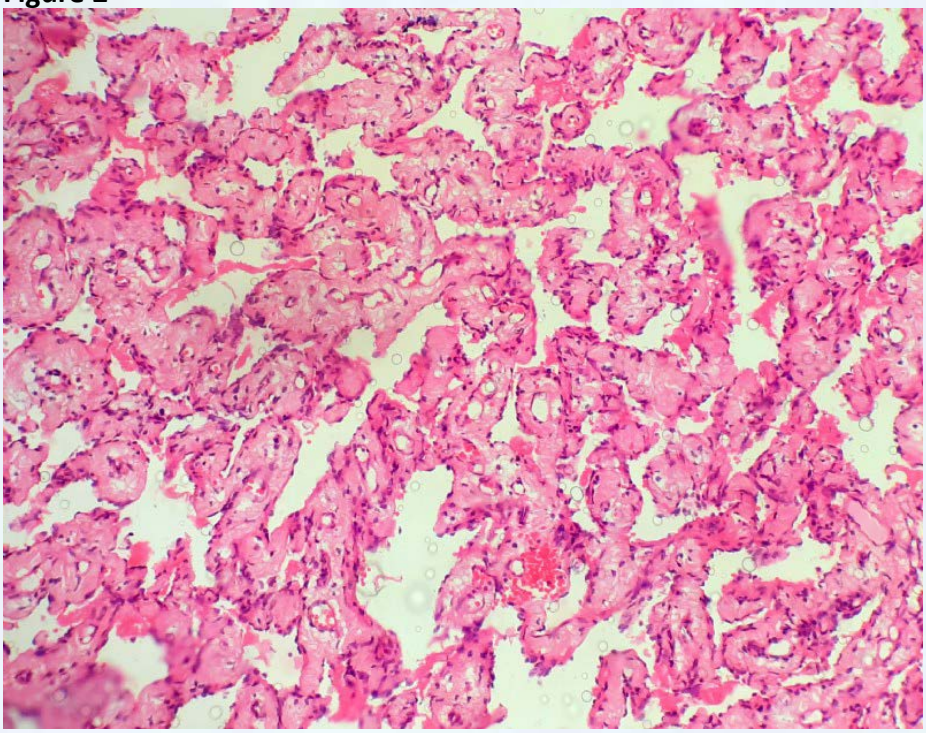
Keywords: vascular, retiform, borderline, hobnail

Figure 1



Arborizing blood vessels are arranged in retiform pattern (H&E X40)

Figure 2



Vasculary structures are lined by monomorphic hobnail endothelial cells (H&E X200)

PP-31 [Inflammatory Skin Diseases]
Pustular vasculitis: A case report

Esra Pancar Yüksel
Department of Dermatology, Ondokuz Mayis University, Samsun, Turkey

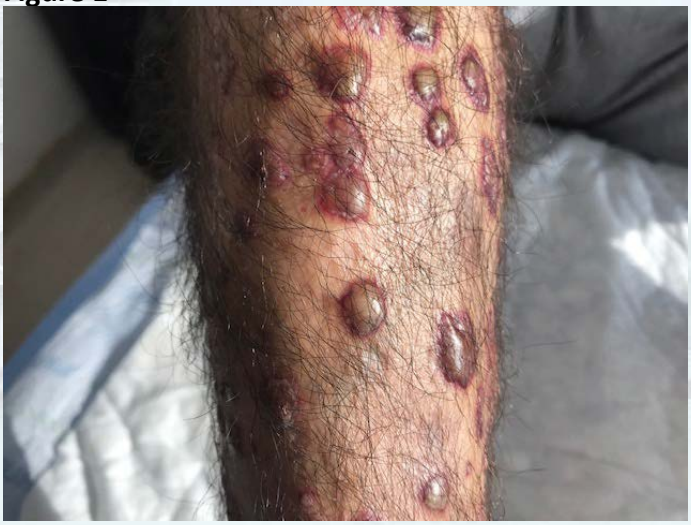
Introduction: Pustular vasculitis is a rare clinical entity characterized by pustules or pustular plaques on a purpuric base. It was first reported by Jorizzo in 1983, and a few cases have been reported since then. The lesions of pustular vasculitis have been described on dorsal hands and feet in the literature. They are often painful, and ulceration is a common feature. Here, we report a case of pustular vasculitis associated with drug administration.

Case Report: A 44-year-old man presented with the complaint of an acute extensive painful fluid-filled lesions which started on his ankles and spread to his legs and arms. One week prior to his admission, he had taken non-steroidal anti-inflammatory drug. Dermatological examination revealed widespread palpable purpuric rash, multiple pustules and bullae on a purpuric base on bilateral upper and lower extremities (Figure 1). Skin biopsy was performed for histopathology and noted to have perivascular mixed infiltrate of mononuclear cells, neutrophils and extravasated erythrocytes. Laboratory findings were unremarkable. Based on these findings, a diagnosis of pustular leukocytoclastic vasculitis was made. There was no evidence of systemic vasculitis in the patient. The patient was started on oral prednisolone 60 mg daily. The lesions started to resolve after one week and steroid dose was decreased gradually.

Discussion: Pustular vasculitis includes a heterogeneous group of disorders characterized by pustules on purpuric bases. The lesions of the cases described in the literature involved both hands and lower limbs. Skin biopsy is necessary for the diagnosis. It is diagnosed as pustular vasculitis if there are signs of vessel damage in addition to features of neutrophilic dermatoses. This is a rare case of pustular vasculitis and reporting of each case may improve our understanding of the disease.

Keywords: leukocytoclastic vasculitis, pustular vasculitis, pustule

Figure 1



Pustules and bullae on purpuric base

PP-32 [Paediatric Dermatology]
Urticaria Pigmentosa in 14 Months Old Infants

Onur Sivaz[1], Ezgi Ozkur[1], Ilknur Kıvanç Altunay[1], Yasemin Erdem[1], Deniz Tunçel[2]
[1]University of Health Sciences Sisli Etfal Training and Research Hospital, Dermatology and Venereology Clinic
[2]University of Health Sciences Sisli Etfal Training and Research Hospital, Pathology Department

Mastocytosis is the general name given to a spectrum of diseases that appears as a result of hyperplasia of mast cells in the tissue and shows common clinical signs. It can occur at any time from birth to adulthood. It can involve only the skin or a large number of organs. The course of the disease varies according to the clinical type and age of onset of the disease. In children, mastocytosis is often cutaneous, and the most common clinical form of cutaneous mastocytosis is urticaria pigmentosa. It often begins in the first two years of life, and in most cases remission occurs in puberty. Progression to systemic mastocytosis is not common with extracutaneous organ involvement. Patients experience symptoms mediated by mast cell mediators such as itching, urticaria and flushing. Symptoms often respond to topical and systemic antimediatric treatments, including antihistamines and cromolyn sodium. Patients should also avoid drugs such as alcohol, Polymyxin B, morphine, d-tubocurarine, and nonsteroidal anti-inflammatory that may cause mast cell degranulation and histamine release. The diagnosis of the disease is based on clinical and histopathological findings. A 14-month-old girl with urticaria pigmentosa is presented with her typical clinical and histological features.

A14-month old girl consulted with a rash on her body. According to the information obtained from his family, he stated that the rashes that started from the abdomen 3-4 months ago spread to the arms and legs and accompanied by itching. It was reported from his history that his rashes started in the form of red spots and went along with exacerbation and extinguishings, and the color of his rashes turned to brown and did not heal over time. There was no history of flushing, diarrhea and syncope in system interrogation.

In dermatological examination; Brown papules and nodules with a diameter of 1-2 cm, which were also seen in the proximal limb, and more in the trunk, were seen. Following the trauma in the form of rubbing on the lesions, the formation of urticarial plaque covering the larger area than the main lesion was observed within 1-2 minutes.

In his physical examination; no pathological findings.

In the histopathological examination of the skin biopsy showed diffuse infiltration consisting of mast cells in the dermis was found compatible with urticaria pigmentosa. Mast cell accumulation was demonstrated in staining with toluidine blue and giemsa. Pink dotted appearance was observed in the matromatic granules. In the laboratory examinations were normal, the level of triptase was 12.5 ng /ml.

The patient was diagnosed with urticaria pigmentosa with clinical and histopathological findings. Oral H1 antihistamine ketotifen was started and followed up. Patient's itching decreased and her lesions regressed in the follow-up. As a typical case in our article, we have presented urticaria pigmentosis because it is seen in children and may draw attention to dermatologists.

Keywords: mastocytosis, urticaria pigmentosa, ketotifen, darier sign

PP-33 [Adverse Drug Reactions, TEN]

