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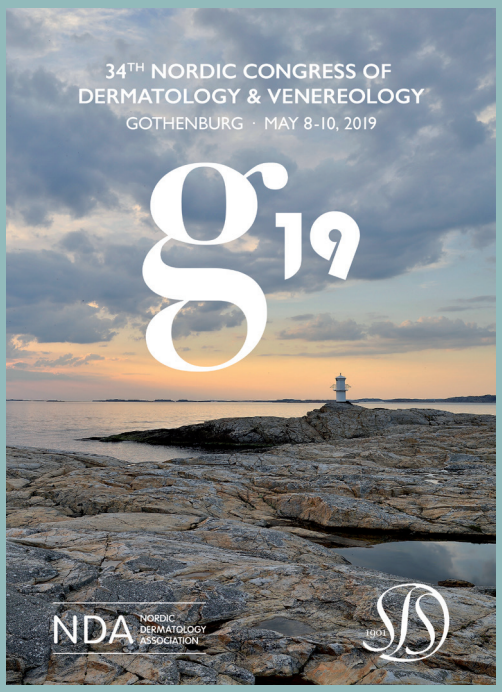
34th Nordic Congress of Dermatology and Venereology

May 8–10, 2019 in Gothenburg, Sweden



Programme and Abstracts

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Programme and Abstracts

Welcome Address

Dear All,

After more than three years of intense planning, it is finally time for us all to enjoy the 34th Nordic Congress of Dermatology and Venereology. It is with great pleasure and much excitement that the Swedish Society of Dermatology and Venereology (SSDV), the Nordic Dermatology Association (NDA) and the organizing committee wish you a warm welcome to Gothenburg, Sweden.

During the three days of this congress, we will have the honour of listening to and interacting with talented Nordic researchers and speakers, we will enjoy keynote lectures by renowned international guests and meet with both old and new colleagues from our neighbouring countries. The modernly designed and centrally located Clarion Hotel Post will be a magnificent venue for this event. We are also very thankful for the presence of our sponsors and exhibitors who are looking forward to meeting and informing all members of our Nordic dermatological societies about important news and updates during the breaks.

As you have probably heard, this Nordic congress will be our biggest in our over 100-year history with approximately 580 participants. The exponentially growing interest in our Nordic congresses and courses that we have observed during recent years has been overwhelming. We are convinced that this is a natural consequence of the positive momentum created by the increasing collaboration amongst our Nordic societies during the last few years and that this congress will serve as an excellent platform for even further growth.

We are truly looking forward to hosting this meeting in Sweden and feel enormously privileged to have you all as our guests.

Welcome to Gothenburg!

Best regards,

John Paoli, MD, Assoc. Prof.
Congress President

Ada Girnita, MD, Assoc. Prof.
President of the SSDV

Local organizing committee:

John Paoli, Associate Professor, Senior consultant
Eva Johansson Backman, Doctoral Student, Senior consultant
Oscar Zaar, PhD, Specialist in Dermatology and Venereology
Johan Dahlén Gyllencreutz, PhD, Specialist in Dermatology and Venereology

Organizing committee:

Kari Nielsen, Associate professor, Senior consultant
Charlotta Enerbäck, Professor, Senior consultant
Anna Josefson, PhD, Senior consultant
Mihály Matura, PhD, Senior consultant
Elisabet Nylander, Professor, Senior consultant
Olle Larkö, Professor, Senior consultant
Maria Bradley, Associate Professor, Senior consultant
Gunnar Nyman, Doctoral Student, Senior consultant
Ada Girnita, Associate Professor, Senior consultant
Hélène Wolff, PhD, Senior consultant

SESSION SCHEDULE

		Abstract No.	Location
WEDNESDAY MAY 8			
09.00–12.00	SSDV Annual General Meeting		Brevsorterarsalen II+III
09.00–12.00	NFDV Annual General Meeting		Brevsorterarsalen I
12.00–13.00	Lunch & coffee in exhibition area		
13.00–13.15	**OPENING CEREMONY**		Drottningporten I–II
13.15–13.45	**KEYNOTE LECTURE** Laser treatment of rosacea. Speaker: *Agneta Troilius Rubin* (S) *Chair:* Ada Girnita (S)	KN1	Drottningporten I–II
13.50–15.00	**PLENARY SESSION** Atopic dermatitis & Pediatric Dermatology *Chairs:* Gunnar Nyman (S), Jón Hjaltalín Ólafsson (I)		Drottningporten I–II
13.50–14.15	Atopic dermatitis, co-morbidities and treatment options, *Mette Deleuran* (DK)	S1	
14.15–14.35	Molluscum contagiosum and other infections in eczema, *Cato Mørk* (N)	S2	
14.35–14.55	Infantile haemangiomas and propranolol treatment, *Jón Hjaltalín Ólafsson* (I)	S3	
15.00–15.30	Coffee in exhibition area and Poster session 1	P1–P9	Drottningporten III
15.30–16.00	**KEYNOTE LECTURE** The future of dermatopathology. *Speaker: Ellen Mooney* (I) *Chair:* Britta Krynitz (S)	KN2	Drottningporten I–II
16.05–17.15	**PLENARY SESSION** Melanoma management revolution *Chairs:* Kari Nielsen (S), Veli-Matti Kähäri (F)		Drottningporten I–II
16.05–16.25	The genomics of melanoma - to understand the underlying biology, prognosis and therapy response, *Göran Jönsson* (S)	S4	
16.25–16.45	Update on 2018 WHO classification of melanocytic tumours (4th Ed.) with emphasis on dysplastic nevi, *Iva Johansson* (S)	S5	
16.45–17.05	Melanoma immunotherapy in 2019, *Max Levin* (S)	S6	
17.20–19.00	Welcome reception & quiz in exhibition area		
THURSDAY MAY 9			
08.15–08.45	**KEYNOTE LECTURE** Atopic dermatitis and Contact dermatitis. *Speaker:* Jacob P Thyssen (DK) *Chair:* Mihály Matura (S)	KN3	Drottningporten I–II
08.15–08.45	**NURSE SESSION** Introduction to dermoscopy for nurses. *Speaker:* John Paoli (S) *Chair:* Alexandra Sjöholm Hylén (S)	S7	Brevsorterarsalen I–III
08.55–10.05	**PARALLEL SESSION** Infectious Diseases *Chairs:* Maria Bradley (S), Eva Maria Rehbinder (N)		Drottningporten I–II
08.55–09.10	The skin microbiome, *Eva Maria Rehbinder* (N)	S8	
09.10–09.25	Fungal skin infections, *Ditte Marie Saunte* (DK)	S9	
09.25–09.40	Tick-borne skin infections in the Nordic countries, *Jaana Panelius* (F)	S10	
09.40–09.55	ABC for dermatologists: "new" old diseases – with focus on morbilli and leishmaniasis, *Leif Dotevall* (S)	S11	
08.55–10.05	**PARALLEL SESSION** Contact Dermatitis *Chairs:* Mihály Matura (S), Jeanne Duus Johansen (DK)		Brevsorterarsalen I–III
08.55–09.10	Current trends in contact allergy, *Jeanne Duus Johansen* (DK)	S12	
09.10–09.25	When and how to investigate for contact allergy, *Marlene Isaksson* (S)	S13	
09.25–09.40	Occupational aspects of contact dermatitis, *Maria Pesonen* (F)	S14	
09.40–09.55	Protein contact dermatitis and contact urticaria. *Mihály Matura* (S)	S15	
10.05–10.35	Coffee in exhibition area and Poster session 2	P10–P18	Drottningporten III

10.35–11.05	**KEYNOTE LECTURE** Vulvar dermatoses. *Speaker:* Fiona Lewis (UK) *Chair:* Elisabet Nylander (S)	KN4	Drottningporten I–II
10.35–11.05	**NURSE SESSION** Treatment behaviors among adolescents and young adults with eczema – data from the population based birth-cohort BAMSE. *Speaker:* Susanne Lundin (S) *Chair:* Annette Gromell (S)	S16	Brevsorterarsalen I–III
11.15–12.25	**PARALLEL SESSION** *Free Communications I* *Chairs:* Johan Dahlén Gyllencreutz (S), Eva Johansson Backman (S)	FC1–FC6	Drottningporten I–II
11.15–12.25	**PARALLEL SESSION** *Free Communications II* *Chairs:* Anna Josefson (S), Amra Osmancevic (S)	FC7–FC12	Brevsorterarsalen I–III
12.25–13.25	Lunch in restaurant & coffee in exhibition area		
13.25–13.55	**KEYNOTE LECTURE** Global Dermatology. *Speaker:* Kassahun Desalegn (USA/Ethiopia) *Chair:* Maria Bradley (S)	KN5	Drottningporten I–II
13.25–13.55	**NURSE SESSION** Practical approach to patch testing from a nurse's perspective. *Speaker:* Britt-Marie Ehn (S) *Chair:* Alexandra Sjöholm Hylén (S)	S17	Brevsorterarsalen I–III
14.05–15.15	**PARALLEL SESSION** Aesthetic dermatology *Chairs:* Hélène Wolff (S), Peter Bjerring (DK)		Drottningporten I–II
14.05–14.15	A short introduction to dermatological lasers and their applications, *Hélène Wolff* (S)	S18	
14.15–14.30	Novel yellow laser in the treatment of facial erythema, *Toni Karppaninen* (F)	S19	
14.30–14.50	Filler complications – management and risk reduction, *Gabriella Sellman* (S)	S20	
14.50–15.10	Cultural perspectives on the consumption of beauty, *Magdalena Petersson McIntyre* (S	S21	
14.05–15.15	**PARALLEL SESSION** Wound healing *Chairs:* Alexandra Forssgren (S), Brita Pukstad (N)		Brevsorterarsalen I–III
14.05–14.20	Atypical Wounds, *Kirsi Isoherranen* (F)	S22	
14.20–14.35	Accelerated wound healing with combined NPWT and IPC, *Karsten Fogh* (DK)	S23	
14.35–14.50	Reducing the number of leg ulcers - the Skaraborg experience, *Olle Nelzen* (S)	S24	
14.50–15.05	Botox injections for treating digital scleroderma ulcers, *Kristin Bergersen* (N)	S25	
15.15–15.45	Coffee in exhibition area and Poster session 3	P19–P27	Drottningporten III
15.45–16.45	**GUIDED POSTER WALK**, guide: Mihály Matura	P1–P4, P8, P10–P12, P19, P29, P34, P35	Drottningporten I–II
15.45–16.45	DVSS Annual General Meeting		Brevsorterarsalen I–III
18.00	Social activity & banquet dinner		
FRIDAY MAY 10			
08.00–09.00	**NDA BOARD REPORT MEETING** Open for all Nordic Dermatology and Venereology society members		Drottningporten I–II
09.00–09.30	**KEYNOTE LECTURE** Dermoscopy - what's new? *Speaker:* Iris Zalaudek (Austria) *Chair:* John Paoli (S)	KN6	Drottningporten I–II
09.40–10.50	**PARALLEL SESSION** Non-melanoma skin cancer *Chairs:* Oscar Zaar (S), Noora Neittaanmäki (F)		Drottningporten I–II
09.40–09.55	New light sources and photosensitizers in photodynamic therapy, *Noora Neittaanmäki* (F)	S26	

09.55–10–10	Staging cutaneous squamous cell carcinomas: Why, how and when? *Ingrid Roscher* (N)	S27	
10.10–10.30	Update on imaging for non-melanoma skin cancer, *Gregor Jemec* (DK)	S28	
10.30–10.50	Update on cutaneous lymphomas, *Annamari Ranki* (F)	S29	
09.40–10.50	**PARALLEL SESSION** Sexually transmitted infections - different aspects *Chairs:* Elisabet Nylander (S), Anne Olsen (N)		Brevsorterarsalen I–III
09.40–09.55	Mycoplasma genitalium and resistance, *Jörgen Skov Jensen* (DK)	S30	
09.55–10.10	Experience of PrEP, *Michelle Hanlon* (N)	S31	
10.10–10.30	Transgender people's sexual health and experiences of encountering health-care, *Ida Linander* (S)	S32	
10.30–10.45	Venereologic ulcers, *Eija Hiltunen-Back* (F)	S33	
10.50–11.20	Coffee in exhibition area and Poster session 4	P28–P37	Drottningporten III
11.20–11.50	**KEYNOTE LECTURE** Autoinflammatory diseases *Speaker:* Tomas Kündig (CH) *Chair:* Chris Anderson (S)	KN7	Drottningporten I–II
11.20–12.00	**NURSE SESSION** Nurses role in providing person-centered care *Speaker:* Lilas Ali (S) *Chair:* Helena Molin (S)	S34	Brevsorterarsalen I–III
11.55–12.55	**PLENARY SESSION** Psoriasis - an update *Chairs:* Charlotta Enerbäck (S), Lone Skov (DK)		Drottningporten I–II
11.50–12.05	Update on Small non-coding RNA in psoriasis, *Enikö Sonkoly* (S)	S35	
12.05–12.20	Update on the HUNT study, *Marit Saunes* (N)	S36	
12.20–12.35	Update on tissue-resident T cells in psoriasis, *Liv Eidsmo* (S)	S37	
12.35–12.50	Update on cardiovascular comorbidity in psoriasis, *Lars Iversen* (DK)	S38	
12.05–12.45	**NURSE SESSION** Dermatitis and comorbidities - what should dermatology nurses know? *Speaker:* Jevgenija Smirnova (S) *Chair:* Kristine Kirkeby Fuskeland (N)	S39	Brevsorterarsalen I–III
12.55–13.05	**CLOSING CEREMONY**		Drottningporten I–II
13.05–14.00	Lunch in restaurant		

Abstracts for Keynote Lectures

KN1

LASER & IPL TREATMENTS OF ROSACEA

Agneta Troilius Rubin

Department of Dermatology, Center for Laser & Vascular Anomalies, Skåne University Hospital, Malmö, Sweden

Rosacea is an inflammatory disease that occurs in 10% of the population, most commonly among individuals with Fitzpatrick skin types I and II. It is a chronic disorder with profound impact of patient quality of life. Rosacea is divided into 4 subtypes: erythematotelangiectatic, papulopustular, phymatous, and ocular. Erythematotelangiectatic rosacea (ETR) includes telangiectasia, erythema, and flushing. Papulopustular rosacea (PPR) includes erythema and flushing with papules and pustules. Rosacea is difficult to manage because of the unknown etiology and due to its variable manifestations. There is minor improvement in understanding rosacea's pathogenesis and, therefore, only a few new available treatments have occurred during the last years. During almost three respectively two decades we have at our department of dermatology at the University Hospital performed rosacea treatments in combination with Pulse Dye Lasers (PDL) as well as with Intense Pulsed Light (IPL). Usually in combination with topical e.g. ivermectin that improves lesion count, inflammation, and maintenance of remission of rosacea compared to topical metronidazole. Initially, PDL only emitted light of short pulse duration (typically 0.45 ms), but later the pulse duration was extended to several milliseconds by stacking pulses in a train (long pulsed pulse dye lasers, LPDL). In contrast, good IPL systems produced the ideal squared pulse shape, but to reach a sufficient energy level, pulse duration had to be several milliseconds (>5 ms). Therefore, until a few years ago PDL lasers have been the gold standard for thinner vessels and IPL for visible and thicker vessels. However, the newest evolution of IPL systems using Selective Waveband Technology, (Ellipse A/S, Hoersholm, Denmark) allows for emission of very short pulse durations (down to 0.5 ms) with an energy level clinically similar to PDL treatments, enabling efficient treatments of these very thin vessels with less side effects. Other laser treatment modalities are the fractionation of high-fluence, long-pulsed 595-nm pulsed dye laser, YAG and Alexandrite lasers. Radiofrequency as well as dual frequency ultrasound are also reported to be promising as both monotherapies or in combination in refractory rosacea. Although there are several effective treatment modalities for rosacea management, treatment options should be tailored for the specific clinical scenario. Combination therapies including topical medications and lasers are powerful tools that can effectively reduce rosacea-related erythema, inflammatory lesions, and telangiectasias.

Selected references

Feaster B, Cline A, Feldman SR, Taylor S. Clinical effectiveness of novel rosacea therapies. Curr Opin Pharmacol. 2019;46:14-18.
Adami M, Pavlovi MD, Troilius Rubin A, Palmetun-Ekbäck M, Boixeda P. Guidelines of care for vascular lasers and intense pulse light sources from the European Society for Laser Dermatology. J Eur Acad Dermatol Venereol. 2015 (9);1661-78.

KN2

THE FUTURE OF DERMATOPATHOLOGY

Ellen Mooney

Nordic Institute of Virtual Dermatopathology, Reykjavik, Iceland

The digital revolution in dermatopathology will continue. As of April of 2017, the US Food and Drug Administration approved digital pathology as a primary diagnostic method for surgical pathology and therefore also dermatopathology. However, the use of digital dermatopathology in self-assessment courses and continuing medical education (CME) modules has been in place for a several years. Digital pathology has already proven to be a strong tool for CME, Continuous Professional Development (CPD) and External Quality Assurance (EQA) programs. Board examinations in dermatology and dermatopathology are converting to digital images, in order to prepare future dermatologists and dermatopathologists for diagnosing digital dermatopathology specimens. Although international regulations regarding pathology consultations in digital format have not been set, consultations are taking advantage of the all-around convenience of sending digital images, rather than glass slides. The appearance of numerous apps for use in mobile devices, as well as in computers and laptops, has gone hand in hand with the above developments and others to be mentioned. The next step will be the use of artificial intelligence which relies on digital images for making computer-aided diagnoses. As was the case with dermoscopy, companies have been formed with this purpose in mind and paragraphs such as the following can be seen on the internet. Artificial intelligence is advancing at an accelerated pace into clinical applications, providing opportunities for increased efficiency, improved accuracy, and cost savings through computer-aided diagnostics. Dermatopathology, with emphasis on pattern recognition, offers a unique opportunity for testing deep learning algorithms". However, the possibility also exists that eventually slides will no longer be cut or scanned, but rather tissue blocks will be scanned for diagnosis.

KN3

DERMATITIS & CONTACT DERMATITIS

Jacob P. Thyssen

Department of Dermatology and Allergy, Herlev-Gentofte Hospital, Hellerup, Denmark

This presentation will discuss the overlap between atopic dermatitis, irritant contact dermatitis and allergic contact dermatitis. As an example, a patient with atopic dermatitis may have overlapping allergic contact dermatitis that following diagnostic patch testing should result in reduction of disease severity. However, sometimes allergic contact dermatitis may mimic atopic dermatitis which will lead to an incorrect diagnosis of atopic dermatitis. This presentation will provide an overview of the pathogenesis of these conditions as well as the experimental, clinical and epidemiological work that have led to increased understanding. Patch testing in atopic dermatitis may sometimes be misleading which will also be addressed.

KN4

VULVAL DERMATOSES

Fiona Lewis

St. John's Institute of Dermatology, Guy's & St Thomas' Hospital, London SE1 7EH, UK

Vulval dermatoses may be specific to the area or part of more generalised cutaneous disease. This talk will focus on the two common dermatoses that affect the vulva, lichen sclerosus and lichen planus. The clinical features and important lessons in diagnosis and management will be reviewed. In addition, more complex presentations and clinical scenarios of both conditions will be discussed.

Selected references

Lewis FM, Tatnall FM, Velangi SS et al. British Association of Dermatologists guidelines for the management of lichen sclerosus 2018. Br J Dermatol 2018;178(4):839-53.

KN5

GLOBAL DERMATOLOGY

Kassahun Desalegn

Department of Dermatology, College of Medicine and Health Sciences, University of Gondar, Ethiopia

Abstract not available

KN6

DERMOSCOPY - WHAT'S NEW?

Iris Zalaudek

Department of Dermatology, Ospedale Maggiore, University of Trieste, Trieste, Italy

Abstract not available

KN7

AUTOINFLAMMATORY DISEASES

Thomas Kündig

Department for Dermatology, University Hospital Zürich, Zurich, Switzerland

Abstract not available

Abstracts for Plenary and Parallel Sessions

S1

ATOPIC DERMATITIS: CO-MORBIDITIES AND TREATMENT OPTIONS

Mette Deleuran

Aarhus University Hospital, Department of Dermatology, Aarhus, Denmark

The pathogenesis of atopic dermatitis (AD) is multifactorial, and the clinical presentation of the condition varies greatly. Symptoms and severity of disease are dependent on individual factors and stage of the disease. The majority of AD patients experience a sufficient clinical response to emollients in combination with one or several of existing topical or systemic therapies, but treatment failure with existing drugs and treatment options can represent a significant clinical problem both in children and adults. New treatments are under development, and a few already registered. Patients with AD suffer from classical co-morbidities like asthma and hay fever but resent research has also shown overrepresentation of other co-morbidities like psychological problems. An overview of available treatment options and resent findings regarding co-morbidities will be presented.

S2

MOLLUSCUM CONTAGIOSUM AND OTHER INFECTIONS IN ECZEMA

Cato Mørk

Akershus Dermatology Centre, Lørenskog, Norway

Atopic eczema (AE) skin has an increased susceptibility to microbial infections. The most common infections in AE are caused by *Staphylococcus aureus*, clinically characterized as impetigo, but pustulosis, folliculitis, abscesses and cellulitis may occur. *Streptococcus pyogenes* skin infection is also relatively common. Both types of bacterial infections may lead to invasive infections in AE. The viral infections include molluscum contagiosum, eczema herpeticum, and eczema coxsackium and with a tendency to widespread disease. In molluscum contagiosum the poxvirus causes multiple, flesh-coloured, pearly papules with an umbilicated centre. Eczema herpeticum is a disseminated herpes simplex virus infection with vesicles, fever, lymphadenopathy that can be complicated by keratoconjunctivitis, meningitis and encephalitis. Coxsackie viruses in the enterovirus group cause eczema coxsackium, with disseminated lesions on pre-existing eczematous areas. The clinical significance of eczema coxsackium is that it may be confused with eczema herpeticum. Skin barrier defects, poor function of junctional regions, a decrease in antimicrobial peptides, increased skin pH, and Th2 cytokines are contributing factors for the increased risk of skin infections. Bacterial diversity is reduced with flares, concomitant with increase in *S.aureus*. *S.aureus* produces virulence factors affecting the skin barrier and immune system, including Th2 activation. Genetic variants in the innate immune response may predispose to increased risk of viral skin infections. *Therapy:* Reactive and proactive anti-inflammatory treatment will reduce the risks of cutaneous infections. Treatment with emollients, corticosteroids and topical calcineurin inhibitors should be continued during treatment of superinfections, but stop topical calcineurin inhibitors in case of eczema herpeticum. A short course of systemic antibiotics may be considered in patients clinically infected with *S. aureus*. Long-term use of topical antibiotics is not recommended due to the risk of increasing resistances and sensitizations. Intermittent topical antiseptic drugs, including antiseptic baths, may be considered in patients with treatment-resistant, chronic course of AE, or in case of clinical signs of bacterial superinfection. Molluscum contagiosum is in general benign and self-limited, but in AE dissemination is frequent and treatment could therefore be necessary, using cantharidin, potassium hydroxide, tretinoin cream, topical cidofovir and others. Cryotherapy and curettage are also effective, but not always well tolerated in small children. Eczema herpeticum requires immediate systemic antiviral therapy (acyclovir or valacyclovir), often administrated intravenously. Patients with eczema coxsackium are treated symptomatically with topical steroids and wet wraps.

S3

INFANTILE HAEMANGIOMAS AND PROPRANOLOL TREATMENT

Jón Hjaltalín Ólafsson[1], *Gestur Palsson*[2]

[1]Department of Dermatology, [2]Department of Pediatrics, Landspitali, University of Iceland, Reykjavik, Iceland

In June 2008, Léauté-Labrèze, et al. published the first report on treatment of infantile haemangiomas with propranolol. This treatment has since become the main treatment of infantile haemangiomas and revolutionized their prognosis or the better. Since July 2008 we have treated 108 haemangioma children with propranolol. We have as well observed another 98 children with haemangiomas who were not treated, either because the parents were not willing to have their children treated or we considered the indications for propranolol treatment not strong enough. This patient material will be described, the clinical results of propranolol treatment as well as recommendations for dosage and controls that we recommend will be discussed.

Selected references

Léauté-Labrèze C, Dumas de la Roque E, Hubiche T, Boralevi F, Thambo JB, Taïeb A. Propranolol for severe hemangiomas of infancy. N Engl J

Med. 2008 Jun 12;358(24):2649-51.
Léauté-Labrèze C, Harper JI, Hoeger PH. Infantile haemangioma. Lancet. 2017 Jul 1;390(10089):85-94.
Del Frari L, Léauté-Labrèze C, Guibaud L, Barbarot S, Lacour JP, Chaumont C, Delarue A, Voisard JJ, Brunner V. Propranolol pharmacokinetics in infants treated for Infantile Hemangiomas requiring systemic therapy: Modeling and dosing regimen recommendations. Pharmacol Res Perspect. 2018 Apr 30;6(3):e00399.

S4

THE GENOMICS OF MELANOMA – TO UNDERSTAND THE UNDERLYING BIOLOGY, PROGNOSIS AND THERAPY RESPONSE

Göran Jönsson

Department of Oncology, Lund University, Sweden

Cutaneous melanoma incidence is rapidly increasing in populations of European origin and represents a significant public health burden, affecting individuals of both sex and all ages. Worldwide, the incidence of cutaneous melanoma varies from 0.2–5% depending on constitutional determinants of skin type and pigmentation, latitude and geographic region as well as lifestyle and patterns of sun exposure. Cutaneous melanoma is curable in its very early stages but a fatal disease if left untreated. Historically, melanoma is known as an immunogenic tumor disease with known cases of spontaneous tumor regressions and frequent presence of tumor infiltrated immune cells. This has led to the development of different types of immunotherapy. Early on, interferon-alpha and interleukin-2 treatment demonstrated modest effect however more recently immune checkpoint blockade are being used. Currently, PD1 blockade is the standard treatment of choice. However, we need to increase our understanding on which patients respond and which patients relapse to such therapy. Cutaneous melanoma develops through malignant transformation of melanocytes in the skin. The early tumorigenesis of melanoma has however not been completely characterized. It is thought that some melanomas arise in absence of a benign precursor while others evolve from a nevus. However, the genetic events facilitating the transition from benign to pre-malignant to malignant have not been fully elucidated. Although, it is established that *BRAF* and *NRAS* mutations are early events the secondary mutational events are not sufficiently explored. Understanding early and late events would aid in deciphering the biological mechanisms leading to progression of melanoma. This could be of valuable information for diagnostic purposes as there is a debate of whether intermediate melanocytic lesions actually do exist. We want to robustly determine the order of mutational and other molecular events in melanoma progression from early melanocytic lesion to disseminated melanoma. This type of knowledge will be crucial to correctly diagnose benign melanocytic lesions from melanoma. Indeed, novel approaches that could aid in the histopathological diagnosis of melanocytic lesions are needed. To reach this outstanding aim we depend on a strong translational research team. Consequently, we set out to screen for somatic mutations in frequently altered melanoma genes in 180 melanocytic lesions spanning from benign nevi to invasive primary melanomas. Moreover, we are analyzing the metastatic immune tumor microenvironment using genomic methods in order to increase our knowledge on which patients that will benefit from immune checkpoint therapy. Data from such studies will be presented and discussed.

S5

UPDATE ON 2018 WHO CLASSIFICATION OF MELANOCYTIC TUMOURS (4TH EDITION) WITH EMPHASIS ON DYSPLASTIC NAEVI

Iva Johansson

Department of Clinical Pathology and Genetics, Sahlgrenska University Hospital, Gothenburg, Sweden

The WHO Classification of Skin Tumours is the 11th volume in the 4th edition of the WHO series on the classification of human tumours. The series (also known as the Blue Books) has long been regarded by pathologists as the gold standard for the diagnosis of tumours, and it is an indispensable guide for the design of evaluations, clinical trials, and studies involving cancer. These authoritative and concise reference books provide an international standard for anyone involved in cancer research or the care of cancer patients. Since the previous edition, there have been particularly substantial changes to the classification of melanocytic tumours, based on the latest information from genetic and molecular studies. This lecture will provide the audience with an overview of the new scheme with a particular emphasis on dysplastic naevi.

S6

MELANOMA IMMUNOTHERAPY IN 2019

Max Levin

Department of Oncology, Sahlgrenska University Hospital, Gothenburg, Sweden

Abstract not available

S7

INTRODUCTION TO DERMOSCOPY FOR NURSES

John Paoli

Department of Dermatology and Venereology, Institute of Clinical Sciences, Sahlgrenska Academy, University of Gothenburg, Sweden

Dermoscopy is an essential diagnostic tool for the early and accurate diagnosis of melanoma and non-melanoma skin cancer. It is also very valuable to help users recognize benign

melanocytic and non-melanocytic lesions allowing us to decrease the number of unnecessary biopsies and excisions dramatically. In this lecture, the basic theory on how to name and classify the myriad of patterns and local structures we observe in both pigmented and non-pigmented skin lesions will be covered accompanied by several typical examples of each diagnosis. In addition, images of atypical presentations will be included to increase awareness regarding the morphologic variability observed in numerous lesion types.

S8

THE SKIN MICROBIOME

Eva Maria Rehbinder

Dermatology, Oslo University Hospital, Oslo, Norway

The skin is host to billions of bacteria, viruses, fungi and parasites that helps the body to break down natural products and works together with our immune system as a barrier against the invasion of pathogens. The sum of these commensal microbes is called the microbiota and the sum of these microbes, their genomic elements, and interactions is called the microbiome. Imbalances in the composition of the microbiota has been found to be associated with different skin diseases, but if this so called dysbiosis of the microbiome is a cause or a consequence of skin disorders is still not completely clear. However, recent evidence points to a possible targeted therapy by modifying the microbial imbalance in common skin disorders such as atopic dermatitis, acne vulgaris and chronic ulcers.

S9

FUNGAL SKIN INFECTIONS

Ditte Marie L. Saunte

Department of Dermatotology, Zealand University Hospital, Roskilde, Denmark

Fungal skin infections are common and may be seen in all age groups. It is practical to divide the infections into 3 categories according to the pathogen causing the infection (dermatophytes, yeast and non-dermatophyte moulds) as they have different epidemiology, clinical presentations and may respond differently to antifungals. Dermatophytes are keratinophilic fungi, which are able to infect all skin areas of the human body. The most common dermatophyte world-wide is *T. rubrum* which mainly causes tinea pedis and tinea cruris (1). The yeasts *Malassezia* and *Candida* are the most prevalent yeasts causing skin infections. *Malassezia* is a lipophilic yeast which infects seborrheic skin areas whereas *Candida* prefers a moist environment such as intertriginous skin. Currently, a total of 17 *Malassezia* species are known and *M. globosa* is the most prevalent species causing tinea versicolor (2). *C. albicans* is the most prevalent *Candida* species causing skin infections. Both of the genera *Candida* and *Malassezia* are a part of the normal microbiota but can progress from colonizing the skin to disease development due to environmental and/or immunological factors. Non-dermatophyte mould such as e.g. *Fusarium* and *Aspergillus* are rare skin pathogens. Infections of non-dermatophytes are mainly seen in immunosuppressed patients after hematogenic spread or they might be inoculated by trauma. This presentation focuses on epidemiology, clinical presentation, diagnostics and treatment of fungal skin infections.

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S10

TICK-BORNE SKIN INFECTIONS IN THE NORDIC COUNTRIES

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The most important tick-borne skin infection is Lyme disease caused by *Borrelia burgdorferi* sensu lato. The skin symptoms are usually mediated by the genotype *Borrelia afzelii* but also by *Borrelia garinii*, which is transmitted to birds, mammals and humans from the *Ixodes ricinus* ticks. It is estimated that in the Nordic countries about 10–40% of the ticks carry *B. burgdorferi*. Lyme borreliosis manifests itself as a skin disease in 80–90% of patients and in other organs in around 10–20% of patients. There is no permanent immunity in humans after wild-type infection. Thus, reinfections can occur. So far, no vaccination against borreliosis exists. The clinical symptoms include early local stage including erythema migrans (EM), early disseminated stage including multiple erythema migrans (MEM) or lymphocytoma (LC), and late stage including acrodermatitis chronica atrophicans (ACA). The amount of MEM has increased in Europe during the last decades. Earlier it was much more common in the United States where the causative agent is *B. burgdorferi* sensu stricto. Diagnosis is made by clinical features, histology, PCR from skin biopsy and by serology. Treatment is recommended usually either by amoxicillin 1g three times per day or doxycycline 100–150 mg twice per day for 2–3 weeks in EM, MEM and LC. In ACA these oral treatments can be used for 30 days or especially in ACA with neurological symptoms, ceftiaxone is recommended 1 g twice per day for 14–21 days. Pathogenesis, diagnosis, clinical symptoms and treatment of skin borreliosis will be focused more precisely in the presentation. Additionally, some less frequently seen tick-mediated infections will be briefly discussed.

S11

ABC FOR DERMATOLOGISTS: "NEW" OLD DISEASES – WITH FOCUS ON MORBILLI AND LEISHMANIASIS

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Measles and leishmaniasis are both emerging infections in Europe. Measles is an important differential diagnosis for the dermatologist encountering patients with skin rash and fever. This vaccine-preventable disease is not a childhood disease anymore. The lecture will focus on the early clinical signs and complications of measles. Leishmaniasis is a parasitic infection transmitted by sand flies. Climate changes, war, migration and tourism are various causes to the increases of leishmaniasis in Europe. Dermatological aspects and diagnostic procedures will be discussed.

S12

CURRENT TRENDS IN CONTACT ALLERGY

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Abstract not available

S13

WHEN AND HOW TO INVESTIGATE FOR CONTACT ALLERGY

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There are several indications for when to patch test: First and foremost, suspected contact dermatitis but other types of eczema/dermatoses which recur and do not response to treatment in the way you would expect is also an indication. Moreover, suspected contact allergy to topical medicaments and their vehicles is important. A fourth indication is "predictive testing" of alternative products that the patient may be able to use instead of the incriminating products. One should use a test system that is either a ready-to-use system or a system where the individual haptens, patches and tapes are supplied separately. In the latter case, patch test units are either circular or square. Circular test units are made from aluminum and square ones from various plastics. Adhesive tapes should be allergen-free. Acrylate-based tapes are used nowadays and they seldom give problems. Test preparations usually come from commercial test suppliers. They should be chemically defined and pure but this is not always the case. The concentration of the hapten should be expressed as weight per area, e.g. milligrams or micrograms per square centimeter. The vehicles used can be white petrolatum, water, acetone, ethanol, and methyl ethyl ketone. When liquids are used a micropipette should be used to give exact dosing. To prevent evaporation of the liquid test substances, test chambers should not be filled in advance. The ready-to-use system comprises haptens incorporated into some type of "dry" gel mounted on a patch sticking to the back. The dose is always the same which provides an accurate, reliable, and simple system. However, the number of test substances is limited in the commercial systems. The preferred site to place the tests is the upper back but the lower back or the outer aspects of the upper arms are acceptable. Tests should remain occluded on the skin for 48 hours and reading of patch tests should be performed on day (D)3 or 4 and on D7 not to miss contact allergy. It has been shown that 15% of contact allergy to substances in the baseline series is missed when a D7 reading is not performed. The reading of tests should follow the criteria set by the International Contact Dermatitis Research Group and the European Society of Contact Dermatitis. Relevance of a positive reaction should always be judged in relation to the exposure, site and course of the dermatitis and an eventual relapse of the current skin disease.

S14

OCCUPATIONAL ASPECTS OF CONTACT DERMATITIS

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Skin diseases are among the most prevalent occupational diseases. In Europe, they constitute up to 30% of all notified occupational diseases, with an estimated incidence rate of 0.5–1.9 cases per 1,000 full-time workers per year (1). Occupational contact dermatitis accounts for 90–95% of all occupational skin diseases. Main types of occupational contact dermatitis in the order of frequency are irritant contact dermatitis, allergic contact dermatitis and contact urticaria/protein contact dermatitis. Professions with a high risk of occupational contact dermatitis include hairdressers, healthcare workers, farmers, metalworkers, painters, construction workers and workers in food-processing industry (2, 3). Most common causes of occupational allergic contact dermatitis include rubber chemicals, epoxy compounds, metals and preservatives. Irritant factors most commonly reported as causes of occupational irritant contact dermatitis include wet work, detergents, solvents, metalworking fluids and food ingredients. Based on data from Finnish Register of Occupational Diseases, the current main causes and occupations at highest risk of occupational irritant and allergic contact dermatitis will be discussed.

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S15

PROTEIN CONTACT DERMATITIS AND CONTACT URTICARIA

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Protein contact dermatitis (PCD) is caused by an immediate IgE-mediated reaction where specific IgE causes pruritus and a sudden onset of eczema localized to the place of exposure. The same IgE can also cause immunologic contact urticaria (CU). There is a wide variety of causative protein sources; food (fish and shellfish, vegetables, flour, mushroom and enzymes), animal dander, amnion fluid, latex, plants but even hydrolyzed proteins in cosmetics. The most often affected occupations are bakers, food handlers, veterinary personnel and agricultural workers. Both PCD and CU are underdiagnosed because the lack of experience and standardized methods in the clinical work up. Usually the only diagnostic tool is prick or prick-prick test with the causative protein source as is, next to blood analysis of specific IgE. Current knowledge on the exact prevalence of these two clinical entities is limited. This lecture is going to focus on the existing clinical experience on the causes, occupations at risk and diagnostic tools available.

S16

TREATMENT BEHAVIOURS AMONG ADOLESCENTS AND YOUNG ADULTS WITH ECZEMA-DATA FROM THE POPULATION BASED BIRTH-COHORT BAMSE

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Studies indicate that eczema (atopic dermatitis) (1) is more common among adult than previously described (2, 3). Recently studies indicate that eczema is still affecting between 7–10% (4, 5). The goal of the treatment is to relieve symptoms and induce as long trouble-free periods as possible (6). However, the treatment is time consuming. This can be a challenge for the patient according to the nature of the eczema as a chronic recurrent, itchy inflammation in the skin, on different places at the body (7). Data from a recently published study from a population based cohort (BAMSE) (8), showed that 10% of the adolescents reported eczema the last 12 months, half of these treated themselves with glucocorticoids. When we linked self-reported questionnaire data to the Swedish Prescribed Drug Register (SPDR), one out of 4 adolescents with eczema had dispensed any glucocorticoids the last 12 month and one out of 4 with moderate to very severe current eczema had dispensed a potent glucocorticoid the last 12 month. These results indicate that many adolescents with eczema are under or completely untreated. To increase the knowledge about treatment behaviour we have conducted a qualitative semi-structured interview study, with young adults with eczema from the ongoing 24-year follow-up in the BAMSE study. All participants had persistent eczema, (i.e. at both 16 and 24 years, fulfilling the study definition of eczema, dry skin in and itchy rash in combination with typical localization of lesions the last 12 months). Moreover, all had symptoms of current eczema. At the time for inclusion 66 participants fulfilled the criterion. Severity of eczema was self-assessed with Patient Oriented Eczema Measure (POEM) (9). The interviews were recorded and transcribed verbatim. The text was analysed by systematic text condensation according to Malterud (10). In total 15 individual interviews were performed, 8 men and 7 females. Three participants had mild, 7 moderate and 5 severe to very severe eczema. In the preliminary analyses, based on the participant experiences, 3 categories emerged; Always on my mind, Lack of knowledge in the individual and in health care, and Physical negative consequences. For healthcare providers it is of clinical importance to pay attention to deficiencies in healthcare and thoughts about treatment, in order to be able to improve the treatment for the individual.

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S17

PRACTICAL APPROACH TO PATCH TESTING

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Patch testing is the standard method used in the investigation of allergic contact dermatitis. These investigations are exciting and interesting work, and investigators, like true detectives do try to find out the cause to the patient's dermatitis. In order to perform reliable and reproducible investigations, standardization of the patch test investigation is important. Patch testing is performed at dermatology departments of various sizes and with access to various resources. What can be done to increase the quality of patch test investigations? How can the procedure of patch testing be standardized? Extensive studies have been performed in standardization of all parts of the patch test procedure, from test preparations to readings and determination of clinical relevance. How can this be applied at dermatology departments investigating allergic contact dermatitis? Aspects such as standardization of patch test dose, occlusion time and patch test readings will be discussed. Further, what test substances do most patients react to and where do we find these substances in our environment? How can we determine clinical relevance of positive patch tests to the baseline series? In order to perform a full patch test investigation, patch testing of patients own products is important. What can be done at small dermatology departments without access to a laboratory? Tips and tricks in patch testing with patients own products will be discussed.

S18

A SHORT INTRODUCTION TO DERMATOLOGICAL LASERS AND THEIR APPLICATIONS

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Abstract not available.

S19

TREATMENT OF TELANGIECTASIA WITH A YELLOW (585 NM) SEMICONDUCTOR LASER AND A GREEN (532 NM) KTP LASER: A RANDOMIZED DOUBLE-BLINDED SPLIT-FACE TRIAL

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Facial telangiectasias related to photo-aging, rosacea or other conditions affect people world-wide. Discomfort and distress drive patients to seek treatment, and laser light of certain wavelengths provides an effective treatment. The target chromophore is the intravascular oxyhemoglobin with main absorption peaks at 418, 542 and 577-nm. The most common lasers used to treat telangiectasias are yellow (585-nm) pulsed dye laser (PDL) and green (532-nm) KTP laser. KTP laser has shown excellent results for thin superficial vessels and unlike PDL, is not associated with purpura due to longer pulse duration (1–200 ms). Yellow PDL is gaining popularity due to longer wavelength, penetrating deeper into skin allowing treatment of larger vessels. Oxyhemoglobin has higher, and melanin has lower absorption for yellow than for green, enabling treatment of darker skin types. Disadvantages of PDL are large size, high costs and short pulse duration (1-ms range). Semiconductor disk laser (SDL) technology has emerged to provide a compact and cost-effective yellow laser source for the dermatologic community. SDLs are recognized for their power scaling abilities, transverse mode control, wavelength tailoring, narrow linewidth option and wavelength tuning range, and they can be used in pump mode or continuous wave.

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S20

FILLER COMPLICATIONS – MANAGEMENT AND RISK REDUCTION

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Soft tissue fillers are used to fill up defects and add volume in the soft tissues of the face. Filler treatment is one of the

most commonly performed non-surgical esthetic procedures. There are many fillers on the market both non-permanent and permanent. Most non-permanent hyaluronic acid fillers are quite safe to use. Still, there is a small risk of adverse events such as lumps, infection, recurrent swelling and vascular complications. The anatomy of the face, and the cause of complications will be discussed as well as treatment and prevention of filler complications.

S21

CULTURAL PERSPECTIVES ON THE CONSUMPTION OF BEAUTY

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Abstract not available.

S22

ATYPICAL WOUNDS

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Abstract not available

S23

ACCELERATED WOUND HEALING WITH COMBINED NEGATIVE PRESSURE WOUND THERAPY AND INTERMITTENT PNEUMATIC COMPRESSION: A CASE SERIES

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Negative pressure wound therapy (NPWT) and intermittent pneumatic compression (IPC) have traditionally been used in patients with chronic complicated non-healing wounds. The aim of this study (retrospective case series) was to describe the use of NPWT in combination with IPC in patients with relatively short history (2–6 months) with ulcers. For comparison 3 patients with longstanding non-healing venous ulcers were included. Eleven patients were treated for a period of 4 weeks, generally two weeks as inpatients followed by two weeks as outpatients. NPWT was applied and changed two times per week and IPC was used two times daily (1–2 h, 40–60 mmHg). Wound diagnoses were venous (7 patients), combined venous and arterial (3 patients) and pressure induced leg ulcer (1 patient). Wound healing and oedema were measured once a week together with patient compliance. All wounds showed improved healing during the treatment period with marked or moderate reduction in ulcer size and granulation tissue formation was markedly stimulated. Oedema was markedly reduced due to IPC. The 3 patients with very chronic wounds showed improvement during treatment, but stagnation on cessation of treatment. Treatment was generally well tolerated. The results of the present study indicate that combined NPWT and IPC can accelerate wound healing and markedly reduce oedema thus shortening the treatment period. As a consequence, patients may have a shorter healing period and may be protected from entering a chronic wound phase. However, controlled studies of longer duration are needed in order to show the long-term effect of a more accelerated treatment course.