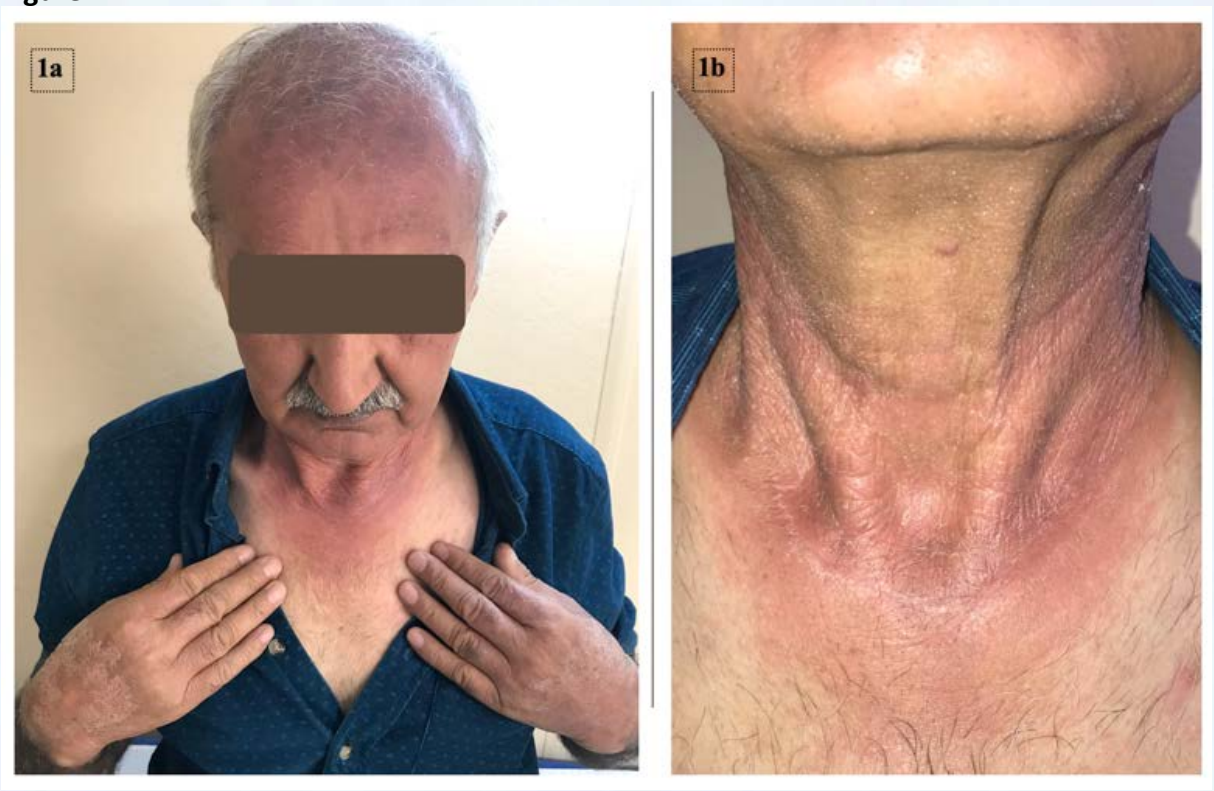
Pirfenidone-related phototoxic reaction in a patient with idiopathic pulmonary fibrosis

Fatmagül Gülbaşaran[1], Ayşe Vatansever Şeker[2]
[1]Salihli State Hospital, Dermatology and Venereology Department
[2]Salihli State Hospital, Pathology Department

Idiopathic pulmonary fibrosis (IPF) is a progressive fibrotic fatal lung disease of unknown aetiology. Pirfenidone (5-methyl-1-phenyl-2-[1H]-pyridone) is a novel synthetic molecule used for the treatment of IPF, that has anti-fibrotic, anti-inflammatory and antioxidant effects. Although photosensitivity is reported side effect in clinical trials, there are only a few published reports of this adverse effect. A 59-year-old man was referred to our dermatology clinic (Fig. 1) with prurutic, erythematous to violaceous plaques and desuquamation on the scalp, the dorsum of the hands, the neck and the V area of the chest. He had been diagnosed with IPF in a university hospital pulmonology department and was placed on pirfenidone. He stated that two days before the dermatology consultation, he was exposed to the sun for a long time without using sunscreen. Routine laboratory tests indicated increased markers of inflammation. The skin biopsy showed a perivascular lymphocytic inflammatory infiltrate, ballooning of keratinocytes with increased apoptosis. These findings were most consistent with a phototoxic reaction to pirfenidone. The patient discontinued pirfenidone and was started on oral methylprednisolone along with topical corticosteroids and oral antihistamines. This treatment led to a slow resolution of the skin lesions within 2 weeks. Phototosensitivity is a known adverse effect of oral pirfenidone, phototoxicity presents a rather dangerous reaction, displayed by significant skin reactions sharply restiricted to areas of sun exposure. The exact mechanism of pirfenidone-induced photosensitivity is unknown. One possible explanation is the immunomodulatory activity of the drug that can provoke autoimmune reactions manifested as photosensitivity. Another is the drug's ability to absorb ultraviolet A and B so resulting the generation of reactive oxygen species and lipid peroxidation in skin. Our aim by presenting this case is to increase the awareness of clinicians for the potential severe phototoxic effects of oral pirfenidone. Patients on pirfenidone should be advised to avoid exposure to sunlight in addition to using photoprotective clothing, broad-spectrum sunscreens and dermatologists should be careful to not to prescribe additional phototoxic drugs in patients on pirfenidone.

Keywords: Pirfenidone, adverse effect, phototoxic reaction

Figure 1



Pirfenidone-induced phototoxic reaction. (a–b) Clinical presentation of the patient with erythematous plaques with desquamation. Area shadowed by the chin of the patient are spared

Figure 2

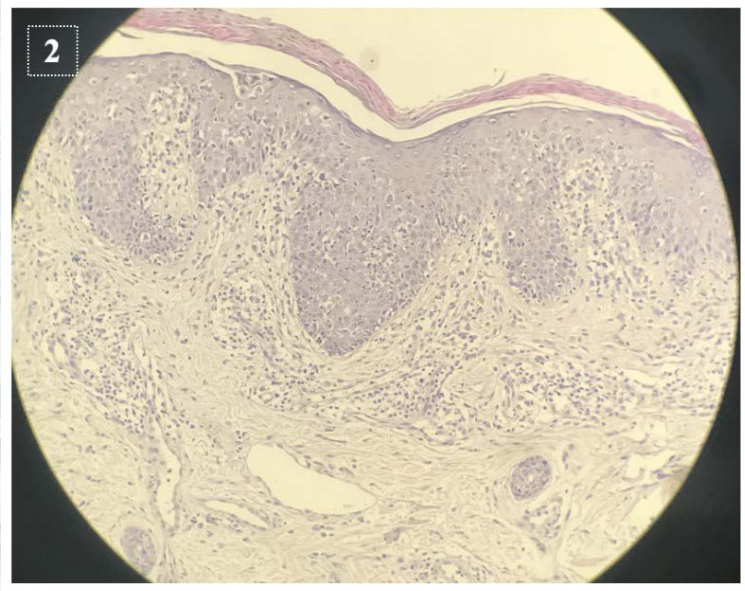


Figure 2: H & E staining of a biopsy specimen shows lymphocytic inflammatory infiltrate in superficial dermis, numerous apoptotic keratinocytes and ballooning keratinocytes

PP-34 [Angiology, Haemangiomas, Vascular Malformations, Vasculitis]
Facial Angiofibromas successfully treated by topical sirolimus in combination with carbondioxide laser
Umut Ayberk Kukul, Nida Kaçar
Department of Dermatology, Pamukkale University,Denizli,Turkey

Facial Angiofibromas successfully treated by topical sirolimus in combination with carbondioxide laser

Introduction: Tuberous sclerosis complex (TSC) is an autosomal dominant neurocutaneous syndrome which causes hamartomatous growth in multiple organs due to mutations in TSC1 or TSC2 genes which inhibit the mammalian target of rapamycin (mTOR). Among the hamartomatous skin lesions, facial angiofibromas occur in 80% of patients with TSC resulting in cosmetic disfigurement.

CASE REPORT 1: Twenty-six years old woman applied to our clinic with complaint of facial lesions. Multiple erythematous papulles distributed symmetrically on the face. Facial lesions diagnosed with angiofibromas. Computer tomography of head revealed cortical subcortical tubers. Hyperechoic multiple nodular appearance was observed by renal ultrasonography that were interpreted as angiomyolipomas. TSC was suggested in the patient. Ablative CO2 laser treatment was performed to the facial angiofibromas for aesthetic purpose twice. Topical 0.1 % sirolimus vaseline mixture(Rapamune® 1 mg tablets were crushed and mixed with 50 gram compact vaseline) twice daily was started afterwards. She is still under topical sirolimus treatment with significant improvement for 2 months

CASE REPORT 2: Twenty-four years old woman applied to our clinic with complaint of facial lesions. Multiple erythematous papulles distributed symmetrically on the face. Facial lesions diagnosed with angiofibromas.. Topical 0.1 % sirolimus vaseline mixture(Rapamune® 1 mg tablets were crushed and mixed with 50 gram compact vaseline) once daily was started. %25 improvement observed after 45 days. Then, two applications were carried out daily.Treatment is still ongoing.

CASE REPORT 3: Thirteen years old woman applied to our clinic with complaint of facial lesions. Multiple erythematous papulles distributed symmetrically on the face. Facial lesions diagnosed with angiofibromas. Topical 0.1 % sirolimus vaseline mixture(Rapamune® 1 mg tablets were crushed and mixed with 50 gram compact vaseline) twice daily was started. %75 improvement observed after 60 days. Treatment is still ongoing.

DISCUSSION: The lack of guidelines for the treatment of facial angiofibromas is probably due to the low incidence of this pathology. Rapamycin is today a still off-license treatment with good outcomes, but open questions are drug concentration, vehicle, and dosage. Sirolimus ointment 0.1-0.2% once a day was apparently effective in treating facial angiofibromas in our clinical cohort.We successfully applied the treatment to 3 patients in our clinic. The treatment of all 3 patients is still ongoing.

Keywords: angiofibroma,sirolimus,tuberous sclerosis

PP-35 [Biologics, Immunotherapy, Molecularly Targeted Therapy]
Lichenoid drug eruption caused by adalimumab: a case report

Gizem Filazi, Ümit Türsen
Department of Dermatology,Mersin University,Mersin,Turkey

Lichenoid drug eruption is an uncommon cutaneous adverse effect of several drugs and can be caused by various drugs etc angiotensin-converting enzyme(ACE) inhibitors, antimalarials, beta blockers, gold salts, nonsteroidal anti-inflammatory drugs(NSAIDs). Cases induced by TNF-alpha antagonists (adalimumab,infliximab and etanercept) and tyrosine kinase inhibitor imatinib mesylate have also been reported. We report here the case of a lichenoid drug eruption induced by adalimumab(TNF-alpha antagonists).