Selected reference

British Journal of Community Nursing 2017 22:Sup3, S41-S45.

S24

REDUCING THE NUMBER OF LEG ULCERS – THE SKARABORG EXPERIENCE.

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Introduction/Objectives: To assess the effectiveness of management changes performed following the initial series of studies 1988–1992, based on repeated assessments regarding number of patients and aetiology spectrum changes over time. We wanted to see if the generally expected increase of patients with lower limb ulceration could be prevented by performed management changes. *Methods:* In Skaraborg county with a population of around 250 000 a unique series of cross-sectional epidemiological studies have been undertaken between 1988 and 2014. Large samples of identified patients have been assessed, in detail regarding history, clinical appearance and regarding causes of ulceration. The major measures for improving management quality were, creation of treatment guidelines and care pathways, easily available venous CDU and early use of vascular surgical intervention for venous and arterial ulceration. The outcomes based on patients in contact with the health care system were compared for 1988, 2002 and 2014. *Results:* Despite having an older population and substantially more patients with diabetes today the point prevalence of open ulceration has decreased by 37% since 1988. The most marked projected reduction was noted for venous ulcers 71%, from 429 patients in 1988 down to 125 patients in 2014. Venous ulcers have been reduced from being the dominating aetiological factor into just one of five major aetiologies of more equal size in 2014. Our management strategy has been successful and we have been able to substantially decrease lower limb ulceration within our population, despite the generally expected scenario with increasing number of ulcer patients. *Conclusions:* You can reduce lower limb ulceration and especially venous ulceration

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substantially by structured multidisciplinary management. We believe that early diagnosis and referrals of patients for specialist assessments and especially vascular surgical interventions may have been most important. Early performed correct diagnosis and interventions are essential parts for reproducing these results elsewhere, which ought to be feasible worldwide.

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S25

BOTOX INJECTIONS TO TREAT DIGITAL SCLERODERMA ULCERS

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Introduction: Approximately 40% of the patients with systemic sclerosis (SSc) develop painful digital ulcer (DU) at the distal phalanges. The pathogenesis of DU is not known, however vascular occlusion is suggested (1). Capillaroscopy from the nail beds shows structural changes as giant capillaries, microhaemorrhages, capillary loss and avascular areas (1). The microcirculation of the finger pulp is mainly controlled by arteriovenous anastomoses, which are strongly controlled by the sympathetic nerves. Off-label use of Botulinum toxin A (BTX) has become a treatment option for DU in the last years (2, 3). The studies show pain relief, faster ulcer healing rate and lower recurrence rate suggested to be caused by increase blood flow. However, the physiologic effect on hand microcirculation is not well known. At Oslo university hospital, we have the last 3 years treated patients with DU with BTX. We aim to study impact of BTX on finger pulp microcirculation and pain. *Methods:* Patients with SSc with unilateral DU referred for standard treatment with BTX ($n=11$). BTX (80–100 IU, Allergan®) were injected at radial and ulnar site base of digits 1–4 in regional anesthesia of axillary block (0.6 ml/kg mepivacaine (15 mg/ml) with epinephrine (2.5 µg/ml), which last for 10 h. Bilateral continuous measurements of skin microcirculation were recorded for 20 min using laser Doppler flux (moorVMS, Moor Instruments, Devon, UK) 4 weeks after treatment ($n=5$). Recordings were simultaneously made from finger pulp with ongoing ulcer (often 2nd or 3rd fingers) and from the pulp of the corresponding contralateral finger and contralateral hypothenar skin. Ulcer size and pain score (0–10 visual analogue Scale, VAS) were also recorded before treatment and at 4 weeks. *Results:* Pain (median VAS baseline: 7, 4 week: 4) and ulcer size were significantly reduced at 4 weeks. Flux values in the investigated finger pulp showed permanent low values and the normal spontaneous synchronous fluctuations in bilateral finger pulp flux were not seen. Flux values in contralateral hypothenar skin showed normal variability and normal absolute values. *Discussion:* These preliminary results suggest that BTX do not improve finger pulp microcirculation in SSc patients with ongoing DU. However, BTX possibly reduces pain. The severe structural damaged microvascular beds in SSc may not respond on nerve impulses, and are therefore not affected by BTX.This is in accordance with our earlier findings of passive vascular bed of the finger pulp in SSc (4).

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S26

NEW PHOTOSENSITIZERS AND LIGHT SOURCES IN PHOTODYNAMIC THERAPY

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Since photodynamic therapy (PDT) was invented at the beginning of the 20th century various photosensitizing agents in combination with different wavelengths of light have been used for the treatment of skin neoplasms. Currently, PDT is widely used in the treatment of actinic keratoses (AK) and field cancerization, Bowen's disease, and low-aggressive basal cell carcinomas (BCC). The advantages of PDT include field-effect, i.e. the whole photo-damaged skin area including the subclinical carcinogenetic changes can be treated, and excellent cosmetic outcomes. However, pain during the treatment, and adverse reactions (erythema, oedema, crusting) lower the tolerability. There have been various attempts to improve the tolerability of PDT by modifying the light source. The use of daylight (DL-PDT), instead of the conventional-LED illumination (LED-PDT), reduces pain and adverse reactions. The long-term efficacy of DL-PDT is comparable to that of LED-

PDT. However, the use of DL-PDT is limited to the summer months in the Nordic countries. To overcome the variables of outdoor treatment, simulated daylight-PDT (sDL-PDT), with the advantages of a steady light dose and temperature, has been developed. Since the 1990s, topical 5-aminolaevulinate (5-ALA), a precursor of protoporfyrin IX (PpIX) has been used as a photosensitizer in PDT. Several modifications of 5-ALA including derivatization of 5-ALA into a liphophilic short-chain methyl ester (MAL), modifying its formulation into a nanoemulsion (BF-200 ALA) and into a self-adhesive patch have been introduced. BF-200 ALA has shown tendency to better efficacy compared to MAL. Furthermore, a long-chained hexyl ester of 5-ALA (HAL) has also shown promising results already at low concentrations.

S27

STAGING CUTANEOUS SQUAMOUS CELL CARCINOMAS: WHY, HOW AND WHEN

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Although most patients with cutaneous squamous cell carcinoma (cSCC) have an excellent prognosis after surgical removal, some cSCCs will recur, grow and metastasize and lead to death. Several clinical and histologic factors are associated with increased risk of local recurrence, lymph node metastasis and death, the most important being tumor diameter (>2 cm), depth of invasion (>6 mm), invasion beyond subcutaneous tissue, Clark stage (4 or 5), poorly differentiated histology, perineural invasion, desmoplastic growth and location on ear or lip. Moreover, cSCC tend to be more aggressive in immunocompromised patients. The goal of any cancer staging system is to describe the extent of the patient's cancer at the time of diagnosis and to estimate the risk for metastasis and/or death. This will have implications for choice of treatment and follow-up. The most commonly used staging system for cSCC is the The American Joint Committee on Cancer (AJCC) staging system, with the 8th edition being implemented in January 2018. Other staging systems have been developed by a group at the Brigham and Women's Hospital (BWH) and by Breuninger and co-workers. These systems are based on data from tertiary cancer centres, are not validated using non-selected patients, and are complicated to use in clinical practice. In a recent nested case-cohort study we identified all patients in Norway diagnosed with a primary invasive cSCC from 2000 to 2004 (n=6,721) using data from the Norwegian Cancer Registry (1). Of these, 112 patients were diagnosed with metastasis within 5 years. As control patients, 112 patients without metastases, matched for sex and age at diagnosis, were identified by random. Clinical data and biopsy specimens of primary cSCC were collected for all 224 patients. The biopsies were reexamined histologically by an experienced pathologist, using the staging criteria for the AJCC 7th edition, AJCC 8th edition, and the BWH and the Breuninger systems. All 4 systems were found to be unsatisfactory in identifying patients with cSCC at high risk for metastasis. A more reliable, easy-to-perform and clinically useful staging system is needed. As pointed out by Abraham, the next generation staging system should integrate molecular and genetic information of the tumour, since histopathological features of the tumour seem to be unreliable predictors of metastatic potential (2).

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S28

UPDATE ON IMAGING FOR NON-MELANOMA SKIN CANCER

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Abstract not available

S29

UPDATE ON CUTANEOUS LYMPHOMAS

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Abstract not available

S30

MYCOPLASMA GENITALIUM AND RESISTANCE

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Mycoplasma genitalium is an established cause of sexually transmitted urethritis, cervicitis, and upper genital tract disease in women. *M. genitalium* infection is the aetiology in 15–25% of symptomatic non-gonococcal urethritis and probably around 10% of pelvic inflammatory disease (PID). Detection by nucleic acid amplification tests is the only diagnostic method available, and new CE marked tests approved for diagnostic use in Europe, and compatible with high-throughput testing, have recently become available. The availability of such assays may dramatically change the availability of diagnostic testing and, consequently, the number of diagnosed cases. One of the main concerns is the lack of a universally effective treatment. Doxycycline has a cure rate of only 30% as documented in multiple treatment trials, whereas azithromycin is significantly more effective with cure rates approaching 90% in macrolide susceptible infections.

However, macrolide resistance is an emerging threat with ≥50% of currently circulating strains carrying macrolide resistance mediating mutations in many settings. These mutations lead to treatment failure with azithromycin regardless of the dosage. Currently, moxifloxacin is the only second line antibiotic that has been documented to have a high activity against macrolide resistant *M. genitalium*. However, multidrug resistant strains have emerged, primarily in South East Asia, but are also detected in Europe at an increasing rate. Third line treatment with pristinamycin is recommended in the 2016 European guideline, but even with the highest recommended dosage, treatment failure is seen in 15–25% and the availability is very limited outside of France. Sitafloxacin, a fluoroquinolone registered in Japan has a higher activity than moxifloxacin, but treatment failures are commonly seen. Spectinomycin in combination with doxycycline has been successfully used in a limited number of patients, but daily injections for seven days is not practical and availability is limited. In the lecture, new antimicrobials with activity against multidrug resistant *M. genitalium* and possible third line treatment modalities will be discussed.

S31

EXPERIENCE OF PREP

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Pre-exposure prophylaxis (PrEP), in the form of co-formulation tenofovir disoproxil/ emtricitabine, is an exceptionally effective HIV prevention tool. In October 2016 the Norwegian Minister for Health approved its use, and a process for immediate implementation began. It was envisaged that interested physicians from relevant fields of medicine, including Infectious Diseases, Dermato-Venereology and General Medicine would incorporate PrEP into their routine management repertoire. Since then, PrEP implementation in Norway has embarked on a roller-coaster journey. Demand for PrEP has far exceeded expectations. Real life experience and challenges encountered will be discussed.

S32

TRANSGENDER PEOPLE'S SEXUAL HEALTH AND EXPERIENCES OF ENCOUNTERING HEALTHCARE

Ida Linander

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Transgender people's sexual health is hitherto relatively unexplored. Existing research and reports show that many transgender people report a poor sexual health, which is, for example, linked to a discomfort with the body, fear of sexual relations with others, sexual risk taking or that the body does not work in conjunction with gender confirming care. Studies also show that transgender people do not know where to turn to get tests for STI and, at the same time, get a good treatment. More people in this group have been forced to sex and have experiences of sex against compensation than in the general population. While a large majority feel that they have enough information to be able to protect themselves against HIV and other STIs, condom use is at the same time low in the group. Concerning healthcare in general, many transgender people report postponing or avoiding seeking care, despite feeling that they have a need. When seeking care there are several barriers reported in previous studies such as lack of information among care professionals, stigma, prejudice and discrimination. Thus, there are barriers to a good sexual health in transgender group which is connected to the relationship with their own body, social norms around gender and sexuality and the meeting with the healthcare. This presentation will focus on obstacles and opportunities for a good sexual health as well as transgender people's experiences of encountering the healthcare, and, finally, what is needed to improve the sexual health of transgender people. The presentation is based on 18 interviews with transgender people living in Sweden. This material is combined with previous research and reports, such as statistics from the Public Health Agency of Sweden.

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S33

VENEREOLOGIC ULCERS

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Genital ulcer disease (GUD) has a major impact on morbidity worldwide and is associated with an increased risk of HIV transmission and acquisition. Many developing countries use syndromic approach for managing sexually transmitted

infections (STIs) according to the recommendation of the World Health Organization (WHO). Patients with GUD receive a combination of antimicrobials to treat syphilis, chancroid, lymphogranuloma venereum (LGV) and genital herpes. Genital ulcers are a common complaint among patients in the STI clinics. Genital herpes, caused by *herpes simplex virus* (HSV)1 or 2, is one of the most prevalent STI and may cause painful clusters of erythematous papules and vesicles following ulcerations. The clinical picture is often typical but should be confirmed once with laboratory tests. Genital herpes can cause recurrent symptoms but asymptomatic viral shedding is possible. The ulcer of primary syphilis, chancre, is typically painless, single and indurated. It might be difficult to recognize if located in vagina or anorectal canal. There are outbreaks of LGV caused by *Chlamydia trachomatis* serotypes L1–3 in Europe mainly among men having sex with men (msm). Most patients complain about severe proctitis. The classical LGV can cause at first small painless papule that erodes into an ulcer followed by painful inflammation of the inguinal lymph nodes and abscesses. All patients with genital ulcers should be screened for HSV (by viral culture, antigen detection or nucleic acid amplification (NAAT) test), syphilis serology and HIV. It is important to remember that the syphilis serology might be negative at the onset of the chancre and repeat the test in 1–2 weeks. LGV can be diagnosed be taking a swab from the anal canal or ulcer with *Chlamydia trachomatis* NAAT and serotyping it if positive. Differential diagnosis like trauma, Crohn`s disease, Behçet syndrome, nonsexually acquired genital ulceration (NSAGU), drug reaction and neoplasia should be excluded. There are also rare STIs like chancroid (*Haemophilus ducreyi*) and granuloma inguinale (donovanosis).

S34

NURSES ROLE IN PROVIDING PERSON-CENTERED CARE

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Abstract not available

S35

UPDATE ON SMALL NON-CODING RNA IN PSORIASIS

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Psoriasis is a multifactorial immune-mediated skin disease in which disturbed interplay between keratinocytes and immune cells leads to chronic skin inflammation. MicroRNAs (miRNAs) are small, non-coding RNAs that regulate the expression of >60% of protein-coding genes. miRNAs regulate gene networks and signal transduction pathways via targeting multiple target mRNAs. Accordingly, changes in miRNA levels may contribute to diseases including psoriasis and may be utilized in diagnosis or therapy. We and others have shown that psoriasis skin has a characteristic miRNA signature as compared to healthy skin or other inflammatory skin conditions [1, 2]. Functional characterization of psoriasis-associated miRNAs has shown that some of these miRNAs regulate basic cellular processes related to the disease and can contribute to its pathogenesis. Some examples are miR-203, a skin-specific miRNA regulating keratinocyte differentiation, miR-21, a miRNA regulating keratinocyte functions and T cell apoptosis, and miR-31 which modulates keratinocyte-immune cell interactions [3, 4]. Moreover, a set of miRNAs differentially expressed in psoriasis skin are located near to psoriasis susceptibility loci, indicating that genetic variations affecting miRNA expression may contribute to psoriasis susceptibility. One such example is miR-146a, a miRNA we showed to be genetically associated with psoriasis, which fine-tunes the magnitude of the response of keratinocytes to the key psoriasis cytokine IL-17A [5]. The overexpression or inhibition of miRNAs can have therapeutic implications: in preclinical models, miRNA modulation has led to significant improvement of psoriasis-like skin inflammation. Although miRNAs represent promising targets for therapy, and miRNA mimics/inhibitors have already made their way to clinical trials for other diseases, their delivery remains a challenge that will require more attention in future studies.

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S36

PSORIASIS – UPDATE ON THE HUNT STUDY

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The Nord-Trøndelag Health Study (the HUNT study) is one of the largest and most comprehensive health studies ever performed. Questionnaires, clinical measures and a wide range of biological samples have been collected from 140,000 participants through four consecutive surveys since 1984, the HUNT 4 survey just completed in February 2019. The HUNT Biobank is a state-of-the-art biobank (European Biobank of the year 2013) with high-technology equipment for storage, analyses and sample handling/delivery. Repeated measures, the possibility to merge HUNT data with data from other regional and national registries, the high quality biobank including DNA samples from almost 90,000 (70,000 already genotyped) give researchers from all over the world a unique opportunity to study important health topics. Questions on psoriasis were included in HUNT 3 and later validated by clinical experts. Updates and futures possibilities regarding research within the field of psoriasis will be presented.

S37

UPDATE ON TISSUE-RESIDENT T CELLS IN PSORIASIS

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Abstract not available

S38

UPDATE ON CARDIOVASCULAR COMORBIDITY IN PSORIASIS

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Abstract not available

S39

ATOPIC DERMATITIS AND COMORBIDITY

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The purpose of the presentation is to give an overview of what is known on comorbidity in atopic dermatitis. Atopic dermatitis (AD) is a common chronic skin disease. AD is characteristically itchy and might cause sleeping problems, impair self-esteem due to visible skin rashes and interfere with daily activities. It is known that AD may have a substantial negative impact on quality of life for patients and their relatives. Comorbidity, or the co-occurrence of diseases, is an important feature that may contribute to the burden of AD and impair quality of life even more than AD alone. The exact mechanisms linking comorbid diseases are not yet fully understood, there may be shared risk factors, genetic influences and consequences of chronic inflammation. Several diseases that tend to be comorbid with AD have been identified or are suspected. AD is associated with an increased chance of developing asthma and hay feather. Recent studies suggest an association of AD with other immune-mediated inflammatory diseases and mental health disorders. Recognizing the spectrum of health conditions related to AD is important for patient-centred care and may contribute to effective management of patients with AD.

Abstracts for Free Communications

Free communications I

FC1

BF-200 ALA IS MORE EFFECTIVE THAN MAL IN DAYLIGHT PHOTODYNAMIC THERAPY FOR ACTINIC KERATOSIS: A NONSPONSORED RANDOMIZED DOUBLE-BLIND MULTICENTRE TRIAL

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Background: Daylight photodynamic therapy (DL-PDT) with methyl-5-aminolevulinate (MAL) is an effective and practically painless treatment for mild and moderate AK. 5-aminolevulinic acid nanoemulsion (BF-200 ALA) has given promising results in DL-PDT for AKs. The long-term efficacy or cost-effectiveness of DL-PDT has rarely been reported. The aim of this trial was to assess the clinical efficacy, tolerability and cost-effectiveness of BF-200 ALA compared with MAL in DL-PDT for grade I-II AKs. *Method:* This non-sponsored, prospective randomized double-blind multicentre trial included 69 patients with 767 grade I-II AKs located symmetrically on the face or scalp. A single DL-PDT was given in a randomized split-face design. The primary outcome was clearance of the AKs at 12 months as assessed by a blinded observer. The secondary outcomes were pain, treatment reactions, cosmetic outcome and the cost-effectiveness of the therapy. *Results:* In the per patient (half-face) analysis clearance was better for the BF-200 ALA sides than for those treated with MAL ($p=0.008$). In total, BF-200 ALA cleared 299 out of 375 AKs (79.7%) and MAL 288 out of 392 (73.5%) ($p=0.041$). The lesion clearance rates for grade I AKs were 83.5% and 79.6% for BF-200 ALA and MAL, respectively ($p=0.241$), and those for grade II AKs 69.1% and 53.8% ($p=0.037$). The treatment was practically painless with both photosensitizers, the pain VAS being 1.51 for BF-200 ALA and 1.35 for MAL ($p=0.061$). Twenty-six patients had a stronger skin reaction on the BF-200 ALA side, 7 on the MAL side and 23 displayed no difference ($p=0.001$). The cosmetic outcome was excellent or good in 91% of patients for BF-200 ALA and in 94% for MAL ($p=1.000$). The cost-effectiveness (CE)-plane showed that the costs of DL-PDT for both photosensitizers were similar, but the effectiveness was slightly higher for BF-200 ALA. *Conclusion:* Our results indicate that BF-200 ALA is more effective than MAL in DL-PDT for grade I-II AKs. BF-200 ALA provides slightly better value for money than MAL.

FC2

PAIN RESULTS IN PDT OF SUPERFICIAL BCC: METHYLAMINOLEVULINATE (MAL) VS. 5-AMINOLEVULINIC ACID NANOEMULSION (BF-200 ALA) VS. HEXYLAMINOLEVULINATE (HAL)

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Background: Basal cell carcinoma (BCC) is the most common cancer in the world and often occurs with multiple lesions (1). There are non-surgical options for the treatment of low-risk BCCs like superficially growing BCC (1). Patients with multiple lesions are willing to risk the recurrence rate for the cosmetic outcome (2). Photodynamic therapy (PDT) has the best cosmetic outcome in the non-surgical treatment of BCC, though not the best efficacy (3). Sometimes the pain during the illumination can be a major issue. *Method:* In a non-sponsored, double-blinded, prospective and controlled trial there was randomized 117 lesions to 3 arms (MAL, BF-200 ALA, HAL) in 60 patients, recruited in the Department of Dermatology and Allergology, Päijät-Häme Social and Health Care Group, Lahti, Finland, between March 2015 and September 2018. Patients were allowed to have multiple lesions, but included ones were at least 10 cm apart from each other. As the inclusion criteria was a clinically assessed mainly superficially growing BCC on trunk or limbs. All the lesions were biopsied and then treated with PDT with standard procedures (4). While the 8 min illuminations patients themselves filled in the visual assessment scale of pain (VAS) at time points of 0.4 and 8 minutes. *Results:* After exclusion of other lesions than BCCs we had 95 superficial or thin nodular (clinically assessed as mainly superficially growing) BCCs in 54 patients. In Table I is represented the results on pain during the PDT session I and II. With the Kruskal-Wallis test we did not find any difference between the 3 arms, and either clinically assessed there was not significant difference in the pain. *Conclusion:* There's no

difference between the newer light sensitizers (BF-200 ALA and HAL) and the older light sensitizer (MAL) when considering the pain during PDT treatment.