Keywords: lichenoid, drug, eruption, adalimumab

photo

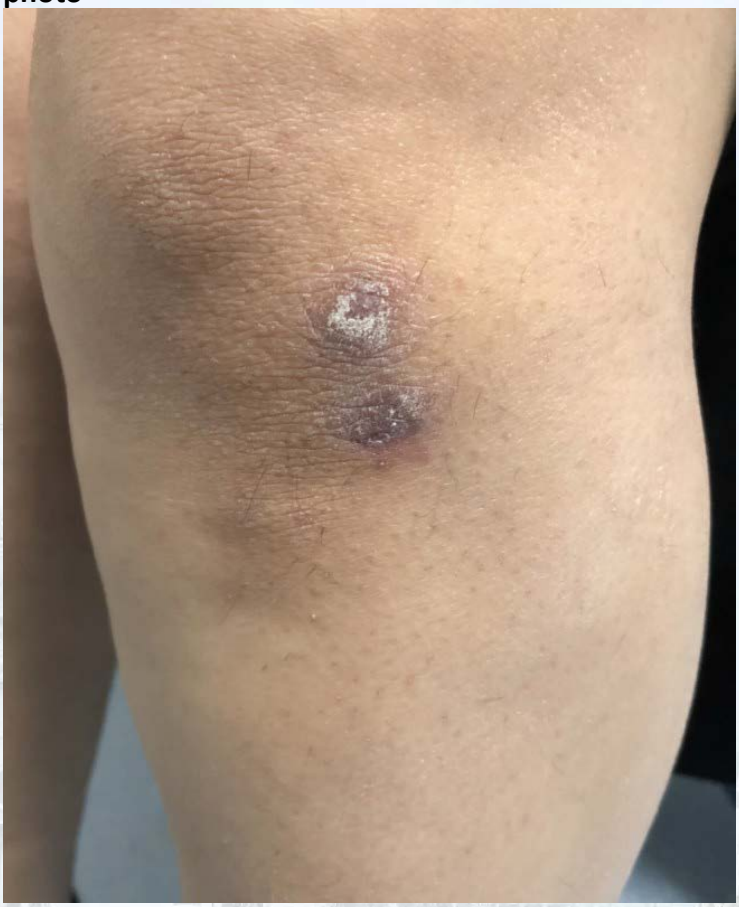
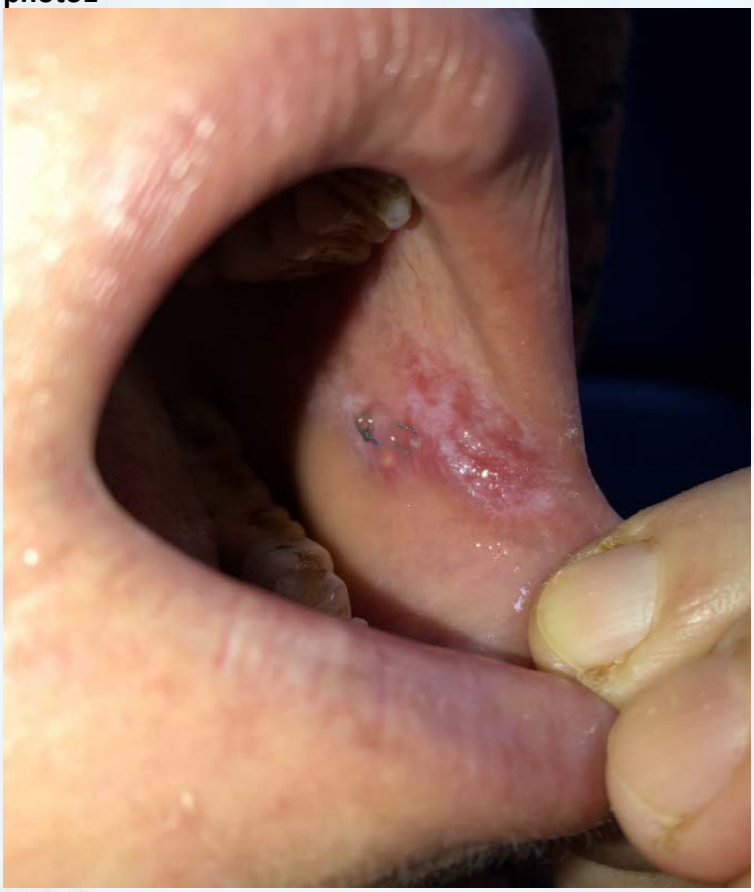


photo1



PP-36 [Psychodermatology]
Dermatitis Artefacta in Childhood

Ilkin Zindanci[1], Ebru Zemheri[2], Damla Demir[1], Gözde Narin Şimşek[1], Erhan Ersoy[3], Ismail Işlek[4]
[1]Health of Medical Science, School of Medicine, Umraniye Training and Research Hospital, Department of Dermatology
[2]Health of Medical Science, School of Medicine, Umraniye Training and Research Hospital, Department of Pathology
[3]Health of Medical Science, School of Medicine, Umraniye Training and Research Hospital, Department of Pediatric Psychiatry
[4]Health of Medical Science, School of Medicine, Umraniye Training and Research Hospital, Department of Pediatry

Dermatitis artefacta (DA), also known as dermatitis factitia, İs artificial dermatosis caused by psychologicall problems, which are formed by the stones on their own, which can occur with various morphological variations. It is often seen in middle-aged women. It is rare in childhood. Herein, we present two girls who were diagnosed as DA with their clinical, histopathological ve psychiatric findings.

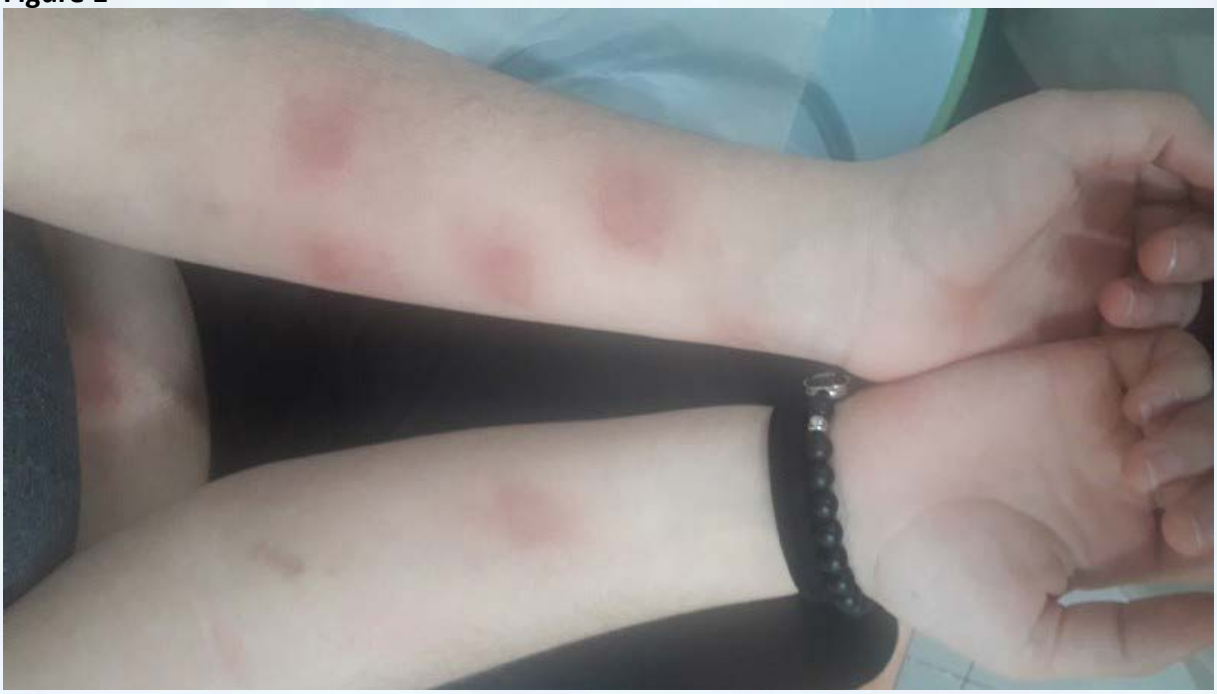
Case 1: A 14-year-old girl presented to the pediatric rheumatology outpatient clinic complaining of erythematous patches on her skin, weakness, and artralgia for 1 week. In his examination, there were erythematous macular lesions in the neck, upper limbs and trunk, scattered on the body, all of a similar character. Histopathological examination revealed pigment in the epidermis.

CAse 2: A 10-year-old girl was consulted from the rheumatology clinic. The patient complained of joint pain and excessive skin sensitivity in addition to skin lesions. On examination, there were scattered, oddly shaped erythematous lesions on the ground with necrotic crusts. Nickel positivity detected in patch test. Histopathological evaluation was compatible with contact dermatitis.

It is among the diseases that DA dermatologists do not have difficulty in clinical diagnosis, but the patient is difficult to persuade. They refuse that the lesions are formed by themselves, and they do not want to heal. They aim to achieve secondary emotional gains. DA is often seen in school age-girls in children. They can apply to clinics other than dermatology with exaggerated complaints, as our patients. Dermatological examination of these patients is diagnostic. The diagnosis can be confirmed histopathologically. Child psychiatric follow-up is absolutely necessary for treatment.

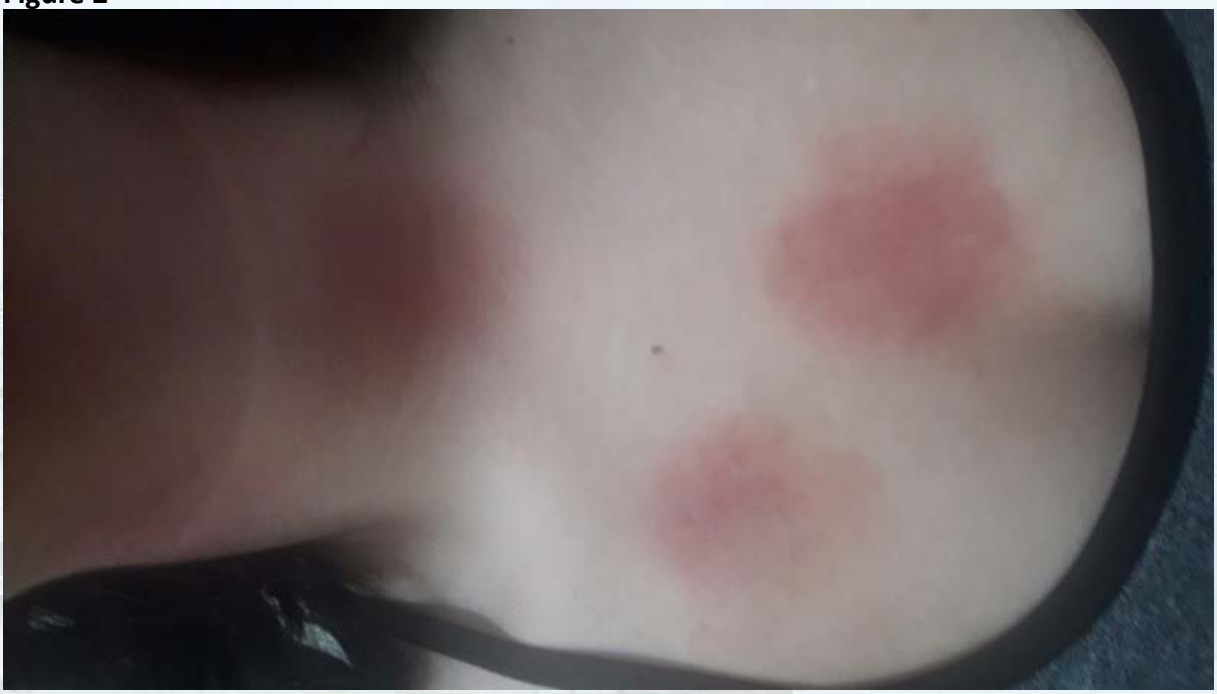
Keywords: dermatitis artefacta, dermatitis factitia, childhood

Figure 1



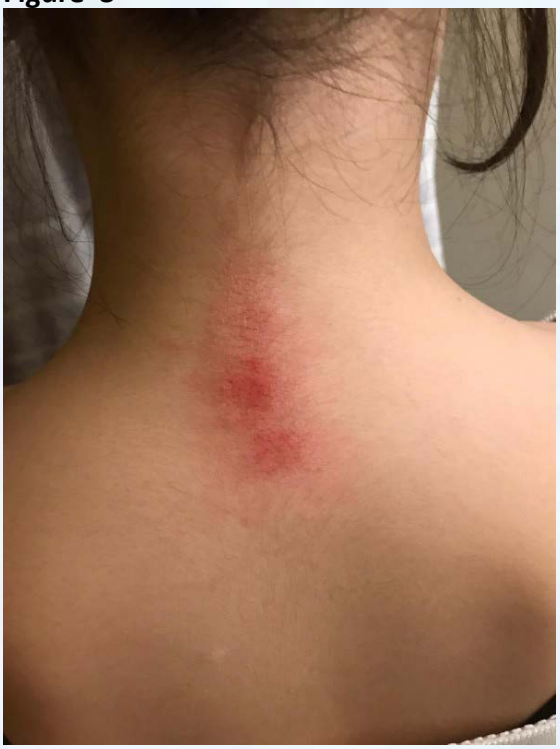
Clinicil appearance of the case 1

Figure 2



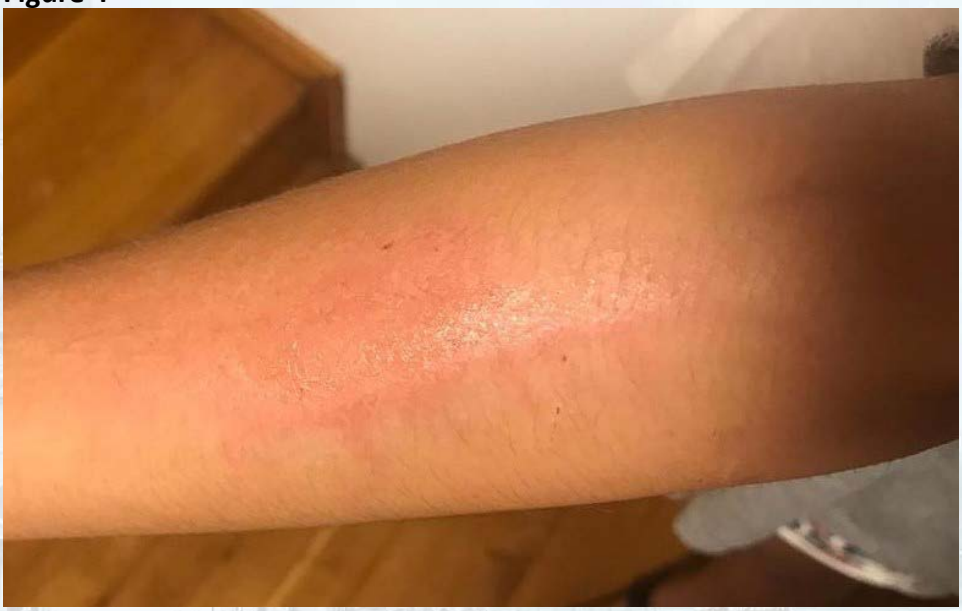
Clinical appearance of the case 1

Figure 3



Clinical appearance of the case 2

Figure 4



Clinical appearance of the case 2

PP-37 [Miscellaneous]

Scleredema due to streptococcal infection

Muhammet Reşat Akkuş[1], Huzeyfe Kulu[1], Kemal Özyurt[2], Mustafa Atasoy[1], Ragıp Ertaş[1], Uğur Akkaş[1], Serdal Sadet Özcan[3]

[1]Kayseri City Hospital Dermatology Clinic's, Saglık Bilimleri University, Kayseri, Turkey

[2]Dermatology Clinic's, Kırşehir Ahi Evran University, Kırşehir, Turkey

[3]Kayseri City Hospital Patology, Saglık Bilimleri University, Kayseri, Turkey

Scleredema is a rare, but likely underrecognized, fibromucinous connective tissue disease. Clinically, it is responsible for a fibromucinous progressive woody induration of the skin, involving the neck, shoulders and proximal upper members and eventually the face. There are three clinical pattern of scleredema, which are classified by their associated condition. Scleredema may be related with a history of infection (usually streptococcal) (type 1), a blood dyscrasia (type 2), or diabetes mellitus (type 3). Scleredema can be a self-resolving or a permanent skin condition. Histological features include dermal fibrosis with thickened collagen bundles and variable amounts of mucin deposit. In our case, we will present the patient compatible with the type 1 scleredema condition after infection.

Keywords: scleredema, poststreptococcal infection, mucin

PP-38 [Dermatopathology]

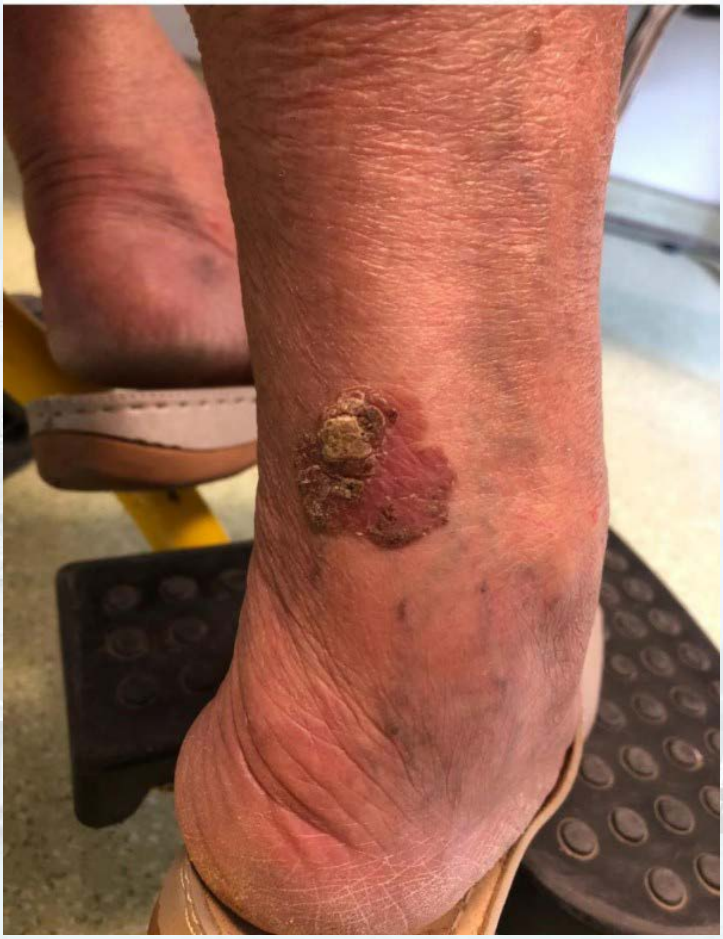
An unexpected case of nodular amyloidosis

Fadime Eda Gökalp Satıcı[1], Özge Ağtaş Mıstık[1], Gizem Filazi Kök[2], Yasemin Yuyucu Karabulut[1]
[1]Department of Pathology, Mersin University, Mersin, Turkey
[2]Department of Dermatology, Mersin University, Mersin, Turkey

Amyloid is an abnormal protein that is produced in the bone marrow and can accumulate in any tissue or organ. If amyloid accumulates only in the skin and there is no evidence of systemic involvement, the condition is called primary localized cutaneous amyloidosis. Primary localized cutaneous nodular amyloidosis is the rarest form of cutaneous amyloidosis, which is generally seen equally between the sexes. Although lichenoid and macular amyloidosis are relatively common, nodular amyloidosis is the rarest form of cutaneous amyloidosis. Our case is a rare case of nodular amyloidosis detected by coincidentally.