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Table I. Pain results on the VAS, announced in mm. The results are calculated as the difference between the time point 4 min and zero, and the 8 min and zero

PARAMETERS	PDT I MAL	PDT II MAL	PDT I BF-200 ALA	PDT II BF-200 ALA	PDT I HAL	PDT II HAL
Mean 4 min – 0 min 8 min – 0 min	13 22	17 23	17 20	14 23	7 12	15 22
Median 4 min – 0 min 8 min – 0 min	5 10	17 23	9 8	10 13	4 5	8 17
Minimum 4 min – 0 min 8 min – 0 min	0 0	0 0	0 –1	0 0	–1 0	0 0
Maximum 4 min – 0 min 8 min – 0 min	59 71	43 70	90 82	62 82	43 50	77 89

FC3

TUMOR CELL-DERIVED COMPLEMENT COMPONENTS C1R AND C1S PROMOTE GROWTH OF CUTANEOUS SQUAMOUS CELL CARCINOMA

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Background: The incidence of cutaneous squamous cell carcinoma (cSCC) and its precancerous forms is increasing worldwide. Our previous studies have shown, that the expression of complement factor H (CFH) and complement factor I (CFI), two regulators of the alternative pathway, as well as two activating components complement factor B (CFB) and C3 are significantly up-regulated in tumor cells in cSCCs, and that CFI, CFB and C3 promote growth of cSCC *in vivo* (1–3). Here we have studied the role of complement classical pathway components C1q, C1r and C1s in cSCC progression. *Method:* Quantitative RT-PCR was used to analyze the mRNA levels of C1Q subunits, C1R and C1S in cSCC cell lines, normal human epidermal keratinocytes (NHEKs), cSCC tumors *in vivo* and normal skin. The production of C1r and C1s and the levels of phosphorylated ERK1/2 and Akt were determined with Western blotting. The staining intensity of C1r and C1s in tissue samples *in vivo* was analyzed with immunohistochemistry. Cutaneous SCC growth *in vivo* was examined in a xenograft model by siRNA knockdown of C1r and C1s. *Results:* Analysis of cSCC cell lines and NHEKs with quantitative RT-PCR showed significantly elevated C1R and C1S mRNA levels in cSCC cells, whereas C1Q mRNA levels were low. Western blotting analysis showed increased production of C1r and C1s in cSCC cells compared to NHEKs. C1R and C1S mRNA levels were markedly elevated in cSCC tumors *in vivo* compared to normal skin. Immunohistochemical analysis showed strong expression of C1r and C1s by tumor cells in invasive sporadic cSCCs and recessive dystrophic epidermolysis bullosa-associated cSCCs, whereas the expression of C1r and C1s was lower in cSCC *in situ*, actinic keratosis, and normal skin. Furthermore, our results show, that C1r and C1s knockdown inhibited activation of ERK1/2 and Akt, promoted apoptosis of cSCC cells and significantly suppressed growth and vascularization of human cSCC xenograft tumors *in vivo*. *Conclusion:* These results provide novel evidence for the role of C1r and C1s in the progression of cSCC and identify them as biomarkers and putative therapeutic targets in cSCC.

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FC4

DESCRIPTIVE STUDY OF LYMPH NODES FROM MELANOMA PATIENTS USING ADVANCED LASER SCANNING MICROSCOPY

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Background: Malignant melanoma (MM) is one of the most rapidly increasing malignant tumors. MM is considered curable if excised at an early stage; thus, much effort has been focused on developing tools to enable early diagnosis. Sentinel node (SLN) diagnostics is one of the most important procedures for

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MM staging in order to choose the right treatment; however, it is desirable to find improved diagnostic procedures enabling fast diagnostics (1). Recently, advanced laser scanning microscopy techniques have gained increasing interest because of their ability to visualize cell morphology non-invasively (2–4). *Method:* The purpose of this study was to investigate if multiphoton microscopy (MPM) and reflectance confocal microscopy (RCM) could identify morphological metastatic features in lymph node tissue. Tissue samples from lymph nodes positive ($n=5$) and negative ($n=2$) for melanoma metastasis, where withdrawn from a tissue biobank and were investigated using MPM and RCM. Both paraffinized and de-paraffinized tissue samples were subject to analysis and their histopathological counterparts. *Results:* The results from the study imply that particularly MPM enable visualization of cell morphology characteristic to metastasis (Fig. 1). RCM was found to be limited in identifying primarily fibrous structures. *Conclusion:* Future pre-clinical studies extending to intact fresh lymph node tissue are encouraged. The ultimate goal is the development of a protocol that can be translated into the clinics for intra-operative investigations in connection to sentinel lymph node diagnostics for MM and potentially other malignancies. Fig. 1 shows MPM images of a lymph node with MM metastasis, together with the H&E section.

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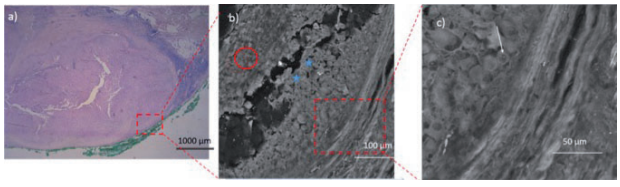

FC5

ATTITUDES TOWARDS ARTIFICIAL INTELLIGENCE IN DERMATOLOGY AMONG NORDIC DERMATOLOGISTS

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Background: Although several definitions exist, artificial intelligence (AI) is usually described as a digital computer or computer-controlled robot performing tasks commonly associated with intelligent beings. The landmark publication in 2017, that demonstrated an AI capable of classifying skin cancer with a level of competence comparable to dermatologists (1), accelerated the research, discussions and debate about AI within the dermatology community. In the foreseeable future, AI is expected be integrated in the dermatological everyday clinical practice. Even though AI is a frequent topic, surprisingly little is known about dermatologists' attitudes towards AI. Interestingly, a recent survey in Germany demonstrated, contrary to belief, that undergraduate medical students do not worry that AI will replace human radiologists, and are aware of the potential applications and implications of AI on radiology and medicine (2). Within the field of AI in dermatology, it is expected that several private enterprises will compete and dermatologists will have to be cautious, when engaging in this development, not to jump to premature conclusions. In order to prepare for a future with an increased use of AI, it is our belief that an inventory of the dermatologists' views of the topic is key. Ultimately, it is our hope that dermatologists should be the ones who guide and lead the development in their field, and in order to take and hold this position an inventory of our attitudes is instrumental. Thus, the following study will be performed as a survey with the aim to specifically address the attitudes towards AI among dermatologists. *Method:* The survey, will be distributed online through a commonly used survey website (SurveyMonkey®, Surveymonkey.com). The survey will be distributed to a broad audience including all NDA (Nordic Dermatology Association) members. The survey is of an exploratory nature as it addresses physicians' attitudes and therefore no null hypothesis has been formulated. Important parameters to consider are gender and age differences in attitudes. Moreover, attitudes might differ even between countries. *Results:* Remarks to the organizing committee: The survey has been finalized and will be distributed in January 2018. Thus, we do not yet have any results to present in this abstract. At the Nordic Congress of Dermatology and Venereology we will present a subset of the data including all responses from Nordic participants.

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FC6

SURGICAL TREATMENT OF BASAL CELL CARCINOMA - A STUDY ON FACTORS INFLUENCING THE RISK OF AN INCOMPLETE EXCISION

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Background: Skin cancer is an increasing health problem in fair-skinned populations and are among the cancers with the most rapidly increasing incidence (1, 2). Basal cell carcinoma (BCC) is the most common skin cancer form and in Sweden around 45,000 people are affected annually (1). Gold standard for treatment of BCC is surgical excision in the majority of cases. Complete removal of the tumour is crucial to minimize recurrence risk. Data on frequency of incomplete primary excisions vary widely, reporting numbers ranging from 6–17% (3–8). Larger studies from a dermatological setting are sparse. The aim of this study was to analyse the rate of incomplete excision of BCC at a dermatology clinic as well as the influence of patient- and tumour-related factors on the risk of incomplete excision. *Method:* Patients who underwent surgical excision at the Department of Dermatology, Helsingborg Hospital in southern Sweden, were prospectively enrolled in the study. Sex and age of the patient as well as location of the tumour were registered preoperatively and histopathological diagnosis as well as tumour clearance were registered postoperatively according to the pathology report. Only primary excisions of BCC were included in the study. *Results:* A total of 3911 excisions were included in the study during the period 2008–2015. The overall rate of incomplete excisions of BCC was 4.6%. The rate of incomplete excisions was associated with tumour localisation and histopathological subtype. No significant difference was found between female and male patients. Further results from the study will be presented at the NDA congress in May 2019. *Conclusion:* In the present study on surgically excised BCCs, a low overall percentage of incomplete excisions was found. The rate of incomplete excision was related to tumour localisation and subtype. The results of the study could aid in correctly directing resources in tumour treatment and optimize the use of surgery with perioperative histopathological evaluation.

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Free communications II

FC7

SUBSTANTIALLY REDUCED LIFE EXPECTANCY IN PATIENTS WITH HIDRADENITIS SUPPURATIVA: A FINNISH NATIONWIDE REGISTRY STUDY

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Background: Hidradenitis suppurativa (HS) is associated with serious comorbidities (1, 2), but, to date, there has been no systematic evaluation of mortality in HS. This study was conducted to describe life expectancy and cause-specific death risks in patients with HS. *Method:* A retrospective registry-based case-control study: cross-linked data on deaths of patients with HS and controls with psoriasis or melanocytic nevi were obtained from statutory nationwide Finnish registries. Mean ages at death and age- and gender-adjusted hazard ratios (HRs) with 95% confidence intervals (CIs) for cause-specific mortality were calculated and compared between the study populations. *Results:* Mean age at death was 60.5 years in HS cases (n=498); 71.1 years in psoriasis (n=8,620) and 75.2 years in nevi controls (n=4,041). Cardiovascular diseases, neoplasms, 'accidents or violence' and alcohol-related diseases were the most frequent causes of death in patients with HS. Patients with HS carried an elevated mortality risk especially from respiratory tract cancers (HR 2.56; 95% CI 1.86–3.53 vs. psoriasis and HR 4.53; 95% CI 3.19–6.43 vs. nevi controls). The main limitations in our study are, that in a registry-based study, we could not verify the accuracy of the diagnostic codes, and limited data were available for detailed comparisons of patient characteristics. *Conclusion:* The life expectancy of

patients with HS is markedly reduced. Patients with HS died at a substantially younger age than those with psoriasis and those with melanocytic nevi. Further studies are required to explore whether HS represents an independent risk factor for early death, or if our results can be fully explained by heavy smoking, obesity, high inflammatory load and comorbidity burden associated with HS (3). In any case, comprehensive multidisciplinary care is highly needed to effectively treat patients with HS, with the aim of minimizing the risk for premature death.

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FC8

SEROLOGICAL BIOMARKERS OF DISEASE SEVERITY AND PHENOTYPE IN ATOPIC DERMATITIS

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Background: A growing body of evidence links various biomarkers of the Th2, Th1 and Th17 pathway to atopic dermatitis (AD). Still, little is known about specific biomarkers' association to disease characteristics and disease severity of AD. The aim of this study was to explore the relationship between various immunological markers in serum and disease severity of AD in a hospital cohort of patients. *Method:* Consecutive outpatients with AD referred to the Department of Dermatology, Bispebjerg Hospital, Copenhagen, Denmark between January 2012 and December 2017, were divided into groups, based on disease severity (SCORAD); mild (<25), moderate (25–50) and severe (>50). Serum levels of a pre-selected panel of inflammatory biomarkers, including IL-1β, IL-4, IL-5, IL-8, IL-17A, IL-22, IL-31 and IL-33 as well as thymus-and-activation-regulated-chemokine/Chemokine-ligand-17 (TARC/CCL17), cutaneous-T-cell-cell-attracting-chemokine (CTACK/CCL27) and macrophage-derived-chemokine (CCL22) were correlated with disease characteristics, including SCORAD, comorbid asthma, extrinsic vs. intrinsic AD and FLG-mutation carrier status. *Results:* We included at total of 160 patients with AD; 53 (33.1%) with mild, 73 (45.6%) with moderate and 34 (21.3%) with severe disease. Mean age was 29.2 years and 84 (52.5%) were females. The results of the correlation analysis between individual biomarkers and SCORAD are depicted below (heat map). All but one biomarker (IL-8) showed a significant correlation with SCORAD-score with strongest correlations seen for TARC and CTACK (Spearman R of 0.50 and 0.43, respectively, $p<0.001$). Carrying a FLG-mutation was associated with asthma ($p=0.010$), and increased levels of IL-1β ($p=0.005$) and MDC ($p=0.039$), whereas comorbid asthma was associated with allergic rhino-conjunctivitis ($p<0.001$) and levels of MDC ($p=0.020$), TARC ($p=0.019$), total serum IgE ($p<0.001$) and eosinophil count ($p=0.017$) using independent-samples t-test. Extrinsic AD patients were more likely to have asthma ($p=0.002$), allergic rhino-conjunctivitis ($p=0.004$), higher mean SCORAD ($p<0.001$) and increased levels of MDC ($p=0.004$), TARC ($p<0.001$) and eosinophil count ($p<0.001$) compared to intrinsic AD patients. *Conclusion:* Specific inflammatory biomarkers in serum are correlated with disease characteristics of AD, including AD severity, comorbid asthma, FLG mutation carrier status and extrinsic AD. Studies focusing on the clinical significance of these correlations are needed to establish specific endotypes of AD and guide future therapeutic approaches.

FC9

IMPACT OF AN EDUCATIONAL PROGRAM IN THE MANAGEMENT OF ATOPIC ECZEMA IN LITHUANIA

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Background: Atopic eczema (AE), one of the most common skin disorders seen in children, has a negative effect on the quality of life of patients as well as family, most commonly disturbing sleep. Effective patient education, knowledge about disease can have positive impact not only in emotional status of the family but also in improving symptoms of atopic eczema. Eczema education program (EEP) for patients and parents of children with AE was started in 2011 in Vilnius. This program consists of a three-hour group meeting (up to 35 people) covering points such as how AE develops, its complications, treatment, and practical tips for daily skin care. *Method:* The aim of the study was to assess the effectiveness of an educational program in disease control. Totally 192 patients were enrolled in this study: 95 in the EEP group and 97 in the control group, who never attended any educational program. All participants or children's parents were asked to fill 3 questionnaires: The Patient Oriented Eczema Measure (POEM); The Infant's Dermatitis Quality of Life Index (IDQOL) and the original questionnaire to assess demographic characteristics, families

history, treatment. Data were analysed by using MS Excel 2013 and R Commande programs (*t*-test, Pearson chi-square, Fisher exact test). *Results:* Severity of AE was lower in the EEP group compared with the control group: participants in the EEP group had a significantly lower POEM score than those in the control group: EEP group 7.68±5.68, control group 9.97±6.89, (p=0.013). Participants in the EEP group had a better quality of life than the control group:

- The skin dryness symptom score (p=0.036), skin flaking off rarely (p=0.019), itching symptom score (p=0.043), the happiness score (p=0.020) in the EEP group were significantly better than in the control group.
- There was a significant difference between groups in the itching: child's skin been itchy because of the eczema every day in EEP group 32.26% (n=30) and control group 47.42% (n=46) (p=0.033). In the days, when skin been weeping/oozing because of the eczema: EEP – 3.16% (n=3) and control group - 10.31% (n=10) (p=0.049).
- There was a significant difference between the groups in sleeplessness nights: child's sleep been disturbed less than one hour in EEP group 81.91% (n=77), in control group 66.67% (n=64) (p=0.017).

Conclusion: Our data and experience show that our eczema education program in Lithuania has a positive effect on disease control, severity and quality of life.

FC10

NORDIC CONSENSUS RECOMMENDATIONS ON DIAGNOSTICS, MONITORING AND MANAGEMENT OF ADULTS WITH MODERATE-TO-SEVERE ATOPIC DERMATITIS

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Background: Atopic dermatitis (AD) is a common, chronic and relapsing, inflammatory skin disease with heterogeneous clinical manifestations and it is currently unknown whether the diagnosis, monitoring and treatment of moderate--severe AD differ in the Nordic countries. We explored these parameters among a panel of Nordic AD experts to define possible consensus, and harmonize management of adults with moderate-to-severe AD. *Method:* Fifteen dermatologists from Denmark, Finland, Norway and Sweden met in Copenhagen. Six clinical cases of the most commonly recognized adult AD clinical subtypes were constructed by four experts. A modified Delphi process with digital voting was utilized to reach possible consensus by at least 75% of the participants on whether the cases represented typical adult AD, their investigation and treatment. *Results:* Consensus was reached for the proposed clinical AD subtypes, i.e. head-and-neck, concomitant allergies, hand eczema, recurrent infections, lichenification and severe itch, and late-onset. These included the following statements; *i*) at a minimum, the severity of disease should be assessed based on symptoms, skin examination and impact on the patient; *ii*) if possible within the clinic, use accepted tools to measure disease severity; *iii*) targeted patient education and support is a critical first step in any management plan; *iv*) the selection of treatment should be dictated by past treatment experience, contraindications, comorbidities and patient preference; *v*) if treatment response to topical or topical plus phototherapy is suboptimal, not tolerated or initial treatments are contraindicated, initiate and optimize systemic therapy; vi) optimize treatment with your chosen systemic and allow from one to three months on the maximum dose for the full treatment effect to develop before considering switching. *Conclusion:* This first Nordic AD expert consensus meeting on management of moderate-to-severe AD in adults provided important clues for harmonization of AD management. A set of practical recommendations reached consensus among participants.

FC11

COMBINED MRNA AND MIRNA ANALYSIS OF PSORIATIC SKIN

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Background: Psoriasis is a complex disease believed to be triggered by environmental factors in genetically susceptible individuals. Much of our knowledge of the molecular contributors of the disease stems from gene expression data generated by microarray and RNA sequencing (RNA-seq) of

psoriatic skin. Results point to keratinocytes, dendritic-, and T cells as key cell types and IL-17, type I-interferons, interferon-γ, and TNFα as key cytokines. MicroRNAs (miRNAs) are non-coding RNAs with post-transcriptional regulatory effects. Their importance in psoriasis has been demonstrated in several studies (1, 2). However, few aberrantly expressed miRNAs in psoriasis have confirmed mRNA targets with biological functions in skin(2) and a limited number of combined mRNA- and miRNA-seq studies have been performed. Our study objective is to use RNA-seq to investigate the global transcriptome of psoriatic and non-psoriatic skin. We aim to identify disease-related genes and pathways. Further, we aim to obtain information on miRNA gene regulation by combining mRNA and miRNA expression profiles from the same individuals. *Method:* Skin biopsies were collected from patients with psoriasis vulgaris ($n=75$) and non-psoriatic controls ($n=57$). Total RNA including miRNA was extracted and libraries of small and ribosomal RNA-depleted total RNA were sequenced on the Illumina HiSeq4000 (Illumina, San Diego). The differentially expressed mRNAs were analyzed by functional clustering analysis. DAVID v. 6.8 was used to merge differentially expressed genes into pathways and networks. We will correlate mRNA and miRNA to identify likely target pairs. *Results:* Of the 10,445 significantly differentially expressed transcripts detected in total, 8,427 were differentially expressed (FDR < 0.05) between lesional psoriatic and control skin, of which 4,216 were upregulated and 4,211 were downregulated. For the upregulated genes, functional annotation clusters were enriched for 'Immunity', 'Cell division' and 'Keratinization', and for the downregulated genes 'Glycoprotein/Cell membrane', 'Disulphide bond' and 'Cell adhesion'. Differential expression analysis of miRNA identified 312 unique significantly differentially expressed miRNA (FDR < 0.05), of which 151 were upregulated and 161 were downregulated. *Conclusion:* So far, our mRNA results comply with previous transcriptomic studies. We aim for further systematic analysis using pathway and network tools on mRNA and miRNA pairs with anti-correlated expression patterns. We hope that this analysis will confirm mRNA targets of the differentially expressed miRNAs with possible biological functions. Increased knowledge of the transcriptome of psoriasis has the potential to provide new insight into biological mechanisms underlying the pathogenesis of psoriasis that can catalyze breakthroughs in psoriasis prevention, diagnosis and treatment.

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FC12

TREATMENT USE AND SATISFACTION AMONG PATIENTS WITH PSORIASIS AND PSORIATIC ARTHRITIS IN SWEDEN, DENMARK AND NORWAY

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Background: There are scarce data in Scandinavia about treatment satisfaction among patients with psoriasis (PsO) and/or psoriatic arthritis (PsA). The number of patients receiving systemic treatment is unknown. We wanted therefore to describe patients' experience of treatments for PsO/PsA in Sweden, Denmark and Norway, addressing communication with physicians, satisfaction with treatment and concerns regarding treatment options. *Method:* The NORdic PAtient survey of Psoriasis and Psoriatic arthritis (NORPAPP) asked 22,050 adults (randomly selected from the YouGov panels in Sweden, Denmark and Norway) whether they had PsO/PsA. A total of 1,264 individuals who reported physician-diagnosed PsO/PsA were invited to participate in the full survey; 96.6% responded positively. *Results:* Systemic treatment use was reported by 14.6% (biologic: 8.1%) of respondents with PsO only and by 58.5% (biologic: 31.8%) of respondents with PsA. Biologic treatments were more frequently reported by respondents considering their disease severe (26.8% vs 6.7% non-severe) and those who were members of patient organizations (40.7% vs 6.9% non-members). Discussing systemic treatments with their physician was reported significantly more frequently by respondents with PsA, those perceiving their disease as severe (although 35.2% had never discussed systemic treatment with their physician) and those reporting being a member of a patient organization ($p<0.05$). Many respondents reported health risk concerns and dissatisfaction with their treatment. Of special interest was that respondents aged 45–75 years reported less experience with biologics (8.1%) than those aged 18–44 years (21.5%). The older respondents also reported more uncertainty regarding long-term health risks related to systemic treatments (most [66.7–72.9%] responded 'do not know' when asked about the risk of systemic options). *Conclusion:* It appears likely that substantial numbers of Scandinavians suffering from severe PsO/PsA are not receiving optimal treatment from a patient perspective, particularly older patients. Also, one-third of respondents with severe symptoms had never discussed systemic treatment with a physician.

Abstracts for Poster Presentations

(Abstracts marked with an asterix (*) have been selected for the Guided poster walk on Thursday, May 9, 15:45–16:45)

Poster session 1

P1*

REDUCING COMPLICATIONS BY PREOPERATIVE EVALUATION TWO TO FOUR WEEKS IN PRIOR TO BELOW-KNEE DERMATOLOGIC SURGERY

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Background: Below-knee dermatologic surgery has a high risk for complications such as wound infection, bleeding, necrosis, dehiscence and scar problems (1). In this study, we evaluated if a preoperative nurse appointment reduces complication risks. Guidelines for preoperative management in dermatology have been published (2, 3), but no previous studies have assessed their benefits. Based on previous medical studies, the advantages of preoperative evaluation is not easily scientifically proven (4). *Method:* We searched the medical records of the operative department of HUS Skin and Allergy Hospital for all below-knee surgeries, comparing year 2016 to year 2018, when the preoperative nurse appointment for risk patients was introduced. At the appointment, risk factors were evaluated and if needed, preoperative compression was introduced. We assessed the benefits of a preoperative appointment, and the use of compression bandages, by comparing complication risks. We documented patient characteristics, surgery diagnosis, method, site and any postoperative complication. For the analyses, multinomial logistic regression was used, and 272 patients were included: 187 and 85 yearly, of whom 48 attended the appointment. *Results:* Results show that compression bandages for patients with lower leg disease or swollen legs slightly decreased complication risks (OR 0.94, 95% CI 0.22–3.92). The complication risk was overall considerably higher, 47 vs 5%, for graft repairs than for other surgery methods. The complication risk for patients that attended the preoperative appointment was higher OR 1.52 (0.46–5.04) compared to patients without preoperative appointment, after adjusting for graft repair and patient characteristics. The results could be influenced by the fact that patients selected to the appointment, due to multiple factors, were in higher risk for complications, even with adequate care. *Conclusion:* For graft surgery, the complication risk is high, even with carefully planned preoperative care. Further studies are needed to evaluate preventable risk factors of graft repair.

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P2*

VISUAL SCALES ARE SUPERIOR TO QUESTIONNAIRES IN SKIN PHOTOTYPE SELF-ASSESSMENT BY CHILDREN

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Background: Although children's skin phototype is often assessed in studies, little is known about how children, especially younger children, perceive their skin phototype. Visual, question-based colour scales or questions about tendency to burn and ability to tan have previously been used to assess children's skin phototype. However, evidence is lacking as to which method would be most accurate when children self-assess their skin phototype. We investigated several skin phototype assessment methods to identify the best correlation to objectively measured skin phototype. *Method:* Danish schoolchildren (age 6–19 years) participated in a nation-wide study that assessed colour of skin, eye, hair and their sun behaviour. Skin phototype self-assessment was performed by the children using two visual colour scales (cartoon faces and colour cards), question-based colour scale, and questions about tendency to burn and ability to tan. For objective skin phototype measurements 483 children from all age groups were selected and their pigment protection factor (PPF) was measured at 3 skin sites using a skin reflectance spectrophotometer UV-Optimize. *Results:* Cartoon faces (r2=0.654) and colour cards (r2=0.659) were better at predicting PPF on the inner forearm than the question-based colour method (r2=0.520). PPF prediction from questions on skin reaction to sun exposure was markedly inferior (r2≤0.142) to the visual colour scales and question-based colour method. Eye and hair colour were not as good as the visual and question-based colour methods in predicting PPF (r2=0.235 and r2=0.369, respectively); however, they were superior to questions about skin reaction to sun. *Conclusion:* Both visual colour scales proved to be superior to question-based skin phototype self-assessment in schoolchil-

dren. In contrast, questions on skin reaction to sun exposure were shown to be an unsuitable tool for self-assessment of skin phototype in children.

P3*

MASS CYTOMETRY ANALYSIS OF BLOOD CELLS FROM PSORIASIS PATIENTS ON BIOLOGICAL THERAPY

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Background: The initiation of psoriasis involves elements from both innate and adaptive immune system. Dendritic cells and cytotoxic CD8+ T cells react against autoantigens in the skin (e.g. cathelicidin/LL37). Th1 is involved in the initial formation of plaques through production of TNF and interferons, but in the later stages Th17 and Th22 play central roles producing IL-17 and IL-22. Self-sustaining loops of cells and cytokines maintain the inflammation in a complex network. In addition, evidence is emerging that psoriatic inflammation can propagate to the systemic compartment. This notion is reinforced by detection of increased amounts of T cells and cytokines in blood from psoriasis patients. To this end, psoriasis is an independent risk factor for cardiovascular disease and related to comorbidities like metabolic syndrome, Mb. Crohn and depression. *Method:* This study was focused on immune cells in the blood of psoriasis patients with the aim of exploring the systemic immuno-pathogenesis. Abundance and intracellular signaling activity of peripheral blood mononuclear cells were investigated by mass cytometry, with special emphasis on T cell subsets.Thirty-two patients with severe psoriasis vulgaris and ten matched healthy donors were included. Collection of blood samples and clinical evaluation were done before starting biological treatment, 4 and 12 months thereafter. Mass cytometry was used for extensive immune-phenotyping of peripheral blood mononuclear cells enabling characterization of B and NK cells, monocytes, sub-grouping of T cells into Th1, Th2, Th17, Tfh, Th9, Th22 and Treg in addition to stratification into naïve and memory cells. The panel consisted of 26 antibodies, detecting surface molecules (CD3, CD4, CD8, CD14, CD16, CD19, CD56, CD25, CD127, CD161, CD45RA, CD45RO, ICOS, PD-1), chemokine receptors (CXCR3, CCR4, CXCR5, CCR6, CCR10), and intracellular signaling molecules (STAT-1, STAT-3, STAT-4, STAT-5, ERK/MAPK, NF-κB, p38). *Results:* Abundance of cell subsets and intracellular signaling activity will be compared for the different time points, and correlated to PASI and DLQI. Search for biomarkers of disease activity will be performed using regression analyses. *Conclusion:* The pathogenesis of psoriasis is very complex, and cells from both the innate and adaptive immune system participate in local and systemic inflammatory loops. Mass cytometry enables broader characterization of these immune cells and their interplay. This new technology facilitates the investigation of disease mechanisms in immunologically mediated diseases and cancer and may pave the way for more personalized treatment.

P4*

LOW CARDIORESPIRATORY FITNESS IN LATE ADOLESCENCE IS ASSOCIATED TO INCREASED LONG-TERM RISK OF PSORIASIS AND PSORIASIS ARTHRITIS AMONG SWEDISH MEN

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Background: A low calorie diet, increased physical exercise and weight loss increases the responsiveness of obese psoriasis patients to systemic treatment and is associated with a decreased risk of incident psoriasis among women. However, psoriasis patients show lower levels of physical activity, which is alarming, especially since physical inactivity has been shown to increase all-cause mortality and is considered being the fourth leading cause of death worldwide. The relationship between cardiorespiratory fitness with incident psoriasis has not been explored among men. The objective with this study was to investigate whether low cardiorespiratory fitness in late adolescence increases the risk for onset of psoriasis and psoriasis arthritis. *Method:* Cardiorespiratory fitness was measured among Swedish men enrolled in compulsory military service between 1968 and 2005, and data were obtained from the Swedish Military Service Conscription Registry (n=1,228,562; mean age 18.3 years). The register was matched with the Swedish national inpatient registry. The persons in the cohort were followed from conscription until an event, new-onset psoriasis or psoriasis arthritis, occurred, or at latest until December 31st, 2014. The data was analyzed with Cox regression models obtaining hazard ratios (HR) with 95% confidence intervals (95% CI). *Results:* 23,296 cases of incident psoriasis and 6,133 cases of incident psoriasis arthritis were observed during the follow-up period (0–46 years). Cardiac respiratory fitness was performed by maximum capacity cycle ergometer testing, and divided into three groups, high, medium and low. There was a significant relation between low cardiorespiratory fitness and incident psoriasis and psoriasis arthritis, respectively, HR 1.28, 95% CI 1.20–1.37, and HR 1.40, 95% CI 1.23–1.58, which persisted after adjustment for potential confounders. There was also a

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significant relation between intermediate cardiorespiratory fitness and incident psoriasis and psoriasis arthritis, respectively, HR 1.15, 95% CI 1.11–1.18, and HR 1.16. 95% CI 1.10–1.23, which also persisted after adjustment for potential confounders. *Conclusion:* Low cardiorespiratory fitness increased the risk for psoriasis and psoriasis arthritis in this longitudinal study of young men. These results reinforce previous findings of the importance of maintaining a healthy metabolic status in relation to psoriasis symptoms and prognosis and more importantly, if causal, indicates that the risk of newly-onset psoriasis is dependent of physical fitness in early age.

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P5

APREMILAST TREATMENT OUTCOMES IN SWEDISH PATIENTS WITH PSORIASIS: A REAL-WORLD ANALYSIS WITHIN THE APPRECIATE STUDY

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Background: APPRECIATE, a multinational, retrospective, cross-sectional study of patients with psoriasis treated with apremilast in clinical practice, assessed patient characteristics, treatment outcomes, and benefits as perceived by patients and physicians. *Method:* Patients with chronic plaque psoriasis treated in clinical practice who could be contacted 6 (±1) months after apremilast initiation were enrolled. Patient characteristics, DLQI, BSA, and PASI were obtained from medical records. Treatment outcome was evaluated using the Patient Benefit Index (PBI) and patient/physician questionnaires. Analyses of 75 patients from 15 sites across Sweden were performed, and comparisons were made with the full European cohort (i.e., 480 patients from 6 countries, including Sweden) using descriptive statistics. *Results:* In Sweden, 52% of patients were female (mean age 55.9 years, mean disease duration 19.2 years); in the European cohort, 46% of patients were female (mean age 51.3 years, mean disease duration 18.6 years). At baseline, mean (SD) scores in the Swedish vs. European cohorts were: DLQI, 10.4 (8.6; $n=15$) vs. 13.4 (7.5; $n=205$); BSA, 17.3 (17.2; $n=11$) vs. 25.4 (23.5; $n=141$); and PASI, 8.6 (4.5; $n=40$) vs. 12.5 (8.4; $n=350$). At 6 (±1) months' follow-up, 64% of patients ($n=48$) continued apremilast vs. 72% ($n=347$) in the European cohort. At follow-up, mean (SD) scores in the Swedish vs. European cohorts were: DLQI, 3.6 (4.7; $n=14$) vs. 5.6 (6.3; $n=141$); BSA, 4.5 (5.6; $n=11$) vs. 8.4 (12.0; $n=124$); and PASI, 3.8 (3.6; $n=32$) vs. 4.4 (5.0; $n=271$). Based on physician ratings, many patients in Sweden showed improvement in overall clearance of plaque psoriasis (69%) and specific manifestations of psoriasis such as scalp (64%), nail (72%), and palmoplantar psoriasis (73%). In the European cohort, 76% of patients showed improvement in overall clearance of plaque psoriasis and 72%, 68%, and 76% showed improvement in scalp, nail, and palmoplantar psoriasis, respectively. Among patients continuing therapy at follow-up, physicians' expectations regarding treatment success were met/exceeded in 85% of patients in Sweden vs. 92% in the European cohort. In Sweden, 85% of patients reported treatment benefit (PBI ≥1) with apremilast vs. 91% in the European cohort. Common AEs were diarrhoea (35% and 19%), nausea (25% and 14%), headache (17% and 9%), and fatigue (8% and 3%). *Conclusion:* Notable improvements in disease severity, quality of life, and patient benefits, as well as in specific manifestations of psoriasis associated with high disease burden, were observed 6 (±1) months after apremilast initiation in Sweden and in the European cohort.

P6

LICHEN STRIATUS: A CASE REPORT

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Background: Lichen striatus is a relatively uncommon, acquired, asymptomatic, and self-limited linear inflammatory skin disease that in most cases affects children. The rash is typically unilateral, follows the lines of Blaschko and is mostly observed in extremities. The disease substrate is abnormal keratinocite, which may remain silent until a triggering event, such as a viral infection, vaccine, trauma, pregnancy, a hypersensitivity reaction or medication, causes an autoimmune response. This article presents a case report of the patient with lichen striatus, which

manifested in adulthood. *Method:* A 22-year-old woman presented with a 5-month history of cutaneous unilateral eruption on her left breast and left upper arm to Vilnius University Hospital Santaros Klinikos, Centre of Dermatovenereology for patch testing. The previous treatment at the outpatient department with local corticosteroids, antifungal ointments, antibiotics and emollients had no positive effect, – therefore, – patch testing was planned. Clinical examination revealed asymptomatic small pinkish-coloured, slightly scaling flat-topped papules located unilaterally beginning from the left aureola and extending to the armpit and inner surface of the upper arm. Patch testing established sensibilization to nickel. Yet, the eruption itself was not typical for an allergic reaction. Due to the distribution of the rash along the line of Blaschko, differential diagnosis included nevus ILVEN, lichen aureus and lichen striatus. Histology revealed pronounced uneven hyperplasia of epidermis, hypergranulosis, hyperkeratosis, vacuolization of basal keratinocytes and a sparse necrosis of keratinocytes along with abundant focal lichenoid MMN infiltration in papillary dermis. There were no signs of purpuric dermatosis (extravasation of red blood cells) or ILVEN (psoriasiform lesion). The diagnosis of Lichen striatus was established. The triggering event, which could be the cause of the autoimmune response, remained unclear. *Results:* As lichen striatus is a benign, self-limited and commonly completely asymptomatic disease. Yet in our case, the lesion was pruritic, therefore treatment with local corticosteroids cream was prescribed. Patient was informed that the eruption may resolve spontaneously in several months without scarring, leaving a transient hypopigmentation. *Conclusion:* Lichen striatus is a relatively rare disease, which can sometimes be confused with other skin diseases. This illness in most commonly seen in children, and if the eruption is observed along the lines of Blaschko, dermatologists should not forget the possibility, that it might be lichen striatus.

P7

EFFECT OF HERRING ROE LIPIDS ON MILD PSORIASIS (PASI<10). A 26-WEEK RANDOMIZED DOUBLE-BLIND PLACEBO-CONTROLLED STUDY

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Background: Omega-3 fatty acids have in many studies been found to have anti-inflammatory properties. Former RCT with marine lipids in psoriasis have typically been done with different fish oils mainly on triglyceride (TAGs) or ethyl esters (FAEE) form and not as phospholipids. So far, results have been inconclusive even though some positive effects have been seen after intravenous administration. In this study, we wanted to assess the effects of orally administrated herring roe lipids, which to a large extent (1/3) contain different phospholipids esterified to omega-3 fatty acids, in systemic treatment of psoriasis. *Method:* Sixty patients with psoriasis with PASI < 10 (PASI: between 3.4–9.9) were included. The participants were randomized 1:1 to either receive placebo (MCT oil) or herring roe lipids. Primary end point was mean percentage change in PASI score from baseline to week 26. A long range of secondary endpoints were also included such as BSA, DLQI and several self-reported VAS scores (itch, pain in psoriasis skin lesions, tingling/burning sensation in the psoriasis skin lesions and experienced disease activity in the skin). No other systemic treatment or UV treatment was allowed. After week 26 all patients were transferred to an open label extension study for another 9 months. *Results:* Patients receiving herring roe lipids achieved 31.9% reduction in the PASI score compared to 8.5% reduction in the placebo group after week 26 ($p < 0.05$). Corresponding figures for BSA was 20% reduction and 4.9% increase respectively. Patient reported outcome measures in the intervention group vs placebo group were reduced by: DLQI: 24% vs 9%, itching: 38% vs 18%, pain in psoriasis skin lesions: 22% vs 3%, tingling/burning sensation in the psoriasis skin lesions: 28% vs 23% and experienced disease activity in the skin: 34% vs 17%. None of the secondary endpoints reached statistical significance after week 26. Further improvements in PASI were achieved in the open label part of the study inclusive many of the secondary endpoints ($p < 0.05$). *Conclusion:* Monotherapy with extract from herring roe lipids met the primary endpoint and reduced mean PASI score compared to placebo ($p < 0.05$) in patients with mild psoriasis. This is the first study that has demonstrated this effect when the lipids were taken orally.

P8*

LONGITUDINAL CHANGES IN AEROALLERGEN SENSITIZATION IN ADULTS OVER 15 YEARS OF FOLLOW-UP

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Background: Allergic diseases are a major health concern in adults and cause burden both to the individual and the society, especially if treated inadequately (1, 2). However, there are few longitudinal studies on sensitization to aeroallergens in adult population (3).The aims of the present study were to evaluate sensitization to common aeroallergens (birch, timothy, cat) and house dust mite (HDM) in an unselected adult population

by sex and to study changes in sensitization between 31 and 46 years of age. *Method:* A cohort of unselected adults born in 1965-67 were skin prick tested (SPT) with birch, timothy, cat and house dust mite allergens in 31- and 46- year follow-up studies, (n=5,484 and 5,373 respectively). SPTs were conducted to 3409 participants at both time points (4). *Results:* Overall sensitization was 30.3% (n=1,661) in 31-year-olds and 30.7% (n=1,649) in 46-year-olds. At both ages sensitization to birch was most prevalent. In the latter study birch accounted for 16.9%, followed by timothy 15.9% and cat 15.4%. Sensitization to HDM was found in 4.8%. At the age of 46, overall sensitization in men reached 33.2% and in women 28.7% (p=0.0004). Polysensitization occurred in 15.4% of the cases at the age of 31 and 14.9% at the age of 46 and was more prevalent in men. In the longitudinal study (n=3,409) overall prevalence was similar at both time points to that in the larger study population. 66.1% of women and 61.7% of men stayed non-sensitized. New sensitization occurred in 7.7% of women who had no sensitization at the age of 31 and in 6.5% of men, respectively. Most prevalent single new onset sensitizer was birch, 5.1% of women and 4.1% of men. Sensitization to cat disappeared most often, 4.4% in women and 4.2% in men. *Conclusion:* Sensitization to birch, cat and timothy was common even at 46 years of age. Sensitization to HDM decreased. Overall sensitization stayed stable between 31- and 46-years of age. Men were more sensitized than women at both time points. Polysensitization was also more common in men. New onset sensitization occurred most often to birch and sensitization to cat disappeared most often.

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P9

ACUTE URTICARIAL HYPERSENSITIVITY SYNDROME PRESENTING AS AN ANNULAR SHAPED RASH IN AN INFANT: A PRESENTATION OF AN ILLUSTRATIVE PEDIATRIC CASE

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Background: Rashes in infants are a common condition that leads to referral to the pediatric ward. The correct clinical diagnosis of the rash can be a difficult task even for experienced dermatologists and numerous differential diagnoses need to be considered when an infant presents with a rash. *Method:* A 2-year-old boy was referred to the pediatric ward with a three-day long pruritic annular rash on the body. Before referral, the boy had been suffering from a bacterial tonsillitis and was treated with cefoxitin (30 mg/kg body weight/day for 7 days). At the admission, no fever was noticed and the capillary C-reactive protein was 1.74 mg/dl (normal range <0.5 mg/dl). Clinical photos were obtained. *Results:* The boy presented with an annular, generalized rash with central clearing that resolved within hours. The rash was associated with angiooedema of the feet with the consequence that the boy was not able to walk for several days. The boy was diagnosed with acute urticarial hypersensitivity syndrome. Treated with desloratidine oral solution (0.5 mg/ml) 2.5 ml once daily was initiated and within 2 days the rash had faded and a full resolution of the angiooedema was observed. The boy was able to walk within 24 h after initiated treatment. *Conclusion:* Urticaria is a common condition in infants, most often triggered by viral or bacterial infections. Acute urticarial hypersensitivity syndrome is considered a subtype of urticaria and is especially seen in early childhood. The condition is often confused with erythema multiforme, but is self-limiting and there is a rapid resolution when treatment with antihistamines are initiated. It is a clinical diagnosis and a skin biopsy is not needed. Acute urticarial hypersensitivity syndrome can be made on clinical ground and can be distinguished from urticarial vasculitis by the evanescent nature of the lesions and rapid resolution.

Poster session 2

P10*

DID THE INTRODUCTION OF SVF LEAD TO SHORTER WAITING TIMES FOR PATIENTS WITH MELANOMA?