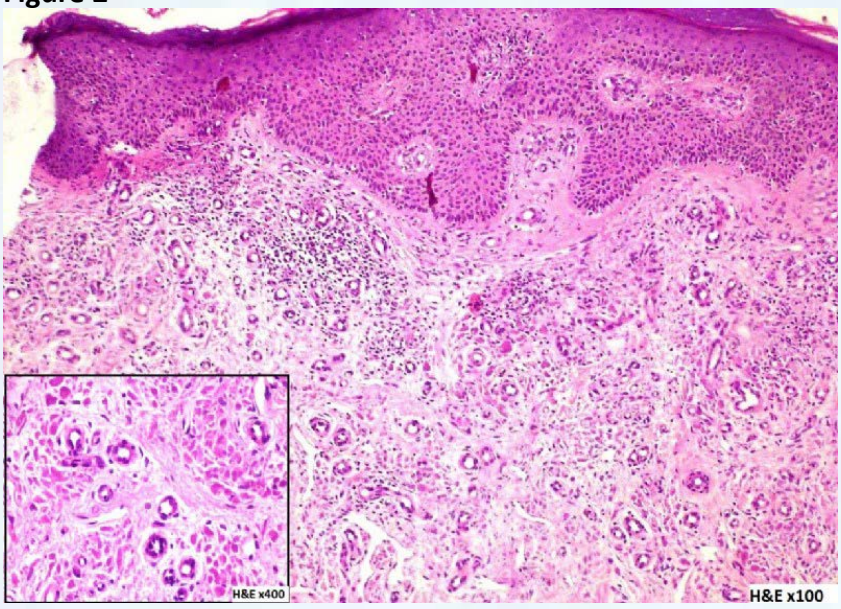
Keywords: Primary cutaneous amyloidosis, nodular amyloidosis, Congo red

Figure 1



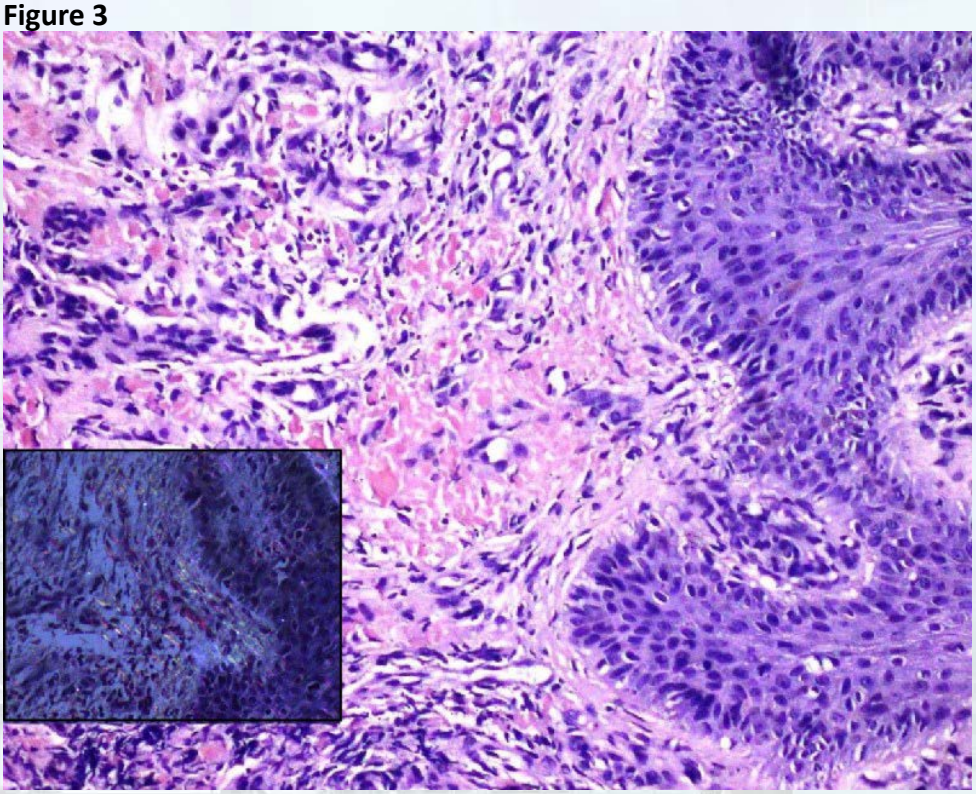
4-5 cm in size, mild hyperkeratotic, erythematous plaque lesion

Figure 2



Amorphous eosinophilic amyloid accumulation in the superficial and reticular dermis

Figure 3



Congo red staining shows amyloid protein formation. Picture in the corner: The green birefringence was obtained on polarizing filter.

PP-39 [Psoriasis]

Diffuse Large B Cell lymphoma Not Associated with EBV in a Psoriatic Patient Treated with Metothrexate

Sümeyye Özer, Onur Karaağaç, Recep Dursun
Department of Dermatology, Necmettin Erbakan University, Konya, Turkey

Introduction: Methotrexate is a immunesupressive drug which uses for tratment of psoriasis vulgaris and several autoimmune diseases. (1) Methotrexate use can result with methotrexate -associated lymphoproliferative disorder (MTX-LPD) which can present as a benign lymphoid proliferation or a malignant lymphoma. (2) Most of MTX induced malign lymphomas are related with Ebstein-Barr Virus (EBV) in the literature. (3,4,5,6,7) We report here an unusual case of diffuse large B-cell lymphoma (DL-BCL) which is not EBV related in a patient with psoriasis vulgaris after receiving methotrexate treatment.

Case Report: A 76-year-old male with a 45-years history of Psoriasis Vulgaris is presented with axillary lymph node enlargement. Lymph node biopsy revealed diffuse large b-cell lymphoma which is not related with EBV. There wass a history of 20mg/week metothrexate treatment that started 4 years ago and lasted two years. The axillary lymph node was first detected immediately after methotrexate treatment, but the patient did not continue lymph node examination and follow-up. There was no history for another systemic treatment for psoriasis such as phototherapy, cyclosporine, acitretin or biologic agents. Rituksimab, cyclophosphamide, adriamycine, vincristine, prednisone chemotheraphy protochol has applied with intratechal metothraxate and cytosine arabinoside prophylaxy for central nervous system. After first cure of the chemotherapy the patient's psoriatic lesions were also improved. 15 days later of first cure psoriatic lesions have appeared again. In physical examination there were erythematous,scaling, well marginated papules and plaques at knees, elbows, arms, legs, scalp and genital region. Subungal hyperkeratosis and yellowish discoloration are detected in nails. PASI sore calculated as 15. Chemotherapy protocol is continuing and psoriasis lesions are treated with only topical treatment.

Conclusion: This case is important for the development of malignant lymphoma after methotrexate use in psoriatic patient. In addition, previously reported reversible lymphoproliferation, hodgkin lymphoma and non-hodgkin lymphoma cases after the methotrexate treatment, are associated with EBV in the literature. (3,4,5,6,7) Whereas in this case, diffuse large b cell lymphoma not associated with ebv is reported. Furthermore, regression of psoriasis lesions with antineoplastics used in the treatment of lymphoma shows that psoriasis responds well to antiprolirative cytotoxic treatments and immune suppressive therapies.

Keywords: psoriasis, metothrexate treatment, lymphoma, metothrexate induced lymphoma

PP-40 [Adverse Drug Reactions, TEN]

Drug reaction with eosinophilia and systemic symptoms syndrome in a patient taking phenytoin and levetiracetam: A Case Report

Sinem Soğancıoğlu, Mustafa Atasoy, Ragıp Ertaş, Muhammet Reşat Akkuş, Huzeyfe Kulu, Uğur Akkaş
Department of Dermatology, Kayseri City Hospital,Kayseri,Turkey

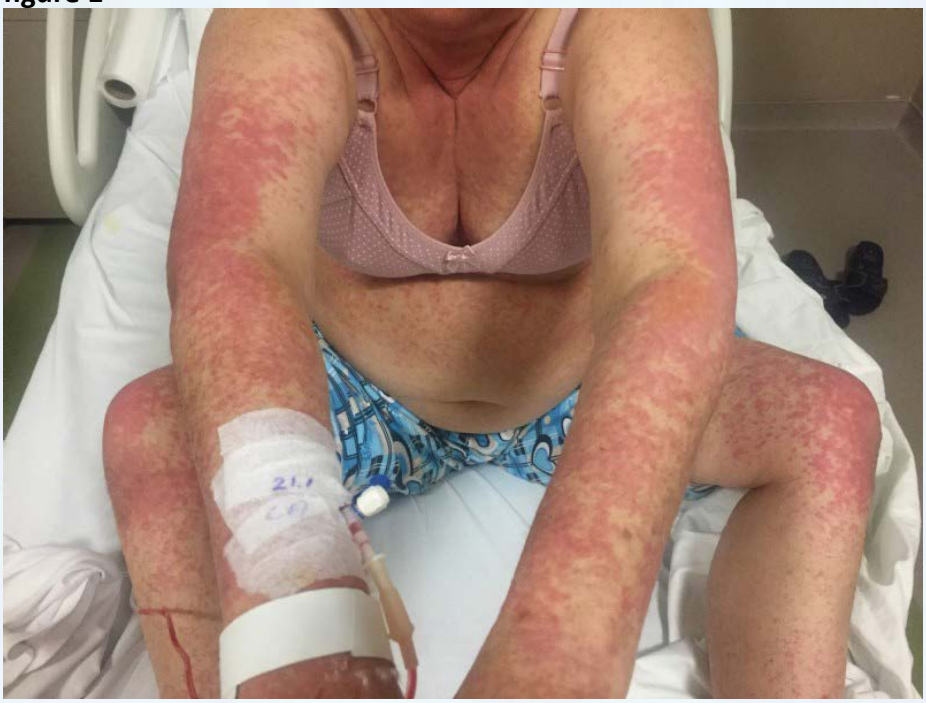
İNTRODUCTİON: Drug reaction with eosinophilia and systemic symptoms (DRESS) syndrome is uncommon but life-threatining hypersensitivity drug reaction characterized by fever,rash,lymphadenopathy,hem atologıc abnormalities including eosinophilia and internal organ involvement. The drugs most often responsible for causing this condition are antiepileptics such as phenytoin, phenobarbital, carbamazepine etc. Unlike other drug reactions, the time from drug exposure to the appearence of symptoms is long in this condition. Edema on the face (especially periorbital and cheek) is another distintictive feature.