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Background: In 2016, a nationwide standardized protocol (SVF) was introduced for the management of melanomas in Sweden. Management checkpoints were introduced, and tolerable time intervals stated. It is well known that melanomas are often discovered en passant in patients seeking care for other reasons [1], thereby bypassing the protocol. The aims of this study were to measure the effect of the standardized protocol, in terms of changes in waiting time from referral or discovery to primary surgery and to characterize where and how the melanomas were discovered. *Method:* All medical records of melanomas (including *in situ* and lentigo maligna) excised at the Department of Dermatology, Helsingborg Hospital, Sweden during 2015 and

2017 were reviewed. Date of referral and surgery together with a note of how the tumour was discovered, i.e. by referral, en passant during skin exam, by monitoring high risk melanoma patients or other cause were recorded. Waiting times, defined as days from clinical diagnosis to surgery were calculated for each year, respectively. The date of clinical diagnosis was set to referral date from primary care or discovery of the suspected melanoma at Dermatology Department respectively. *Results:* A total of 121 melanomas were excised in 2015, and 175 in 2017. Mean waiting time from referral to surgery was 33.2 days (95% CI: 26.51–39.89) in 2015, compared to 21.6 (95% CI: 16.64–26.56) in 2017. Tumours discovered en passant had a mean waiting time of 23.2 (95% CI: 14.9–31.53) in 2015 vs. 10.8 (95% CI: 5.5–16.1) in 2017, while melanomas discovered in high risk patients waited 20.5 (95% CI: 4.2–26.8) days in 2015 vs. 15.1 (95% CI: 7.38–22.82) days in 2017. Forty-eight percent of melanoma cases were referred for the specific lesion during both studied years. However, 27.3% (2015) and 35.4% (2017) were discovered en passant. Reason for visit was most commonly other skin tumour (78.9%, both years combined), followed by general nevus check-up (13.7%) and inflammatory skin diseases (7.4%). Melanomas diagnosed in high risk patients constituted 23.1% (2015) and 13.7% (2017). Compared to nationwide reporting [2], our results differ in numbers, as this study has reviewed every medical record, not only those included in SVF. *Conclusion:* Notably, approximately 30% of melanomas were discovered en passant, thus bypassing parts of SVF. We showed a trend of shorter waiting time to surgery for all groups after the introduction of SVF which supports the importance of a standardized protocol for malignant skin tumours.

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P11*

FACTORS ASSOCIATED WITH INCOMPLETE SURGICAL REMOVAL OF BOWEN'S DISEASE

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Background: Bowen's disease (BD) is a premalignant skin neoplasm, restricted to the epidermis. The incidence of BD is rapidly increasing in Sweden along with a growing economic burden due to health costs. The tumor is commonly dealt with by numerous different medical specialties, such as dermatologists, general practitioners, plastic surgeons and otorhinolaryngologists. One common treatment is surgical excision, but to date only one study has investigated the safety margins for BD. There is no international consensus on the most appropriate margin. The aim of this study was to examine what factors affect the rate of incomplete surgical removal of Bowen's disease. *Method:* In this retrospective study, data was investigated on all surgically excised tumors, which were analyzed and classified as BD by pathologists at Sahlgrenska University Hospital during 2014 and 2015. Demographical data and surgical outcome (complete or incomplete excision), together with a number of variables hypothetically linked to surgical outcome, were obtained from patient's journals and histopathological reports. Data was analyzed with two definitions of complete excisions: strict (i.e. no dysplasia present at the surgical margin) and less strict (no BD present at the surgical margin). *Results:* In total, 463 BD lesions among 408 patients were included. Four factors were associated with significantly higher rates of incomplete excision using the strict definition: surgical margins <3 mm, location on the head and neck area or the upper extremities, a large tumor diameter and less experienced surgeons. With the less strict definition only two factors were associated with significantly higher rates of incomplete excision: surgical margins <3 mm and less experienced surgeons. The surgeon's speciality was not associated with the rates of incomplete excisions regardless of the definition. Furthermore, diagnostic accuracy was low (32% including differential diagnoses) for all specialties. *Conclusion:* This study provides essential insights into factors associated with worse surgical outcome for BD: small surgical margins, tumor location and diameter and the surgeon's experience.

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P12*

INFLAMMATION BIOMARKERS AND CORRELATION TO WOUND STATUS AFTER FULL-THICKNESS SKIN GRAFTING

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Background: A surgical site infection (SSI) is believed to be the result of an exaggerated inflammatory response. The aim of this study was to examine the relationship between clinical status and inflammation biomarkers in full-thickness skin grafting wounds. *Method:* Twenty patients planned for facial full-thickness skin grafting were enrolled. A week after surgery,

all graft wounds were clinically assessed using a 3-step scale for inflammation (low, moderate, high). All wounds were swabbed for microbiota analysis. Tie-over dressings from all patients were collected and used for wound fluid extraction and subsequent analysis of inflammatory biomarkers. *Results:* Wounds with a high degree of inflammation had a significantly higher total protease activity ($p \leq 0.0001$) in their corresponding fluids. IL-6, TNF-α and bacterial colony-forming unit levels were also significantly higher in highly inflamed wounds compared to wounds with a low degree of inflammation ($p \leq 0.05$, $p \leq 0.001$, and $p \leq 0.01$, respectively). NF-κB release from THP-1 cells was significantly higher when these were stimulated by wound fluids with a high degree of inflammation ($p \leq 0.0001$). Growth of *S. aureus* in wounds did not vary between wounds with different inflammation degrees (chi-square 3.8, $p = 0.144$). *Conclusion:* Biomarkers analysed from tie-over dressings correlated to clinical wound healing in full-thickness skin grafting.

P13

EIGHTEEN MONTHS OF PROSPECTIVE FOLLOW-UP. MEASURING HRQOL (HEALTH RELATED QUALITY OF LIFE) AS A PREDICTIVE FACTOR FOR FURTHER TREATMENT DECISIONS

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Background: Measuring HRQoL in chronic and relapsing diseases as eczema is the way to ensure that treatment plans and evaluations focus on the patient rather than the expression of the disease. DLQI (Dermatology Life Quality Index) at baseline and its change over time were assessed as a predictor to identify eczema patients who need intensified treatment because of worsened eczema. *Method:* A prospective longitudinal study of a cohort of 46 patients with hand eczema or atopic dermatitis were recruited from two dermatology centers. Doctor visit was planned at the baseline for evaluation and optimization of treatment. Regular DLQI assessments every 3 months until the end of follow-up with a planned doctor visit after 18 months. Patients were asked to return to dermatology clinic for re-evaluation by a dermatologist when their eczema was worsened. Information regarding the need for intensified treatment was gathered from the patients' medical records. *Results:* 41% (19 of 46) seeked dermatology clinic because of worsened eczema and get intensified treatment. There was an association between baseline QoL and the need for intensified treatment. Logistic regression showed patients with QoL correlates with moderate to extreme effect on patients' life at baseline have OR of 4.7 (CI 1.2–17.9, $p = 0.02$) in need of intensified treatment compared to those who have no or small effect at baseline. Kaplan-Meier survival probability estimated 12 months to seek health care for intensified treatment for the group with moderate to extreme effect on patients' life at baseline compared to 19 months to group with no or small effect, the difference is statically significant. For group with moderate to extreme effect on life at baseline 27 patients, there was a significant association between DLQI change by MCV(minimal clinical value) at every three months and the need to intensify treatment. Logistic regression showed increasing with MCV increases the odds by 17.1 (CI 95% 5.6-55.7) $p = 0.000$ to intensified treatment compared to patients with no change or lowered DLQI. Using change in DLQI by MCV as a screening tool at every three months gives a high negative predictive value 92.80% (CI 88.61% to 95.53%) and therefore minimum number of patients, who need intensified treatment, would be misclassified. *Conclusion:* Measuring QoL gives a prognostic information regarding worsening of eczema which need intensified treatment. We recommend using DLQI in clinical praxis for eczema patients in order to identify patients with low QoL for periodical follow-up.

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P14

THE EFFECTS OF DEAD SEA CLIMATOTHERAPY ON PSORIASIS; A COHORT STUDY

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Background: Psoriasis is a chronic and relapsing inflammatory skin disorder. Dead Sea climathotherapy (DSC) is used as a treatment option for psoriasis patients. However, the treatment response of DSC has not been particularly well studied. We sought to determine the effectiveness of DSC on certain psoriasis-related outcome parameters on a Danish cohort.
Method: Eighteen patients were treated with DSC for 4 weeks in Israel. Psoriasis Area and Severity Index (PASI), 5-point Investigator's Global Assessment (IGA), Nail Psoriasis Severity Index (NAPSI), Nail Assessment in Psoriasis and Psoriatic Arthritis (NAPPA), Dermatology Quality of Life Index (DLQI), and EuroQol - 5 Dimensions - 3 Levels (EQ-5D-3L) questionnaire (consisting of the EQ-5D descriptive system and EQ-VAS (EuroQol - Visual Analogue Scale)) were acquired both before and after DSC and at reappearance of visible signs of psoriasis. *Results:* DSC was effective in significantly improving PASI, IGA, DLQI and EuroQol parameters immediately after treatment. We observed a mean PASI improvement of 88.3% and complete clearance in 10 patients. Among patients achieving complete clearance the mean time from treatment end to the appearance of skin symptoms was 93.8 days (SD: 62.5, range: 31–219 days). The mean IGA reduction was 77.7%, DLQI showed an improvement of 86.4%, EQ-5D descriptive values

improved by 12.2%, and EQ-VAS was improved by 24.6%. DSC was ineffective in the short term for significantly improving nail parameters. We observed a non-significant trend in improvement of mean NAPSI values at first visible signs of psoriasis. *Conclusion:* This study confirms that DSC is a good treatment option for psoriasis patients giving satisfactory short-term treatment results. Future studies should include more follow-up points to investigate the long-term effects of DSC on psoriasis.

P15

AUTOMATICALLY ACQUIRED IMAGES FROM PSORIASIS PATIENTS TREATED WITH DEAD SEA CLIMATOTHERAPY ILLUSTRATES A NON-RANDOM PLAQUE-SITE REOCCURRENCE

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Background: Psoriasis is a chronic inflammatory skin disease characterized by scaly well-demarcated plaques. Dead Sea climatotherapy (DSC) has been used successfully for many years as a treatment approach to psoriasis. DSC often results in complete clearance. It is well recognized, though never quantified, that a relapse of plaque location occurs in previously affected sites after the secession of treatment. The aim of this study was to evaluate the effects of DSC on visible plaque-site-specific reoccurrence of psoriasis after the secession of DSC among patients who achieved complete clearance after DSC. *Method:* Six patients with moderate to severe plaque type psoriasis were included. Automated Total Body Mapping (ATBM) images were acquired both before- and after DSC, and at first visible signs of psoriasis. ATBM images were acquired using the FotoFinder Body-studio ATBM. Patients were encouraged to assume different poses for automatic image acquisition creating a total of 16 pictures per patient at each visit. Digital images were then transferred to Adobe Photoshop® CC 2017 and plaques were manually marked and overlaid. Subsequently, for each picture a ratio was calculated, both based on the overlapping lesional area before treatment and at first visible signs of psoriasis and based on the lesional area compared to body surface area (BSA). *Results:* Among the 6 patients who achieved complete clearance, our results showed that 60.2% (SD: 23.6, range: 34.7% to 94.3%) of the new plaque area reappeared inside of the location of former plaques. The lesional area before DSC covered 14.1% (SD:17, range: 1.56% to 46.45%) of the BSA. At first visible signs of psoriasis the lesional area covered 8.2% (SD: 16.4, range: 0.07% to 41.58%) of the BSA. *Conclusion:* This is the first study investigating the plaque-site specific reoccurrence of psoriasis using an ATBM system. Furthermore, we present a method which allows for the study of plaque-site specific reoccurrence of psoriasis and other relapsing skin diseases. This novel method illustrates that psoriasis lesions re-appear in a non-random manner.

P16

VIRULENCE-ASSOCIATED FACTORS IN STAPHYLOCOCCUS AUREUS STRAINS COLONIZING LESIONAL SKIN AND RELATION TO SEVERITY OF ATOPIC DERMATITIS

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Method: Severity of atopic dermatitis (AD) related to *S. aureus* colonization on lesional skin and to its virulence traits was investigated in 21 patients through repeated quantitative cultures and SCORAD evaluation during a five-month follow-up. *S. aureus* isolates were typed at strain level using pulse-field gel electrophoresis (PFGE). A range of *S. aureus* virulence genes including adhesins, toxins and the accessory gene regulator (agr), which controls virulence gene expression, was identified by multiplex polymerase chain reaction (PCR) assays. *Results:* Fifteen out of 21 patients were colonized with *S. aureus* on lesional skin at one or more visits and 13/21 were colonized at two or more visits. Individual patients were persistent carriers of the same strain determined by PFGE. Almost all patients (6/7) with severe AD were colonized with *S. aureus* strains positive for agr group II, whereas only one patient (1/7) with mild-moderate AD was colonized with an agr group II strain. Combining PFGE-types and virulence factor profiles there were 15 unique strains on lesional skin of patients with severe AD and 12 unique strains on lesional skin of patients with mild-moderate AD. The virulence genes tst, eta, pvl and seb were only detected in severe AD. Eighty percent (12/15) of *S. aureus* strains in patients with severe AD were positive for fibrinogen-binding protein (fib), whereas only 42% of strains (5/12) in patients with mild-moderate AD were fib +. The mean density of *S. aureus* was higher on lesional skin in severe AD than in mild–moderate AD, 7.3×106 and 2.1×105 colony-forming units (CFU)/cm² respectively. *Conclusion: S. aureus* is believed to trigger and maintain inflammation of the skin in AD. The different types of the quorum-sensing agr system (group I–IV) control expression of virulence genes, of which agr group II has been associated with biofilm formation (1–3). Fibrinogen-binding protein is involved in the adhesion of *S. aureus*, the initial stage of the colonization process, to its host (4). Among our patients, *S. aureus* strains belonging to agr group II that carried fib genes were the predominant colonizer on lesional skin in severe AD, while scarce in mild–moderate AD. The density of these strains on the skin were

higher than the density of the strains found on the skin in mild–moderate AD. The data suggests that adhesin gene fib and agr group II may enhance persistence of *S. aureus* strains on lesional skin thereby aggravating AD. The findings in this small study warrant further investigation.

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P17

PRELIMINARY RESULTS OF A PROSPECTIVE, BLINDED, PILOT STUDY ON LIQUID-BASED CYTOLOGY FOR DIAGNOSIS OF BASAL CELL CARCINOMA AND ACTINIC KERATOSIS

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Background: Liquid-based cytology (LBC) is fast, easy and inexpensive in use and may prove beneficial as a diagnostic method of non-melanoma skin cancer ahead of non-invasive treatment methods (1–3). The aims was to evaluate the quality of LBC test as a diagnostic tool for basal cell carcinoma (BCC) and actinic keratosis (AK). *Method:* Patients with primary, histologically verified BCC and AK for PDT were recruited. After initial light curettage a Medscand®Cytobrush was for used to collecting cells from the tumours. Cytodiagnostic results were compared with the diagnosis in the histopathology report (the gold standard). *Results:* A total of 24 lesions (12 BCC, 12 AK) was so far included. Sensitivity and specificity of LCB for diagnosis of BCC and AK was 67%, 97% and 58%, 83%, respectively. *Conclusion:* The results suggest that LBC using ThinPrep®Pap test and Medscand®Cytobrush following curettage has a too low sensitivity for routine diagnostic use in BCC and AK.

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P18

RELATIONSHIP BETWEEN BODY WEIGHT, PK/PD AND ATTACK RESPONSE FOLLOWING SUBCUTANEOUS ADMINISTRATION OF LANADELUMAB IN PATIENTS WITH HEREDITARY ANGIOEDEMA

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Background: Lanadelumab is a fully human monoclonal antibody inhibitor of plasma kallikrein (pKal) indicated for prophylaxis to prevent hereditary angioedema (HAE) attacks in patients 12 years and older. Body weight may be an important factor describing variability in lanadelumab exposure. The effect of body weight on the pharmacodynamics and clinical response of lanadelumab in adult and adolescent patients with HAE was explored. *Method:* Data from 84 patients treated with lanadelumab 150 mg Q4W, 300 mg Q4W or 300 mg Q2W for 6 months in the HELP Study were analyzed. Levels of cleaved high-molecular weight kininogen (cHMWK; a product of pKal) and clinical endpoints were assessed in patients with low (46.8–79.9 kg) and high (80.0–150 kg) body weight. *Results:* While average lanadelumab plasma concentrations (Cave,ss) decreased with higher body weight, all values remained markedly above the IC50 (concentration associated with 50% cHMWK inhibition), particularly for the 300 mg Q2W regimen. Minimum cHMWK levels (mean [SD]) were similar among patients on 300mg Q2W with high and low body weight (20.0 [0.488]% and 21.3 [0.857]%, respectively). Pooled data from all dose groups showed that percent attack free days (96.7 [5.10]% and 96.3 [5.23]% for high and low body weight, respectively), average number of attacks (0.477 [0.755] and 0.460 [0.552] attacks/month), and average attack duration (6.35 [0.990] and 6.46 [0.461] h), were similar for patients with high and low body weight. Lanadelumab was safe and well tolerated regardless of body weight. *Conclusion:* Lanadelumab markedly suppressed pKal activation as shown by its effect on cHMWK levels. Optimal clinical responses with a fixed 300 mg Q2W dose regimen were observed in adolescents and adults across a large range of body weights.

taltz® (ixekizumab)

Taltz® (ixekizumab) är en IL-17A hämmare med hög bindningsaffinitet (<3 pM).[1]

Hos patienter med måttlig till svår plackpsoriasis har studier visat:

- att över hälften av patienterna uppnår och bibehåller **läkt hud** (PASI 100) över ett år.[1, 2, 3]
- en **snabbt insättande effekt** med >50 % reduktion av genomsnittligt PASI vecka 2.[1,4]

Taltz är indicerat för behandling av måttlig till svår plackpsoriasis hos vuxna som behöver systemisk behandling samt behandling av aktiv psoriasisartrit hos vuxna patienter som har svarat otillräckligt eller som inte tolererar en eller flera sjukdomsmodifierande antireumatiska läkemedel.

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▼Detta läkemedel är föremål för utökad övervakning

Taltz 80 mg injektionsvätska, lösning (ixekizumab) förfylld injektionspenna, förfylld spruta
ATC-kod: L04AC13, Immunsuppressiva medel, interleukinhämmare
Indikationer: Plackpsoriasis: Taltz är indicerat för behandling av måttlig till svår plackpsoriasis hos vuxna som behöver systemisk behandling. Psoriasisartrit: Taltz, ensamt eller i kombination med metotrexat, är indicerat för behandling av aktiv psoriasisartrit hos vuxna patienter som har svarat otillräckligt eller som inte tolererar en eller flera sjukdomsmodifierande antireumatiska läkemedel (DMARD). **Kontraindikationer:** Allvarlig överkänslighet mot den aktiva substansen eller mot något hjälpämne. Kliniskt betydelsefulla aktiva infektioner (t.ex. aktiv tuberkulos). **Varning:** Behandling med Taltz förknippas med ökad infektionsfrekvens t.ex. i form av övre luftvägsinfektioner, oral candidos, konjunktivit samt Tinea-infektioner. Allvarliga överkänslighetsreaktioner, inklusive några fall av angioödem, urtikaria och, sällsynt, fördröjda (10–14 dagar efter injektionen) allvarliga överkänslighetsreaktioner inkluderande utbredd urtikaria, dyspné och höga antikroppstitrar, har rapporterats. Fall av nyinsjuknande i eller exacerbationer av Crohns sjukdom och ulcerös kolit har rapporterats. Taltz ska inte användas samtidigt med levande vacciner. **Datum för översyn av produktresumén:** 2018-07-30. **För ytterligare information och priser se** www.fass.se. Rx, (F) **Begränsning av subvention:** Subventioneras endast för behandling av vuxna patienter med:

– måttlig till svår plackpsoriasis som inte svarat på systemisk behandling såsom ciklosporin, metotrexat eller PUVA (psoralen och ultraviolett A), eller när intolerans eller kontraindikationer föreligger mot sådana behandlingar.
– aktiv psoriasisartrit som behandlats med en TNF-hämmare eller där detta inte är lämpligt.

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Poster session 3

P19*

NEUROFIBROMATOSIS TYPE 1: INCREASED CANCER RISK AND REVISED DIAGNOSTIC CRITERIA

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Background: Neurofibromatosis 1 (NF1) is one of the most common genodermatoses and the most common monogenic cancer predisposition syndrome. The diagnosis is mainly based on dermatological findings: Café au lait spots, skin fold freckling and neurofibroma tumors. Diagnostic criteria of NF1 have been defined in 1987 in NIH consensus conference, but an international effort to update the criteria has been ongoing in 2018. The new criteria aim at better specificity of diagnosis also by inclusion of molecular diagnostics. The revised criteria will be published in 2019. *Method:* We have collected a total population based Finnish cohort of 1,410 NF1 patients, and carried out a series of epidemiological studies on incidence, prevalence and cancer risk. To study cancer risk in NF1, a cohort of 1404 NF1 patients (20,248 person-years of follow-up) by was cross-referenced with the Finnish Cancer Registry. *Results:* The results showed that the incidence of NF1 is higher than previously believed, about 1/2,000. The analyses also suggest that a marked number of adult NF1 patients may still be undiagnosed. NF1 causes increased mortality, mainly associated with cancer, but also of cardiovascular reasons. The lifelong cancer risk is 60%, and 25% of patients have cancer under age 25 years. The risk is higher in women, of whom 45% have cancer before age 50 years while in men the percentage is 32. The sex difference is mainly caused by a 10-fold risk of breast cancer in women under 40 year. NF1-associated breast cancer is at more advanced stage at diagnosis and has poor prognosis. NF1 is associated with more that 1000-fold increased risk of malignancies of peripheral nervous system. Malignant peripheral nerve sheath tumors (MPNSTs) typically arise from plexiform neurofibromas, but not from cutaneous neurofibromas. MPNSTs cause mortality already in adolescence and are the most common cause of death in young adults with NF1. Tumors of the central nervous system are especially common in childhood, with standardized incidence ratio of 115. Our results also demonstrate that childhood leukemia is not a frequent complication of NF1. *Conclusion:* The results emphasize the potential severity of NF1. Dermatologists are in key position for diagnosing NF1. When meeting patients for removal of cutaneous neurofibromas, we can assure the patient that these tumors never undergo malignant transformation. However, we should ensure that the patient is aware and well informed of his or her NF1, and has an adequate follow-up for cancer risk and other potential complications.