CASE: 51 year old female patient presented with diffuse pruritic, erythematous, maculopapuler rash on her upper and lower extemities.She had undergone neurosurgical operation due to menengioma before 40 days ago so she had been taking phenitoin and levetirastem to prevent epipleptic seızures.She was hospıtalized with diagnosis of drug erüption.On hospital day 2,the rashes spread to her whole body including face (figüre 1). Marked edema was concomitant to rash on her face (figure 2).Her body's temperature was above 39 degree. Laboratory results revealed elevated white blood cell count 0f 11.8 thousand/mm3 with eosinophils of 1.15 thousand/mm3 (normal from 0.0 to 0.5 thousand/mm3). Atypical lymphocytosis were not in peripheral blood smear. Hepatic function tests revealed an aspartate aminotransferase of 82/L (normal from 0 to 37), alanine aminotransferase (ALT) of 88 U/L (normal from 0 to 41), gamma glutamyl transferase (GGT) of 266U/L (normal from 9 to 48), lactic acid dehydrogenase (LDH) 0f 347 U/L (normal from 140 to 280). Viral hepatitis panel and abdominal ultrasound were negative.A phenitoin level was 6 (therapeutic range 10-20).Other metabolic tests were unremarkable.The patient was admitted to DRESS syndrome. Methylprednisolone was started to 40 mg/day. The patient was consulted to neurology department. Phenitoin was stopped and Levetiracetam was continued at the same dose and frequency. On hospital day 5, the patient showed clinic recovery. The rashes had began to regress and hepatic function tests had returned to normal levels. After she had totaly recovered,systemic steroid treatment was stopped decreasingly

CONCLUSİON: DRESS syndrome is severe hypersensitivity drug reaction. Early diagnosis is very important to stop to responsible drug and started to systemic steroid.

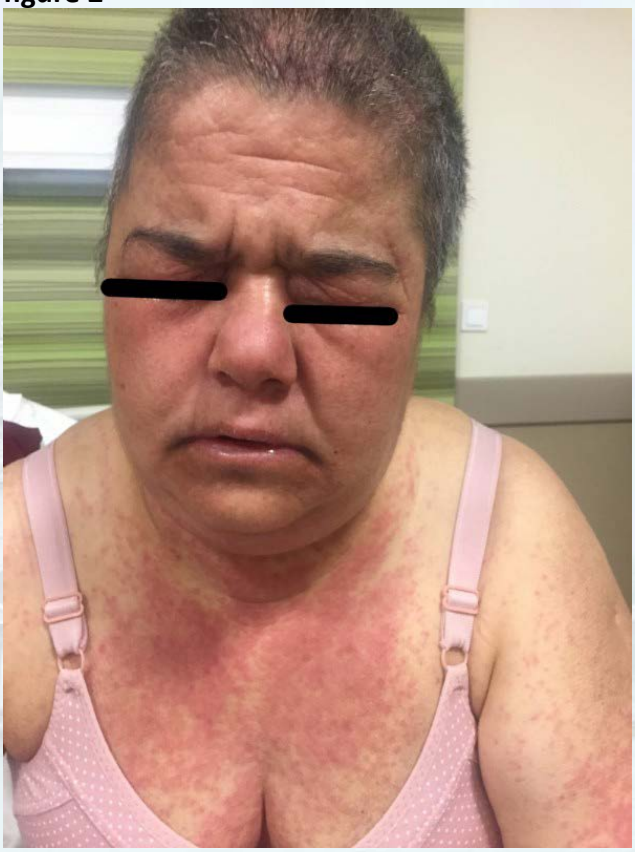
Keywords: DRESS syndrome, phenitoin,eosinophilia

figure 1



diffuse pruritic, erythematous, maculopapuler rash on extemities

figure 2



edema and erythema on face

PP-41 [Psoriasis]

Retrospective Evaluation of Demographics and Treatment Patterns of Patients with Psoriasis in Turkey

Ergun T[1], Seckin Gencosmanoglu D [1], Senturk N [2], Adisen E [3], Askin O [4], Engin B [4], Selcuk LB [5], Yayli S [5], Yılmaz O [6], Alpsoy E [6], Babayigit KF [7], Borlu M [7], Yildizhan IK [8], Erdem C [8], Akdogan N [9], Atakan N [9], Demirel B[10], Tangi F [10]

[1] Marmara University Pendik Training And Research Hospital
[2] Ondokuz Mayıs University Medical Faculty
[3] Gazi University Medical Faculty
[4] İstanbul University Cerrahpaşa Medical Faculty
[5] Karadeniz Teknik University Medical Faculty
[6] Akdeniz University Medical Faculty
[7] Erciyes University Medical Faculty, [8] Ankara University Medical Faculty
[9] Hacettepe University Medical Faculty, [10]Eli Lilly and Company, İstanbul

BACKGROUND AND OBJECTİVES: Severe psoriasis (PsO) is associated with multiple comorbidities and shortened life expectancy. This study aims to determine comorbidities and the treatment journey in real-life setting in Turkey.

MATERIAL AND METHODS: Nine academic centers located in different regions of Turkey recruited 1018 patients with psoriasis. Data on demographic features, disease characteristics, comorbidities, previous treatment modalities were extracted from patient files, and current disease activity was determined through Psoriasis Area Severity Index (PASI) and Physician Global Assessment (PGA).

RESULTS: Of the patients included in the study, 92.1% (937/1018) had plaque psoriasis with a mean PGA of 3.0 ± 1.0 (standard deviation [SD]) and a mean PASI of 11.7 ± 8.5 (SD) (Table 1. and 2.). The mean body mass index (BMI) was 27.9+5.1, 31% of the patients were overweight (BMI between 25 and 30 kg/m2) and 41.3 % of the patients were obese (BMI>30 kg/m2). Although 29% of the patients had joint pain, only 15% had psoriatic arthritis diagnosed by a rheumatologist.

Table 1: Demographics and Clinical Characteristics, n = 1018	
Age, years, Mean (SD)	27 (15.4)
Males, % (n)	54.7% (557)
Smoking history, % (n) - Current smoker - Ex-Smoker	 43.3% (366) 18.8% (159)
Overweight (BMI >25 and <30 kg/m2), % (n)	41.3% (275)
Obesity, (BMI >30 kg/m2), % (n)	31% (206)
First Degree Relative Psoriasis History, % (n)	21.2% (216)
BSA, Mean (SD)	22.4 (19.9)
PASI, Mean (SD)	11.7(8.5)
PGA, Mean (SD)	3.0 (1.0)
Conventional Therapy	90.3% (919)
Joint Pain	29.1% (293)

BMI: Body Mass Index

Table 2: Type of the Psoriasis, (n)	
Plaque	938
Palmoplantar	65
Pustular	45
Erythrodermic	19
Guttate	83
Flexural	17
Scalp	343
Nail	279

Patients can have different types of PsO at the same time, which exceeds the total number> 1018.

RESULTS: Overall, 51.7% of patients have comorbid disease. Hypertension (15.3%), psoriatic arthritis (15%), diabetes mellitus (13.4%), and hyperlipidaemia (11.9%) were common comorbidities (Table 3).

Table 3.: Comorbidities, n(%)	
Hypertension	156 (15.3)
Psoriatic arthritis	153 (15)
Diabetes Mellitus	136 (13.4)
Hyperlipidemia	120 (11.8)
Depression	61 (6.0)
Heart Diseases	59 (5.8)
Thyroid Disease	55 (5.4)
Hepatitis B	34 (3.3)
Vitiligo	11 (1.1)
Hepatitis C	11 (1.1)
Tuberculosis	4 (0.4)
Inflammatory Bowel Diseases	4 (0.4)
Multiple Sclerosis	3 (0.3)
HIV	1 (0.1)

Overall, 81.2% of the patients were past or current smokers. A total of 397 patients (39.0%) had been previously treated with phototherapy (Table 4). Previous or ongoing treatment with conventional systemic agents was noted in 90% of the patients. Methotrexate, cyclosporine and retinoids were used in 87.3% (mean duration 16.3 months), 49.3% (mean 11.3 months) and 49.1% (mean 17.2 months), respectively, and 56.8% of the patients had used or were still receiving a biologic agent. Among these, ustekinumab, adalimumab, etanercept, secukinumab and infliximab were used in 44.3% (mean 18.9 months), 48.1% (mean 20.4 months), 29.2% (mean 26 months), 17.3% (mean 6.7 months) and 22.1% (mean 24.3 months) of the patients, respectively.

Table 4: Previous Treatment History		
Treatment	**% (n)**	**Duration, months, mean (min – max)**
Phototherapy	39 (397)	
Topical Treatment % (n)	91.8 (928)	7 years (1-45)
Systemic Treatment	90.2 (919)	N/A
• Methotrexate	87.3 (802)	16.3 (1-144)
• Cyclosporin A	49.3 (453)	11.3 (1-72)
• Retinoids	49.1 (451)	17.1 (1-252)
Biologic Treatments	56.8 (578)	N/A
• Etanercept	29.2 (169)	26.0 (2-108)
• Adalimumab	48.1 (278)	20.4 (1-144)
• Infliximab	22.1 (129)	24.3 (1-132)
• Ustekinumab	44.3 (256)	18.9 (1-60)
• Secukinumab	17.3 (100)	6.7 (1-51)

CONCLUSİONS: Most of the participants were overweight or obese. Time to treatment discontinuation was relatively short for both conventional and biologic modalities, underlining the need for treatment options with sustained long-term efficacy and safety. Physicians treating psoriasis should take into consideration not only the established efficacy of different options but also the highly frequent comorbidities in managing psoriatic disease.

PP-42 [Dermatology and Internal Medicine, including Skin Manifestations of Systemic Diseases] Scleredema of Buschke (Skleredema Adultorum) with IG A Monoclonal Gammopathy

Zeynep Diri Er[1], Pembegül Güneş[2], Fatih Göktay[1]
[1]Department of Dermatology,Haydarpaşa Numune Training and Research Hospital, Istanbul, Turkey
[2]Department of Pathology,Haydarpaşa Numune Training and Research Hospital, Istanbul, Turkey

INTRODUCTION: Scleredema is a sclerotic skin disease, which is a largely unknown pathogenesis, that generally occurs in association with DM, infection (particularly streptococcal infection of the upper respiratory tract), or monoclonal gammopathy. DM, particularly type II, is considered the most common form of the disease and primarily affects adults, particularly middle-aged obese individuals. In scleroderma associated with diabetes, an irreversible glycosylation of collagen as well as alterations in collagenase activity may lead to an excessive accumulation of collagen and mucin. The condition is characterized by firm, non-pitting edema that typically begins at the neck and spreads to the face, scalp, shoulders, and trunk. The hands and feet are characteristically not affected. (1)

CASE: A 47-year-old female patient had described stiffness, pain and range of motion, with more prominence in the back and arms for 1 year. In rheumatology examination, systemic sclerosis was investigated with a preliminary diagnosis and no systemic involvement was detected. The patient's biopsy also came as systemic sclerosis. In repeated biopsy Increased accumulation of mucopolysaccharides was observed among sclerotic collagen fibers.In protein electrophoresis IG A monoclonal gammopathy was detected And the patient was diagnosed scleroadultorum of buchke and narrow band UVB treatment was planned.

DISCUSSION: Scleredema adultorum (Buschke) usually occurs suddenly and is a rare disease that may be associated with hypergamaglobulinemia, B cell lymphoma.
Considering the diagnosis of scleredema, patients should definitely be screened for underlying malignancies and diabetes. It is seen as thickening of the entire skin. The hands and feet are characteristically not affected.

DIFFERENTIAL DIAGNOSIS: Several sclerotic disorders can share clinical features with scleredema, such as systemic sclerosis, scleromyxedema, and eosinophilic fasciitis.
Physical therapy has to be initiated as soon as possible to minimize functional limitations related to reduced joint mobility. Multiple treatment approaches have been studied, including immunosuppressive agents such as cyclosporine, methotrexate, and systemic glucocorticoids (e.g., dexamethasone pulse therapy or high-dose intravenous glucocorticoids), and show promising outcomes, but further studies are required.(1)

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Keywords: Buschke, Scleredema, Gammopathy

PP-43 [Dermatology and Internal Medicine, including Skin Manifestations of Systemic Diseases]
Scleredema of Buschke (Skleredema Adultorum) with IG A Monoclonal Gammopathy

Zeynep Diri Er[1], Pembegül Güneş[2], Fatih Göktay[1]
[1]DEPARTMENT OF DERMATOLOGY, HAYDARPAŞA NUMUNE TRAINING AND RESEARCH HOSPITAL
[2]DEPARTMENT OF PATHOLOGY, HAYDARPAŞA NUMUNE TRAINING AND RESEARCH HOSPITAL

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Keywords: BUSCHKE, SCLEREDEMA, GAMMOPATHY

PP-44 [Corrective, Aesthetic and Cosmetic Dermatology]
Aquafill injection selected in breast augmentation

Percin Karakol
Department of Plastic Reconstructive and Aesthetic Surgery, Istanbul Haydarpasa Numune Education and Research Hospital, Istanbul, Turkey

AQUAFILL INJECTION SELECTED IN BREAST AUGMENTATION

INTRODUCTION; Aquafill is a filling in the form of polyacrylamide hydrogel (PAAC), which has become popular in the last 10 years, and it is common to use in cases requiring high volume correction. Different body parts such as breast, buttocks, butt, penis, vulva, face etc. have come to the agenda as an alternative to fat injection in augmentation. Its use has slowed down due to the increasing complications between 2-4 years and complicated management, and inability to be dissolved with an enzyme such as Hyaluronidase.

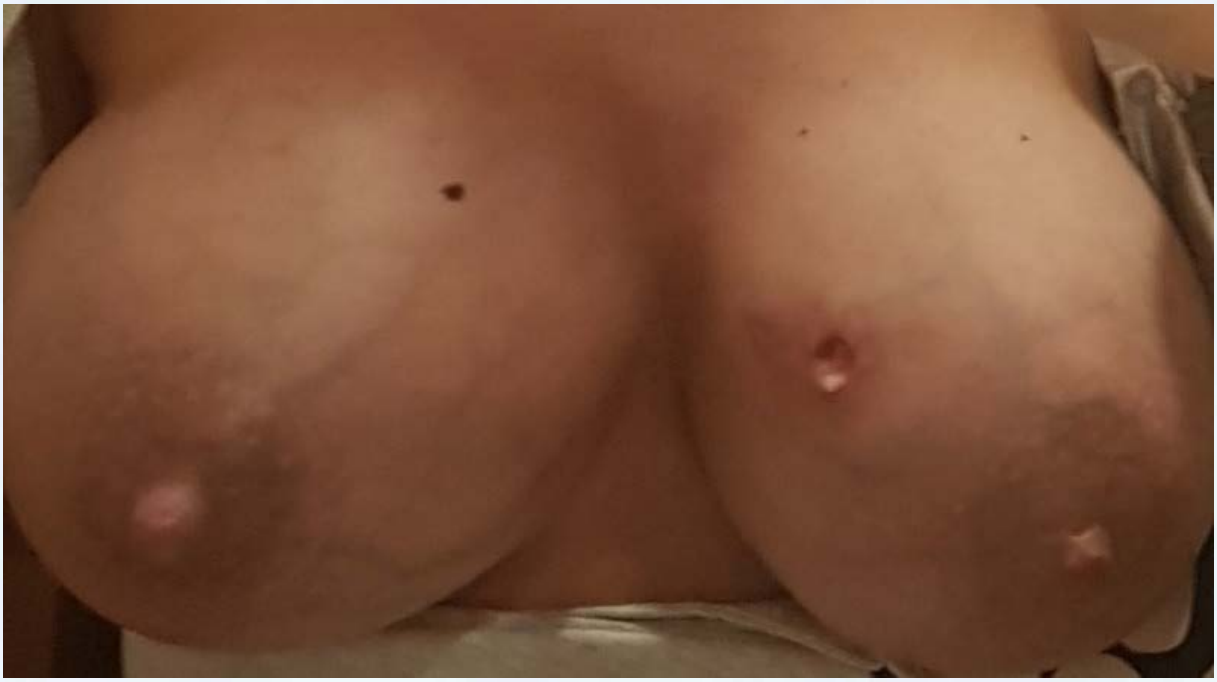
MATERIALS & METHODS; A 28-year-old veterinary female patient received 26 months ago Aquafill injection for augmentation in both breasts, and had no complaints about 2 years, the patient became pregnant 10 months ago. In the first month after birth, she applied to breast surgeon due to excessive swelling, temperature increase and high fever in her single breast. In the ultrasonographic analyses, foreign body residues were detected to block the milk ducts and a tube was placed for drainage, the drain of the patient, who came in the form of a gel and milk approximately 10 days ago, was removed. The patient, whose proper antibiotherapy continued for about 3 weeks, began to drain outside by forming a fistula line in the breast of the patient who had the same complaints as the milk filling again in 1 week of observation.

RESULTS; While the samples taken from the fistula field did not reproduce in culture, the milk delivery of the patient whose biopsies came in favor of the granulomatous reaction decreased, and the single breast feeding gave up early due to blockage. The calcified areas causing the foreign body reaction by expanding the resulting defect area were debrided and the primary closed.

CONCLUSIONS; In addition to localized tissue reactions, for aquafill applications that have irreversible and difficult to manage complications such as migrating to remote areas with heavy granulomatous lymphadenitis and migration, creating breast cancer, performing injections under appropriate sterile conditions, informing the patient sufficiently, recommending different treatment modalities for existing complaints and it is important to get consent.

Keywords: Aquafill, complication, breast

after fistulization



after fistulization

PP-45 [Atopic Dermatitis/Eczema]

Comparative study of the Prebiotics' plus Probiotics' impact on serum c-reactive protein levels in Atopic Dermatitis patients

Natia Khutsishvili[1], Tamar Gviniashvili[2]
[1]Department of dermatology, Enmedic Clinic, Tbilisi, Georgia
[2]Department of dermatology, Curatio Clinic, Tbilisi, Georgia

BACKGROUND: Atopic dermatitis (AD) is a chronic inflammatory, relapsing, and non-contagious skin disease frequently started in infancy. Recent studies have shown that AD might be associated to cardiac diseases. OBJECTIVE: The aim of the study was to assess the effectiveness of 'pre and probiotics' in the treatment of AD and moreover to identify the disease severity correlation with the inflammatory marker CRP. METHODS: We added synbiotic supplement to the standard dermatological prescription in 42 patients (adults) from moderate to severe AD and herewith assessed disease severity by using SCORAD index and measured serum CRP levels in the beginning and after 8 weeks from the treatment. We also made a retrograde comparison (corresponding data) of the SCORAD indexes of the patients under standard dermatological treatment. RESULTS: The range of CRP levels were from the lowest of 0.9 mg/dl to the highest of 5.92 mg/dl in the beginning.After 8 weeks CRP levels decreased more or less in total 64.28% of patients (0.7-5.02); In 35.72% it remained almost unchanged. CRP levels were noticeably correlated with SCORAD indexes both before and after 8 weeks (z=-5.5109; p=.00001). There was significant difference in SCORAD when compared to the data of patients who were not prescribed 'pre- or probiotics'. Unfortunately, we do not have sufficient data to compare CRP level changes in AD patients only under standard dermatological treatment. CONCLUSIONS: Synbiotics might be effective in the treatment of AD. They showed significant impact on serum CRP levels as well. Herewith, AD might be associated to systemic inflammation.

Keywords: Atopic Dermatitis, Inflammation, CRP, Prebiotics, Probiotics.