P20

LONG-TERM SAFETY EXPERIENCE OF IXEKIZUMAB: RESULTS FROM MORE THAN 3 YEARS OF FOLLOW-UP AND MORE THAN 15,000 PATIENT-YEARS OF EXPOSURE TO IXEKIZUMAB

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Background: Ixekizumab (IXE) is a high-affinity monoclonal antibody that selectively targets interleukin (IL)-17A, and has shown substantial clinical effect in patients with psoriasis, with a short-term safety profile consistent with and comparable to that of high-dose etanercept (UNCOVER-2 and -3). We recently presented our long-term update on >12,000 patient-years (PY) revealing a consistent safety profile over time. Here we summarise integrated safety data from 15,212.5 PY of IXE exposure during 12 clinical trials in patients with moderate-to-severe plaque psoriasis. *Method:* Treatment-emergent adverse events (TEAE) data were integrated from 12 IXE psoriasis trials. Exposure-adjusted incidence rates (IRs) for TEAEs per 100 PY of IXE exposure were summarised through 168 weeks. *Results:* A total of 5,871 patients received IXE (4,640 for ≥1; 3,201 ≥2; 2,981 ≥3 years), giving 15,212.5 PY. TEAEs occurred with an IR of 228.0 during Weeks 0–12, and decreased/remained similar in subsequent 12-week intervals (IR 118.1 during Weeks 156–168). IRs for infections, injection-site reactions, allergic reactions/hypersensitivities and malignancies during Weeks 0–12 decreased/remained similar through Weeks 156–168. IRs (all treatment periods) for adverse events leading to treatment discontinuation, serious adverse events and deaths were 2.8, 5.6 and 0.2, respectively. IRs for serious infections, oral candidiasis, major adverse cerebro-cardiovascular events, non-melanoma skin cancer, malignancies excluding NMSC and inflammatory bowel disease ranged from 0.2 to 1.3. *Conclusion:* The safety profile of IXE up to 3 years is consistent with previous reports, with no evidence of cumulative toxicity.

P21

PATIENT SATISFACTION WITH MOBILE TELEDERMOSCOPY IN GENERAL PRACTICE FOR DIAGNOSING NON-MELANOMA SKIN CANCER AND MALIGNANT MELANOMA

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Background: The increasing incidence of non-melanoma skin cancer (NMSC) and malignant melanoma (MM), long waiting

lists for consultations and the need for savings in the health care system calls for alternative ways to triage and diagnose these diseases. Suspicious skin lesions are primarily diagnosed visually, making the use of teledermoscopy suitable. Before implementation of teledermoscopy the accuracy of the diagnosis and the clinician's and patient's satisfaction needs to be evaluated. Several studies from other countries have reported high patient satisfaction with teledermatology (1). *Objectives:* To evaluate patient satisfaction with teledermoscopy for diagnosing NMSC and MM in general practice in the region of Southern Denmark, and to identify factors influencing patient satisfaction. *Method:* Approximately 500 patients were recruited from the study "Evaluation and implementation of teledermoscopy in General Practice" which compares the diagnosis of suspicious skin lesions achieved by teledermoscopy in general practice with a traditional face-to-face consultation by a dermatologist. Data for this study were collected using a quantitative questionnaire. The questionnaire contained questions adapted from previous studies (2–6) together with new developed questions as no validated questionnaires on this topic exist. Before sending the questionnaire it was pilot tested in 5 patients and they were subsequently interviewed to ensure the understanding and relevance of the questions. These 5 patients were afterwards excluded from the study. After the pilot test in patients the questionnaire was peer-reviewed by 3 dermatologists. The questionnaires were sent digitally to the recruited patients 4 weeks to 11 months after their consultation at the Department of Dermatology and Allergy Centre at Odense University Hospital. If the questionnaire was not completed within 2 weeks the patient received a reminder to complete the questionnaire. *Results:* Collecting of data is still on going until February 2019. *Conclusion:* As in earlier studies, we expect patient satisfaction with teledermoscopy to be high. We furthermore expect that satisfaction with teledermoscopy may be related to age, travelling time and familiarity with using a smartphone/tablet.

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P22

INDIRECT COMPARISON OF IXEKIZUMAB VERSUS GUSELKUMAB UP TO WEEK 12

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Background: Biologics are effective for the treatment of psoriasis, but head-to-head studies comparing the efficacy of recently approved biologics are lacking for certain comparators of interest. *Method:* We indirectly compared psoriasis clinical trial efficacy data between ixekizumab (IXE), a selective interleukin (IL)-17A antagonist, and guselkumab (GUS), a recently approved IL-23 p19 inhibitor. We used adjusted indirect comparison Bucher method (BU) and two modified Signorovitch methods (SG) to compare IXE 80mg every 2 weeks (IXEQ2W) to GUS 100mg (week 0, 4, 12) via the common comparator (bridge), placebo, with respect to Psoriasis Area Severity Index (PASI) response rates over first 12 weeks. *Results:* Using BU, PASI75 response rate at week2 for IXEQ2W was 20.0% higher than GUS ($p<0.001$) 95%CI: 17.3, 22.5. Response differences (RDs) for IXEQ2W vs. GUS were 31.1% (95%CI: 25.0, 37.1) at week4 ($p<0.001$); 14.6% (95%CI: 8.3, 20.7) at week 8 ($p<0.001$); and 8.3% (95% CI: 2.4, 14.1) at week 12 ($p=0.005$). PASI90 RDs for IXEQ2W vs. GUS were 21.7% (95% CI: 18.8, 24.5) at week 4; 20.8% (95% CI: 14.8, 26.8) at week 8; and 12.4% (95% CI: 6.0, 18.6) at week 12 (all $p<0.001$). PASI100 RDs were 7.3% (95% CI: 5.7, 8.9) at week 4; 15.6% (95% CI: 11.7, 19.5) at week 8; and 16.4% (95% CI: 11.2, 21.6) at week 12 (all $p<0.001$). With regard to PASI90 response rates differed significantly, favoring IXE over GUS at all time-points up to week 12. SG approaches were consistent with BU results. *Conclusion:* This indirect comparison indicates IXE might provide clinical benefits over GUS in terms of onset of action and higher levels of skin clearance up to week 12.

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NIVOLUMAB-INDUCED BULLOUS PEMPHIGOID IN A PATIENT WITH METASTATIC MELANOMA: A CASE REPORT

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Background: Immune checkpoint inhibitors, such as nivolumab, a programmed cell death receptor (PD-1) inhibitor, are increasingly used in patients with metastatic melanoma. The adverse effects associated with these drugs are not fully explored. *Method:* Case report: A 75-year old male patient with past medical history of diabetes mellitus, hypertension, gout and suspected cancer prostate was diagnosed with malignant melanoma with metastases to the brain. His brain metastases were operated followed by two sessions of stereotactic body radiation therapy and methylprednisone 4 mg/day. In following months, the patient developed multiple metastases to the lungs and was considered inoperable. Treatment with nivolumab 240 mg intravenously every two weeks was initiated with some effect. After 12 months, the treatment was discontinued due to the patient's poor overall condition with fatigue and nausea. Nine weeks later, the patient developed generalized exanthema with multiple haemorrhagic bullae as well as erosions on the lips. Paraneoplastic pemphigus was suspected. Skin biopsy showed subepidermal bullae with partially necrotic epidermis. Immunofluorescence examination showed linear deposition of IgG and C3 along the basement membrane. Blood samples contained high levels of anti-BP180 titer >200, confirming the diagnosis of bullous pemphigoid. The patient was treated with topical clobetasol 0.05% cream twice daily with some clinical improvement After 3 months of topical treatment, a flare-up occurred, and the patient was given oral prednisone 80 mg/day with good effect. *Conclusion:* Interpretation: This case report of nivolumab-induced bullous pemphigoid adds to similar single case reports in the literature (1). Clinicians should be aware of this adverse effect in melanoma patients treated with immune checkpoint inhibitors.

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P24

CONTACT DERMATITIS TO XANTHAN IN A KETCHUP AND FOOD DRESSING FACTORY WORKER

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Background: Xanthan gum is a polysaccharide with many industrial uses, including as a common food additive. It is an effective thickening agent and stabilizer to prevent ingredients from separating. It can be produced from simple sugars using a fermentation process, and derives its name from the species of bacteria used, Xanthomonas campestris. Even though it is used often in the food industry it is a very uncommon cause for allergy and it is unknown which part of the large molecule is responsible for developing sensitization in allergic patients. We met a 36-year-old man who complained of upper airway symptoms and itchy skin with a clear relation to being at his workplace where ketchup and food dressings are made. After visiting his work place and investigating the product manufacturing process we learned that xanthan gum is an ingredient used in the process of making ketchup and other dressings to which our patient is exposed, so we to decided to test him for kontakt allergy to xanthan and other ingredients. *Method:* Epicutaneous patch tests with xanthan and other food additives used in the production of ketchup and dressings. *Results:* Positive reactions were seen to xanthan gum and even pepper powder extract. *Conclusion:* We describe the case of a 36-year-old man who developed flu like symptoms including dry cough and itchy skin after working at a company that produces ketchup and other salad and food dressings that contain xanthan gum for one and a half years. Examination by the E.N.T department showed that he had developed swollen vocal cords which required treatment with oral corticosteroid. The patient's symptoms disappeared when he was not working or working in other areas in the company where he was not in direct contact with or near the materials used in making the products. Tests demonstrated that the patient has contact dermatitis to xanthan and pepper powder which led us to beleive that they are the culprits leading to the patient's symptoms.

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P25

PROTEIN EXPRESSION OF KI67 AND TOPOISOMERAS 2α IN BASAL CELL CARCINOMA

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Background: Basal cell carcinoma (bcc) is usually presented as a slow growing tumour (1). However, pronounced heterogeneity

regarding the tumour cells' proliferation have been shown (2). Ki67 is often used as a biomarker to assess proliferation rate. Ki67 protein is expressed in all the active phases of the cell cycle as G1, S, G2 and mitosis. Topoisomeras (topo 2α) is a protein important for DNA replication, transcription and chromosome segregation (3). Topo 2α is expressed mainly in S, G2 and M phase but in several neoplasms also in G1 phase (4). According to recently published microarray data, the topo 2α gene is overexpressed in bcc compared to normal skin (5). The protein expression of topo 2α remains to be evaluated in bcc. In this study we evaluate the protein expression of Ki67 and topo 2α in bcc compared to epithelia, in order to survey cell proliferation. *Method:* Fourteen patients, all diagnosed with bcc at the Department of Dermatology, Örebro University Hospital were included in the present cohort. The tumours were excised and 4 µm sections of formalin-fixed, paraffin embedded tissue were stained with immunofluorescence for Ki67 (FITC) and topo 2α (CY5) and nuclei were counterstained with DAPI. High resolution digital images for each separate filter (FITC/CY5/DAPI) were taken in x20 magnification with Olympus DP74 camera attached to Olympus BX53F microscope. The fluorescent signals were counted using analysis software ImageJ (FIJI). The fractions (%) of Ki67 and topo 2α-expression were calculated in relation to the total number of nuclei by counting three individual images from each patient's bcc, in adjacent epithelia and epithelia from healthy donor skin, respectively. The difference between staining in bcc and epithelia was calculated with Wilcoxon matched-pairs signed rank test and the correlation between Ki67 and topo2α were estimated with Spearman's Rho. *Results:* The expression of Ki67 and topo 2αwere significantly increased in the tumour tissue than in the adjacent epithelia ($p=0.0004$ and 0.0023, respectively), as well in the epithelia from healthy donor skin . Expression rates of Ki67 och topo 2α in bcc were significantly correlated ($p=0.0003$) and Ki67 was expressed to a slightly higher degree compared to topo 2α ($p=0.041$). *Conclusion:* The data in the present study shows a higher proportion of both Ki67 and topo 2α positive cells in bcc compared to normal skin epithelia. These results indicate an increased fraction of active proliferating cells in the bcc compared to normal epithelia.

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P26

MEASURING THE IMPACT OF PSORIASIS

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Background: Psoriasis is a common skin disease with a prevalence approximately 2%. It is considered an immune- mediated and genetic disease. An estimated 7–48% develop psoriatic arthritis. Psoriasis is associated to various diseases such as, metabolic syndrome and cardiovascular disease. Persons with psoriasis are more likely to have other inflammatory diseases like inflammatory bowel disease. In addition to being a physical strain on the body psoriasis is also associated with reduced quality of life, depression and even suicide risk. Disease impact is often measured by Patient reported outcomes (PROM's) such as health related quality-of-life, but may alternatively be assessed through self-reported health status. Our objective was to estimate the impact of psoriasis on Health related quality of life scores (dermatology life quality index (DLQI)) and self-reported health status score. *Method:* Data were collected on the Faroe Islands from February 2012 through summer 2013. All patients diagnosed with psoriasis by a dermatologist from 1973 to 2011 were identified. All persons alive, over 18 and still living in the Faroes were invited. There was a 70% response rate. A total of 711 patients underwent clinical examination and filled in questionnaires. Outcomes were DLQI score and self-rated health related quality of life. The self-rated health was dichotomized, where poor and fair health scored as one and better health scored as zero. Data was analysed using univariate and multivariate linear or logistic regression. We included age, sex, PASI-score, PEST-score, current treatment, socio-economic status, education level, obesity, smoking, and alcohol, in the multivariable model. Results are given as coefficients or odds-ratios (OR) with *p*-values or 95% confidence intervals (CI). *Results:* In the multivariable analysis, higher PASI-score, arthritis (scored using the PEST questionnaire), Inflammatory diseases and smoking were all associated with a higher DLQI score (worse health related quality of life). Increasing age was associated with lower DLQI (improved health related quality of life). In contrast, no direct psoriasis aspects influenced the results, but known psoriasis comorbidities, both metabolic diseases and inflammatory diseases were associated with low general self-rated health. *Conclusion:* The results suggest that disease impact on patient health of the co-morbidities are better assessed though self-reported health status scores, while

psoriasis-specific characteristics are better assessed by a specific health related quality of life score such as the DLQI. It is hypothesized that the results are generalizable to other PROMs.

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P27

LANADELUMAB 300MG EVERY 2 WEEKS EFFECTIVELY PREVENTED HEREDITARY ANGIOEDEMA ATTACKS IN THE HELP STUDY

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Background: Lanadelumab, a highly specific, fully human monoclonal antibody targeting plasma kallikrein, demonstrated sustained and well-tolerated prophylaxis against hereditary angioedema (HAE) attacks in the phase 3 HELP Study (NCT02586805). Three dosing regimens were investigated; here we report further efficacy findings for lanadelumab 300 mg every 2 weeks (q2wks). *Method:* Patients with HAE type I/II, aged ≥12 years, and with ≥1 attack/month at baseline were randomized 2:2:2:3 to lanadelumab 150 mg every 4 weeks (q4wks), 300 mg q4wks, 300 mg q2wks, or placebo. The primary endpoint was the number of investigator-confirmed attacks over the 26-week treatment period (days 0–182). Exploratory analyses included efficacy and AE-QoL during treatment period and steady state (days 70–182; 16 weeks). *Results:* Overall, 125 patients were treated, of which 27 received lanadelumab 300mg q2wks and 41 received placebo. Demographics and baseline characteristics for the lanadelumab 300 mg q2wks group were comparable with the placebo group: mean (SD) age 40.3 (13.4) years, 55.6% female, 51.9% experienced ≥3 attacks/month. Compared with placebo, treatment with lanadelumab 300 mg q2wks significantly reduced mean attack rate and resulted in greater proportions of attack-free patients during days 0–182 and days 70–182 (Table). Meaningful improvement in AE-QoL score was 7.2 times more likely with lanadelumab 300mg q2wks than with placebo. *Conclusion:* Treatment with lanadelumab 300 mg q2wks provided significant, clinically meaningful benefits to HAE patients during the 26-week treatment period, and particularly during the steady-state period, with 91.5% attack reduction versus placebo, 76.9% attack-free (versus 2.7% with placebo), and 92.5% reduction in rescue medication use versus placebo.

Poster session 4

P28

CLINICAL SIGNS OF EPITHELIAL SURFACE DISRUPTION IMPACT PAIN AND SEXUAL HEALTH IN PATIENTS WITH GENITAL PSORIASIS

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Background: This *post-hoc* subset analysis evaluated the impact of erosions/fissures/ulcers on pain and sexual activity in patients with moderate-to-severe genital psoriasis (GenPs) and the effect of ixekizumab (IXE) in the subgroup with these clinical signs of surface disruption at baseline. *Method:* Patients with moderate-to-severe GenPs from a double-blind, randomised, placebo-controlled phase 3 study, receiving either placebo or IXE 160 mg at week 0, followed by IXE 80 mg every 2 weeks (IXEQ2W), were analysed for genital erosions/fissures/ulcers at baseline through week 12. *Results:* At baseline, 38% ($n=57$) patients presented with genital erosions, fissures and/or ulcers. They had significantly higher Genital

Psoriasis Symptoms Scale (GPSS) total (p=0.018), GPSS Pain (p=0.013) and GPSS Discomfort (p=0.043) scores, with significantly higher mean and summary scores for genital pain, stinging and burning (p=0.025) than those without fissures/erosions/ulcers. This subgroup also differed significantly in sPGA-Genitalia score (p=0.002). Differences in GPSS total and GPSS for pain, stinging and burning between subgroups with and without epithelial surface disruption were also significant with an overall body surface area (BSA) involvement <10%. Evaluation of how often genital psoriasis limited frequency of sexual activity at baseline confirmed that patients without fissures/erosions/ulcers were more likely to not be limited sexually by their disease (odds ratio [OR] 4.17 vs. 3.33) with an overall 25% greater OR over 12 weeks. Improvement of genital erosions/fissures/ulcers by IXEQ2W was paralleled by reduced severity in pain and sexual health-related PROs. *Conclusion:* GenPs with erosions/fissures/ulcers contribute to disease severity and impact genital pain and sexual health in patients with moderate-to-severe GenPs even in absence of higher BSA involvement. IXEQ2W improved genital psoriasis severity, genital pain and sexual health.

P29*

GENOME-WIDE ASSOCIATION STUDY OF PSORIASIS SUGGESTS A NEW RISK LOCUS ON CHROMOSOME 10: THE HUNT STUDY

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Background: Psoriasis is a chronic inflammatory skin disease with a complex genetic background. Genetic association studies have identified >60 loci associated with psoriasis across different populations. However, a majority of the genetic risk for psoriasis is yet unexplored. To increase the understanding of genetic variation underlying psoriasis we performed a genome-wide association study (GWAS) followed by bioinformatic functional analyses. *Method:* Genotyping and genome-wide imputation was performed for 4,887 psoriasis cases and 64,535 psoriasis-free controls from the Nord-Trøndelag Health Study (the HUNT Study). We performed a GWAS by testing for association with psoriasis at ~21 M variants using birth year, sex, genotyping batch and the first 4 principal components as covariates while accounting for relatedness among the samples using a logistic mixed model as implemented in SAIGE [1]. A new risk locus was identified and tested for replication in 4,192 self-reported psoriasis cases and 356,949 psoriasis-free controls from the UK Biobank [2]. We performed PheWAS analysis in UK Biobank to test multiple phenotype relationships. We also integrated functional data by querying resources including: 1) RegulomeDB v1.1 and Haploreg v4.1 for evidence of coding or regulatory function, 2) GTEx Portal v7 for tissue-specific gene expression and regulation and 3) differential gene expression in psoriatic skin from our biobank. *Results:* We identified a new risk locus for psoriasis on chromosome 10p15.1 (lead SNP rs12722495; p=7.0 x 10-9) within an intron of IL2RA. The lead SNP replicated at nominal level of significance (p=0.032) in the self-reported psoriasis phenotype in UK Biobank. Using the UK Biobank PheWeb, the lead SNP was amongst others found to be associated with self-reported eczema (p=1.18 x 10–11) in 8,718 cases and 328,441 controls. The lead SNP is within the intronic region of IL2RA, and this gene was up-regulated when we compared lesional with non-lesional skin from patients with psoriasis. It's soluble form, sIL-2R, has been shown as a marker of disease activity in psoriasis [3]. *Conclusion:* We identified a new locus (10p15.1) for psoriasis in a Norwegian population-based cohort, and confirmed association for the lead SNP in self-reported psoriasis in UK Biobank. This locus has previously been identified in a multi-disease GWAS analysis including ankylosing spondylitis, inflammatory bowel disease and psoriasis [4], in pediatric-age-of-onset autoimmune diseases [5] and in allergic diseases [6]. Bioinformatic functional follow-up and literature searches showed a possible role for IL2RA in psoriasis pathogenesis. Future directions include pathway and functional enrichment analysis.

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Posters

P30

EVALUATION OF LASER-ASSISTED LIPOLYSIS IN FACIAL AND BODY CONTOURING BY MEDART SMARTSCULPT DIODE LASER (980 NM)

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Background: Laser-assisted lipolysis is a minimal invasive method to treat moderate lipomatosis and enhance skin elasticity as a fast and effective method to remove unwanted localized adiposity and inducing a contour and skin tightening to the treated area, a very efficient method with a quite short downtime. *Method:* Here we are presenting a review of our experience on 18 patients treating different areas of face and body by MedArt SmartSculpt Diode Laser. Most focused treated areas in the face have been sub mental, lower cheek and jowls and in the body the lower abdomen, flank, chest and upper arm. Our inclusion terms has been for moderate lipomatosis, a pinch test 2–4 cm as well as for moderate skin elasticity a stretch test less than 30%. Following tumescent anaesthesia the tip of optical fiber introduced through a small puncture, the visible red aiming beam enhancing the procedure trans-illuminating the skin allowing to choose the adequate treatment depth for thermal lipolysis of both subcutaneous fat while running in the deeper level and tightening of the skin while treating just beneath the skin. After the laser lipolysis was terminated depending on each individual area, the lysed fat was aspirated together with the remaining tumescent solution. Patients has been requested to wear compression bandage and clothing post-procedure for a period of a 1–2 months. *Results:* Post procedure transitory side effects as moderate pain, edema, slight induration and ecchymosis is most common which resolve spontaneously in a matter of some days, no major side effect has been observed. Patients were followed after 3 months post procedure with clinical photography at baseline and post treatment as well as pinch and stretch test. *Conclusion:* Clinical results has shown good efficacy and both patients and our satisfaction has been optimal. The method has been minimally invasive with long lasting results for both minimizing moderate adiposity and enhancing skin laxity with minimal downtime.