PP-46 [Dermatology and Internal Medicine, including Skin Manifestations of Systemic Diseases] Dermatitis artefacta

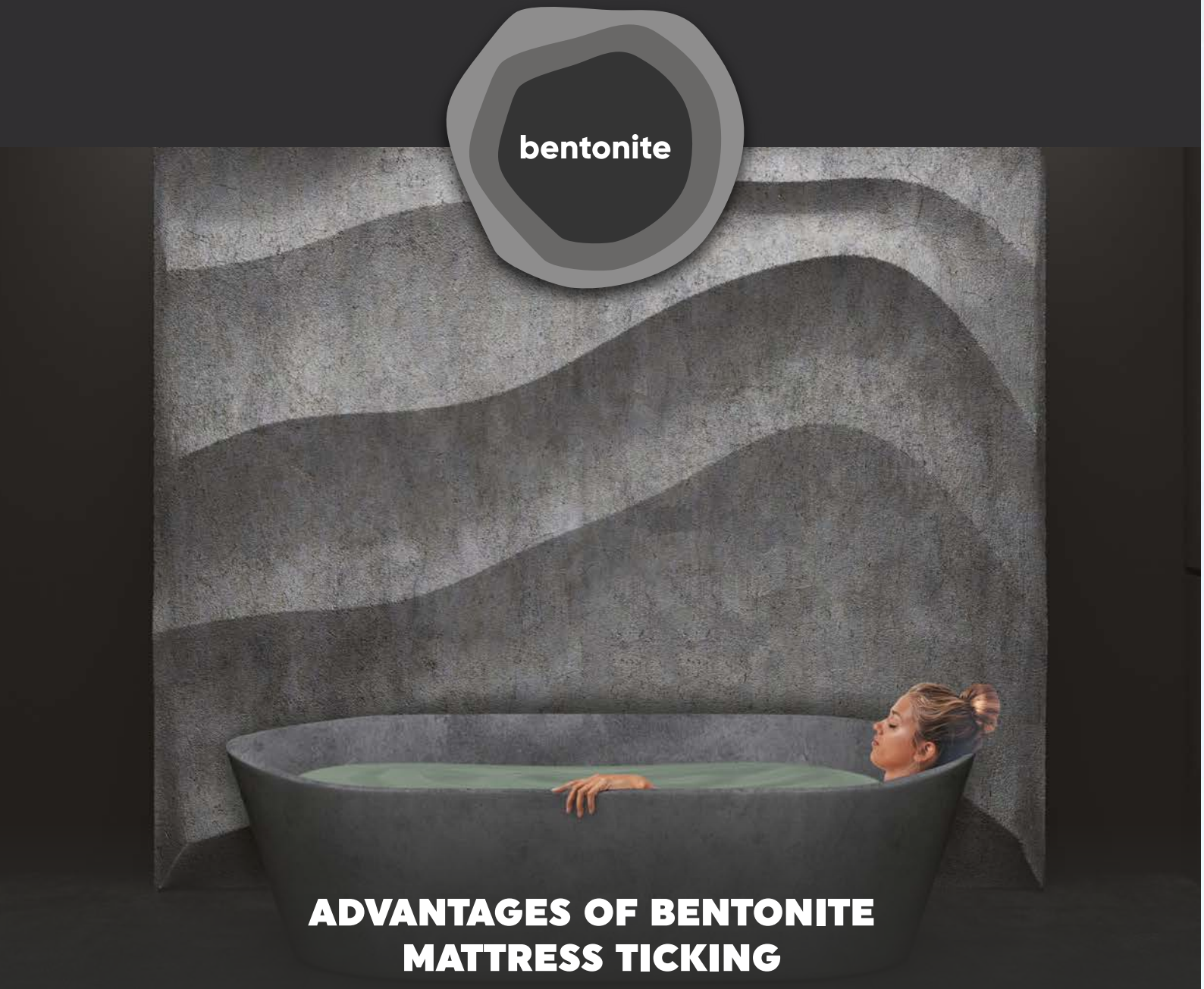
Diana Muja
Diana Muja polyclinic of Specialties No 2 Tirana

INTRODUCTION: Dermatitis artefacta is a psychocutaneous disorder most likely to be seen by a dermatologist rather than a psychiatrist. We report an unusual and interesting case of dermatitis artefacta in a 16-year-old female. CASE: A 16-year-old female was brought to our office by her mother with multiple, painful erosions with crusting on both upper and inferior extremities of the body of 3 weeks duration. According to her mother erosions started first on the dorsal aspect of both legs and gradually ascended upwards to reach both arms. Patient used to get ten erosions every day above the previous lesions. Erosions appeared suddenly at a particular time of the day.Cutaneous examination revealed multiple, crusted erosions of almost uniform size and shape arranged in parallel pattern. Skin in between the erosions was normal.Diagnosis of dermatitis artefecta was suspected and patient was admitted for observation. She developed multiple fresh erosion of three consecutive days following admission. Skin biopsy showed normal findings. Patient was observed continuously for next 2 days with mother s help. No fresh lesions appeared thereafter. On repeated questioning patient confessed that she produced the lesion by stinging the skin with a small nail. Psychiatric evaluation did not reveal any major psychiatric disorder and the psychiatrist attributed the stress as a causative agent of the disease. DISCUSSION: Dermatitis artefacta describes cutaneous lesions that are wholly self inflicted, however the patient typically denies their self inflicted nature.Characteristic clinical features are ‹hollow history›. Patient appears indifferent towards her disease. Lesions are bizarre and do not correspond to any known dermatosis and confined to areas accessible to the dominant hand.Diagnosis can be confirmed when so fresh lesions appears when patient is under total surveillance 24 hours a day and when no lesions appear in an area totally protected In cases where skin involvement is mild and patient is relatively healthy psychologically, supportive and symptomatic therapy is adequate. Psychotic patients are best referred to a psychiatrist. Dermatitis artefecta is ‘cry for attention and help’ from a patient incapable of meaningful verbal communication.

Keywords: dermatitis,artefacta,psychotic disorders

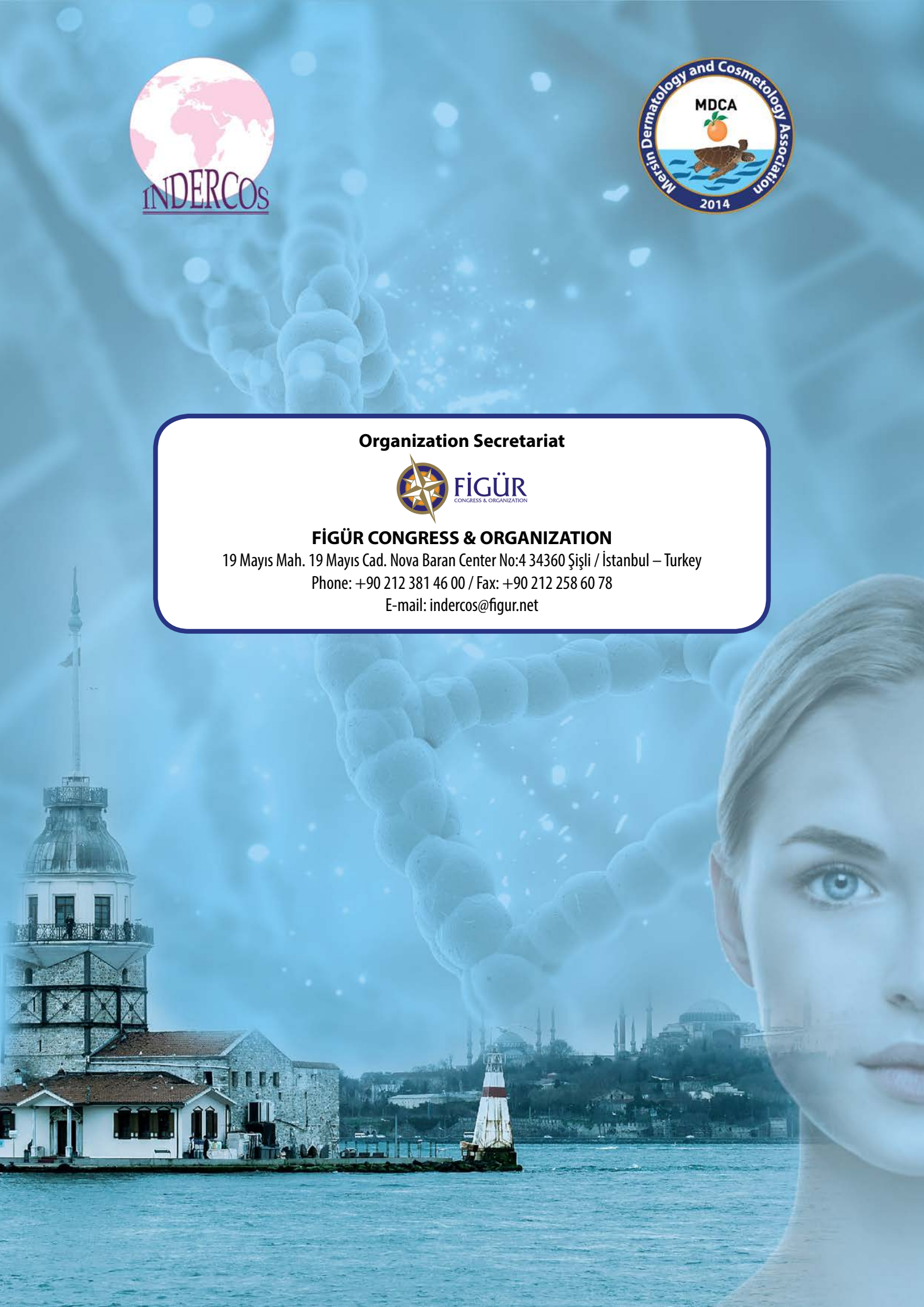
THE WELLNESS EFFECT OF CLAY FROM VOLCANOS

Boyteks developed Bentonite mattress ticking to protect the body against the toxins in the sleep environment. Bentonite, one of the renowned and best detox agents, is used for the development of this ticking. Thus, it provides detox effect during sleep.



ADVANTAGES OF BENTONITE MATTRESS TICKING

• Ensures natural detox effect • Entraps the toxins and prevents penetration into the body • Helps for the reduction of harmful volatile compounds • Ensures a more refreshed sleep environment and enhances the sleep quality
• Skin-friendly product



Organization Secretariat

FİGÜR CONGRESS & ORGANIZATION

19 Mayıs Mah. 19 Mayıs Cad. Nova Baran Center No:4 34360 Şişli / İstanbul – Turkey

Phone: +90 212 381 46 00 / Fax: +90 212 258 60 78

E-mail: indercos@figur.net