P31

DOSE- AND TIME CHANGES IN IL-6, IL-8 AND MCP-1 PRODUCTION IN HACAT- CELLS EXPOSED TO COBALT. EFFECTS OF HIGH AND LOW CALCIUM GROWTH CONDITIONS.

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Background: Cobalt is an important skin sensitizer. To induce sensitization, a concordant exposure to an allergen and the production of a "danger "signal is needed. In the skin, keratinocytes are the main producers of these signals (1, 2) and they have an important function in the regulation of inflammation due to their ability to respond to stimuli from our environment (3). *In vitro* studies have shown increases of I L-6, IL-8, IL-1β and TNF-α after cobalt exposure indicating that cobalt can induce a "danger" signal in exposed cells (4). To our knowledge; it is not known if exposure to cobalt will have different effects on keratinocytes in the basal layers compared to more differentiated cells when the cobalt ions are absorbed through the skin. The aim of this study was to compare effects of cobalt on viability of HaCaT- cells cultured at low or high calcium (the latter yielding a more differentiated cell type) and to determine the cytokine release from these cobalt exposed cells. *Method:* HaCaT cells were cultured in DMEM–medium supplemented with 0.15 mM or 1.8 mM calcium (to induce differentiation). The cell cultures were exposed for different concentration of cobalt chloride (0, 100, 500 and 1,000 µM) over time (30 min, 24 and 48 h). Cell viability was measured with Cell-Titer Blue Viability assay and cytokine production was measured using a bead- based immunoassay analyzed using flow cytometry. *Results:* Viability of the cells was dose- and time dependent. A significant difference ($p<0.05$) between high- and low calcium cultures was found when exposed to cobalt, where the most effect was found in cells in low calcium medium. IL-6, IL-8 and MCP-1 showed dose- and time dependent variations as IL-6 and IL-8 increased over time in contrast to MCP-1 that decreased. IL-6 and IL-8 concentrations were highest for cells cultured under low calcium growth conditions. IFN-α, IFN-γ, TNF-α and IL-10 levels were below detection limit. *Conclusion:* Our main findings were: 1. Dose- and time dependent cytotoxic effects of CoCl2on HaCaT cells determined as metabolic; 2. Dose- and time dependent release of pro-inflammatory cytokines/chemokines; and 3. difference between cells cultured in low or high calcium medium, where high calcium cultured cells were less affected by the cobalt. Our results will be used to further investigate the induction of inflammation by cobalt exposure. The results of the present study will be used to choose the correct exposure conditions.

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Förkortad produktresumé för Enstilar® (kalcipotriol/betametasondipropionat)
Enstilar® (kalcipotriol 50 µg/g och betametasondipropionat 0,5 mg/g), kutant skum. Medel mot psoriasis, ATC-kod: D05AX52. Rx F
Indikationer: Lokal behandling av psoriasis vulgaris hos vuxna. **Dosering och administreringssätt:** Enstilar® skum bör appliceras på det drabbade området en gång per dag. Den rekommenderade behandlingstiden är 4 veckor. Den maximala dagliga dosen av Enstilar® bör inte överskrida 15 g, dvs. en 60 g behållare bör räcka i minst 4 dagar. 15 g motsvarar mängden som administreras från behållaren om sprayknappen hålls helt nedtryckt i ungefär en minut. Två sekunders sprayning ger ungefär 0,5 g. Som ett riktmärke bör 0,5 g skum täcka ett område på huden motsvarande ungefär ytan av en vuxens hand. Vid användning av andra topikala produkter innehållande kalcipotriol, förutom Enstilar®, bör den totala dosen av alla produkter innehållande kalcipotriol inte överstiga 15 g per dag. Den totala kroppsytan som behandlas bör inte överskrida 30%. För kutan användning. Skaka behållaren under ett par sekunder före användning. Enstilar® skall appliceras genom att spraya på ett avstånd av minst 3 cm från huden. Under sprayning kan behållaren hållas i vilket läge som helst utom horisontellt. Enstilar® sprayas direkt på varje drabbat hudområde och smörjs in försiktigt. Händerna sk a tvättas efter användning av Enstilar® (såvida Enstilar® inte används för att behandla händerna), för att undvika oavsiktlig överföring till andra delar av kroppen. Användning under täckande förband ska undvikas eftersom det ökar den systemiska absorptionen av kortikosteroider. Det rekommenderas att inte duscha eller bada omedelbart efter applicering av Enstilar®. **Pediatriska patienter:** Säkerheten och effekten av Enstilar® skum vid behandling av barn under 18 år har inte fastställts. Inga data finns tillgängliga. **Kontraindikationer:** Överkänslighet mot de aktiva substanserna eller mot något hjälpämne. Enstilar® är kontraindicerat vid erytrodermisk och pustulös psoriasis. Patienter med kända störningar i kalciummetabolismen. Vid viruslesioner i huden (t.ex. herpes eller varicella), svamp- eller bakterieinfektioner i huden, infektioner orsakade av parasiter, hudmanifestationer i samband med tuberkulos, perioral dermatit, hudatrofi, atrofisk striae, kapillärskörhet, iktyos, acne vulgaris, acne rosacea, rosacea, sår och skador. **Varningar och försiktighet:** Hämning av binjurebarkfunktionen eller försämrad glykemisk kontroll av diabetes mellitus kan även inträffa vid topikal kortikosteroidbehandling beroende på systemisk absorption. Användning under täckande förband ska undvikas. Synrubbning kan rapporteras. Vid dimsyn eller synrubbning bör man överväga remiss till oftalmolog för utredning. Applicering på stora ytor skadad hud, på slemhinnor eller i hudveck bör undvikas. Hyperkalcemi kan förekomma men risken är minimal om den maximala dagliga dosen av Enstilar® (15 g) inte överskrids. Serumkalcium normaliseras när behandlingen avbryts. Enstilar® innehåller en potent grupp III steroid och samtidig behandling med andra steroider på samma behandlingsområde måste därför undvikas. Undvik kontakt med huden i ansiktet och underlivet. Patienter ska instrueras i korrekt användning av läkemedlet för att undvika applicering i, eller oavsiktlig överföring till, ansikte, mun och ögon. Händerna måste tvättas efter varje applicering för att undvika oavsiktlig överföring till de sa områden. Sekundärinfekterade lesioner bör behandlas med antimikrobiell terapi. Om infektionen förvärras, bör kortikosteroidbehandlingen avbrytas. Vi(avs(tande av psoriasisbehandling med topikala kortikosteroider kan det föreligga risk för rebound-effekt. Vid långtidsbehandling med kortikosteroid finns ökad ..sk för lokala och systemiska biverkningar. Läkare rekommenderas att råda patienten att under behandling med Enstilar® begränsa eller undvika överdriven exponering för naturligt eller konstgjort solljus. Enstilar® innehåller butylhydroxitoluen (E321) som ett hjälpämne. **Särskilda förvaringsanvisningar:** Förvaras vid högst 30°C. **Försiktighetsåtgärder:** Extremt brandfarlig aerosol. Tryckbehållare: kan explodera vid upphettning. Skyddas från solljus. Utsätt ej för temperaturer över 50°C. Får ej punkteras eller brännas, även efter användning. Spraya inte mot en öppen låga eller annan antändningskälla. Håll borta från gnistor, öppen eld och andra antändningskällor. Ingen rökning. **Förpackningar:** 60 g och 2x60 g. För fullständig produktinformation och priser se **www.fass.se**. Datum för översyn av produktresumén: 2018-11-23.
MCS-08418 2018-12-21

Referens till informationen: 1. Koo J et al. J Dermatolog Treat 2016; 27(2):120–127.

Förkortad produktresumé för Daivobet® salva
Daivobet® (kalcipotriol 50 µg/g + betametasondipropionat 0,5 mg/g), salva. Medel mot psoriasis. ATC-kod: D05AX52. Rx F
Indikation: Lokal behandling av stabil plackpsoriasis hos vuxna, där lokal terapi är lämplig. **Doserings- och administreringssätt:** Appliceras på det angripna området en gång dagligen. Rekommenderad behandlingstid är 4 veckor. Efter denna period kan upprepad behandling med Daivobet® ske enligt läkares bedömning. **Kontraindikationer: Överkänslighet mot de aktiva substanserna eller mot något hjälpämne. Vid** erytrodermisk, exfoliativ och pustulös psoriasis. Hos patienter med störningar i kalciummetabolismen. Vid virus-, svamp- eller bakterieinfektioner i huden, infektioner orsakade av parasiter, hudmanifestationer i samband med tuberkulos, perioral dermatit, hudatrofi, atrofisk striae, kapillärskörhet, iktyos, acne vulgaris, acne rosacea, rosacea, sår och skador. **Varningar och försiktighet:** Samtidig behandling med andra steroider måste undvikas. Behandling av mer än 30% av kroppsytan ska undvikas. Läkemedlet ska inte användas i ansiktet eller i underlivet. Användning under täckande förband ska undvikas. Synrubbning kan rapporteras. Vid dimsyn eller synrubbning bör man överväga remiss till oftalmolog för utredning. Sekundärinfekterade lesioner bör behandlas med antimikrobiell terapi och kortikosteroid-behandlingen bör avbrytas om infektionen förvärras. Begränsa eller undvik överdriven exponering för naturligt eller konstgjort solljus. Kalcipotriol skall endast användas tillsammans med UV-bestrålning om läkare och patient anser att det potentiella värdet av en sådan behandling uppväger eventuella risker. **Förpackningar:** 15, 30, 60 och 120 g. Eventuellt marknadsförs inte alla förpackningsstorlekar. För fullständig produktinformation och priser se **www.fass.se**. Datum **för översyn av produktresumén:** 2018-11-23. **MCS-08492 2018-12-02**

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SIGNIFICANT DIFFERENCES IN THE BACTERIAL MICROBIOME OF THE PHARYNX BETWEEN PATIENTS WITH CHRONIC PLAQUE PSORIASIS AND HEALTHY CONTROLS

Malin Assarsson[1], Olaf Dienus[2], Jan Söderman[2,3], Oliver Seifert[1,4]

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Background: The cause of psoriasis not completely known but seems to result from a combination of genetic predisposition and exposure to environmental trigger factors, such as bacterial colonization (1, 2). It has been hypothesized that psoriasis might be caused by a breakdown of immune tolerance to the microbiome of the skin, gut or oral cavity (3). Previous studies have shown differences in the bacterial microbiome of the skin between patients with psoriasis and healthy controls and also differences in the bacterial microbiome of the gut (4–7). The most well-known bacterial trigger of psoriasis is *Streptococcal* infections of the upper respiratory tract (8), but, in spite of this, not much is known about the pharyngeal bacterial microbiome in patients with psoriasis. *Method:* The aim of this study was to investigate differences in the bacterial microbiome of the pharynx in patients with psoriasis compared to healthy controls. Swabs were taken from the pharynx of 39 patients with psoriasis and 71 healthy controls. None of the patients had received oral antibiotics or anti-inflammatory medications two weeks prior to participating. 16S rRNA gene was sequenced using the Illumina MiSeq platform and CLC Genomic Workbench was used for sequence processing, classification and data analysis. *Results:* Preliminary results show no significant difference in alpha or beta diversity between psoriasis patients and healthy controls. There was significantly lower relative abundance of the genera *Staphylococcus, Campylobacter, Acinetobacter, Lactococcus*, and *Gardnerella* in psoriasis patients compared to healthy controls. The genera *Fusobacteria, Prevotella* and *Streptobacillus* had significantly higher relative abundance in psoriasis patients compared with healthy controls. There was no significant difference in the relative abundance of the genus *Streptococcus*. On phylum level, psoriatic patients had significantly lower levels of *Cyanobacteria, Actinobacteria* and *Epsilonbacteraeota* compared with healthy controls. *Conclusion:* This is the first study analyzing the differences in the pharyngeal bacterial microbiome between psoriasis patients and healthy controls. The genus Fusobacteria had significantly higher relative abundance in patients with psoriasis. This is interesting since *Fusobacterium nucleatum* has been associated with periodontal disease (9), and patients with psoriasis have been shown to have an increased risk of periodontitis (10). Periodontal disease has also been shown to increase the risk of cardiovascular disease (9), which is a well-known comorbidity of psoriasis (11). Our results suggest that the pharyngeal bacterial microbiome in general, and *Fusobacterium* specifically, could be of significance in the pathogenesis of psoriasis and associated comorbidities, but further studies are needed to confirm these results.

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ISOLATION AND FUNCTIONAL ASSESSMENT OF DENDRITIC CELL POPULATIONS FROM PSORIASIS PATIENTS ON BIOLOGICS

Aleksandra Petrovic[1], Silje Michelsen Solberg[1,2], Irene Sarkar[1], Lene Frøyen Sandvik[2,3], Roland Jonsson[1,4], Silke Appel[1]

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Background: Psoriasis is characterized by a complex interplay of the immune system, autoantigens, genetic and multiple environmental factors. Dendritic cells (DC) are professional antigen-presenting cells orchestrating immune responses. Together with T cells, they drive the pathophysiological processes in psoriasis. Certain cytokines such as TNF, IL-23 and IL-17 are targets for biologics that have made tremendous progress in the treatment of psoriasis patients over the last years. Our aim was to monitor blood DC composition and function in patients with severe disease upon treatment with biologics in

order to define new biomarkers for treatment effect prediction. *Method:* Psoriasis patients affected by severe psoriasis and healthy controls were included in this study. Blood samples were collected before and after starting biological treatment. Three dendritic cell populations (conventional type 1 DC, conventional type 2 DC and plasmacytoid DC) were sorted with a BD FACSAriaTM Cell Sorter. Identity and functional properties will be analyzed by gene expression analyses. *Results:* The relative proportion of the blood DC populations as well as functionality will be analyzed and compared with clinical data, Psoriasis Area and Severity Index (PASI) and Dermatological Life Quality Index (DLQI) during the treatment with biologics. *Conclusion:* Evaluation of peripheral blood DC populations might be of great value for effective treatment prediction in psoriasis patients on biopharmaceuticals.

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P34*

CONSIDERABLE VARIATION IN UTILIZATION OF TOPICAL ANTIPSORIATIC DRUGS: INDIVIDUAL, NATIONWIDE AND INTERNATIONAL PERSPECTIVES

Mathias Tiedemann Svendsen, Klaus Ejner Andersen

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Background: Psoriasis affects 2–4% of the adult population in the Western world and presents a wide clinical spectrum with fluctuations through periods of flare-ups and remissions. Topical antipsoriatic drugs are first-line treatment for patients with mild-moderate psoriasis. Yet the reported real-life use of prescribed topical antipsoriatics is conflicting and based on heterogeneous data sources. The aims of the studies were to describe the utilization of topical antipsoriatic drugs from an individual and nationwide perspective in Denmark and from an international perspective. *Method:* We conducted a drug utilization study based on Danish health registry data (1). A systematic literature review was conducted based on searching large literature databases (2). In the Danish drug utilization study (1), we identified patients who received a first-time hospital diagnosis of psoriasis and had redeemed at least one topical antipsoriatic drug in the period 2005–2015 (n=7,743). Using descriptive statistics, we analyzed utilization parameters of topicals divided on type and amount. We further assessed skewness in use and regional differences. In the systematic literature review (2), we retrieved studies reporting utilization of topical antipsoriatic drugs in the period 1990–2015 (54 studies included). *Results:* In the Danish drug utilization study (1), the total use of topical drugs were divided between (2005 vs 2015 percentages) corticosteroids with calcipotriol (27% vs 36%), calcipotriol (18% vs 2%), very potent corticosteroids (17% vs 29%), potent corticosteroids (33% vs 34%), moderate corticosteroids (7% vs 8%), and corticosteroids with antimicrobials (2% vs 1%). The distribution of topicals was skewed, with 25% of patients using 70% of the total amount of topicals. Regional differences in total use of topicals compared to a national average (between regions with lowest to highest use) varied considerably in the 2013–2015 period. In the systematic literature review (2), the worldwide use of topical antipsoriatic drugs showed that topical corticosteroids were the most frequently used topical drug, used by 16–79% of psoriasis patients. *Conclusion:* The large variation in pattern of use, often combined with complementary and alternative medicines, phototherapy and emollients reflects variation in psoriasis severity, availability of products, access to health service – and patient's satisfaction with topical treatments. Our studies provide further evidence that use of topical antipsoriatics shows considerable heterogeneity at the individual, national and international level. The varying pattern of use of topical antipsoriatic drugs reflects the heterogeneity of psoriasis with regard to extent, severity, patients' perception of their disease, choice of treatment, and access to medical care.

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EXTRACORPORAL PHOTOPHERESIS OF PATIENTS WITH CHRONIC GRAFT-VERSUS-HOST DISEASE USING 5-AMINOLEVULINIC ACID

Eidi Christensen[1], Toril Holien[2], Petras Juzenas[3], Morten Oksvold[3], Sagar Darvekar[3], Qian Peng[3]

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Background: The current standard 8- methoxypsoralen (MOP)-extracorporal photopheresis (ECP) only provides partial response in the majority of treated patients (1). Possible benefits of 5-aminolevulinic acid (ALA–ECP) include that it specifically targets diseased cells leading to more diseased cells killed by treatment with 5-ALA than those treated with 8-MOP (2). Thus, ALA may improve ECP efficacy. The primary aim

was to assess safety and tolerability after single and multiple treatments using 5-ALA– ECP in patients with T-cell mediated diseases including chronic graft-versus-host disease (cGvHD). The primary safety parameters were frequency, seriousness and intensity of adverse events, ECG, recordings, vital signs and safety laboratory parameters. *Method:* Patients with cGvHD and considered to respond inadequately to 8-MOP-ECP therapy were considered for inclusion. A standard approved, fully integrated photopheresis system with ALA at a dose of 10 mM instead of 8-MOP was used. Patients were treated with one cycle (two treatments on two consecutive days) at various intervals for up to 10 cycles with controls 3, 6, 9 and 12 months after the first treatment. *Results:* So far, three patients are included and have received a total of 42 ALA-ECP treatments. For each patient, safety tests taken before and after treatments are comparable. No serious adverse events have been reported, although some episodes of transient infections, headache and nausea are recorded. *Conclusion:* Patients have tolerated ALA-ECP very well. No toxicity has been shown.

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LANADELUMAB EXPOSURE DURING STEADY STATE: ACHIEVEMENT OF EFFECTIVE CONCENTRATIONS IN PATIENTS IN THE HELP STUDY

Bruce L. Zuraw[1], Marco Cicardi[2], Joshua Jacobs[3], Hilary J. Longhurst[4], Peng Lu[5], Michael E. Manning[6], Mustafa Shennak[7], Daniel Soteres[8], Yi Wang[5], Rafael H. Zaragoza-Urdaz[9], Charlotta Hansson[10]

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Background: In the HELP Study (NCT02586805), treatment with lanadelumab (a monoclonal antibody inhibitor of plasma kallirein) 150 mg q4wks, 300 mg q4wks, or 300 mg q2wks significantly decreased attack rates over 26 weeks. We evaluated the relationship between lanadelumab exposure and efficacy during steady state (days 70-182) among the 3 dose groups. *Method:* Blood samples were collected from patients prior to dosing at weeks 0, 8, 14, and 20 for measurement of lanadelumab concentrations and cleaved high molecular weight kininogen (cHMWK) levels. *Results:* Mean observed steady state lanadelumab concentrations in plasma increased and cHMWK levels decreased with dose and dosing frequency. These were associated with decreased attack rates. Attack rates decreased to the greatest extent in patients who received lanadelumab 300 mg q2wks (86.9% reduction vs placebo). The IC90 of lanadelumab (concentration associated with 90% of the maximum inhibitory effect on cHMWK levels) was previously determined to be 18,777 ng/ml. 88.9% of patients in the 300 mg q2wks group attained a maximum concentration at steady state (Cmax,ss) ≥IC90, compared with 65.5% and 0% of patients in the 300 mg q4wks and 150 mg q4wks groups, respectively. The minimum concentration at steady state (Cmin,ss) and average concentration at steady state (Cavg,ss) was ≥IC90 in 77.8% and 85.2% of patients, respectively, in the 300 mg q2wks group. *Conclusion:* Lanadelumab concentrations were maintained ≥IC90 in the majority of patients during steady state in the 300 mg q2wks group, correlating with the high extent of attack reduction observed.

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SYSTEMATIC REVIEW OF COMPLICATIONS AND RECURRENCES FOLLOWING SURGICAL INTERVENTIONS IN HIDRADENITIS SUPPURATIVA

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Department of Dermatology, Zealand University Hospital, Roskilde; Health Sciences Faculty, University of Copenhagen, Denmark

Background: The possible connection between hidradenitis suppurativa (HS) patients undergoing surgery and higher complications/recurrences has been implied, but inconsistent results reported. The objective was to create an overview and summery of complications and recurrences for HS patients undergoing surgery. *Method:* A systematic review was conducted by two reviewers. PubMed and Embase was searched using a predefined search string created in collaboration between the authors and a bibliographic fellow on 8th of December 2017. *Results:* Of the 230 references in the original search, 50 relevant articles were identified. This systematic review indicates an overall mean complication rate of 20.6% and a mean recurrence rate of 17.1% for HS patients undergoing surgery. *Conclusion:* No significant association between risk factors and surgical complications - or recurrence rates in this patient group was found. This review revealed a lack of quality and quantity data in studying the complications/recurrences in HS patients undergoing surgery, and it elucidates the need for better studies, and a necessity for a standardized definition of post-surgical HS recurrence.

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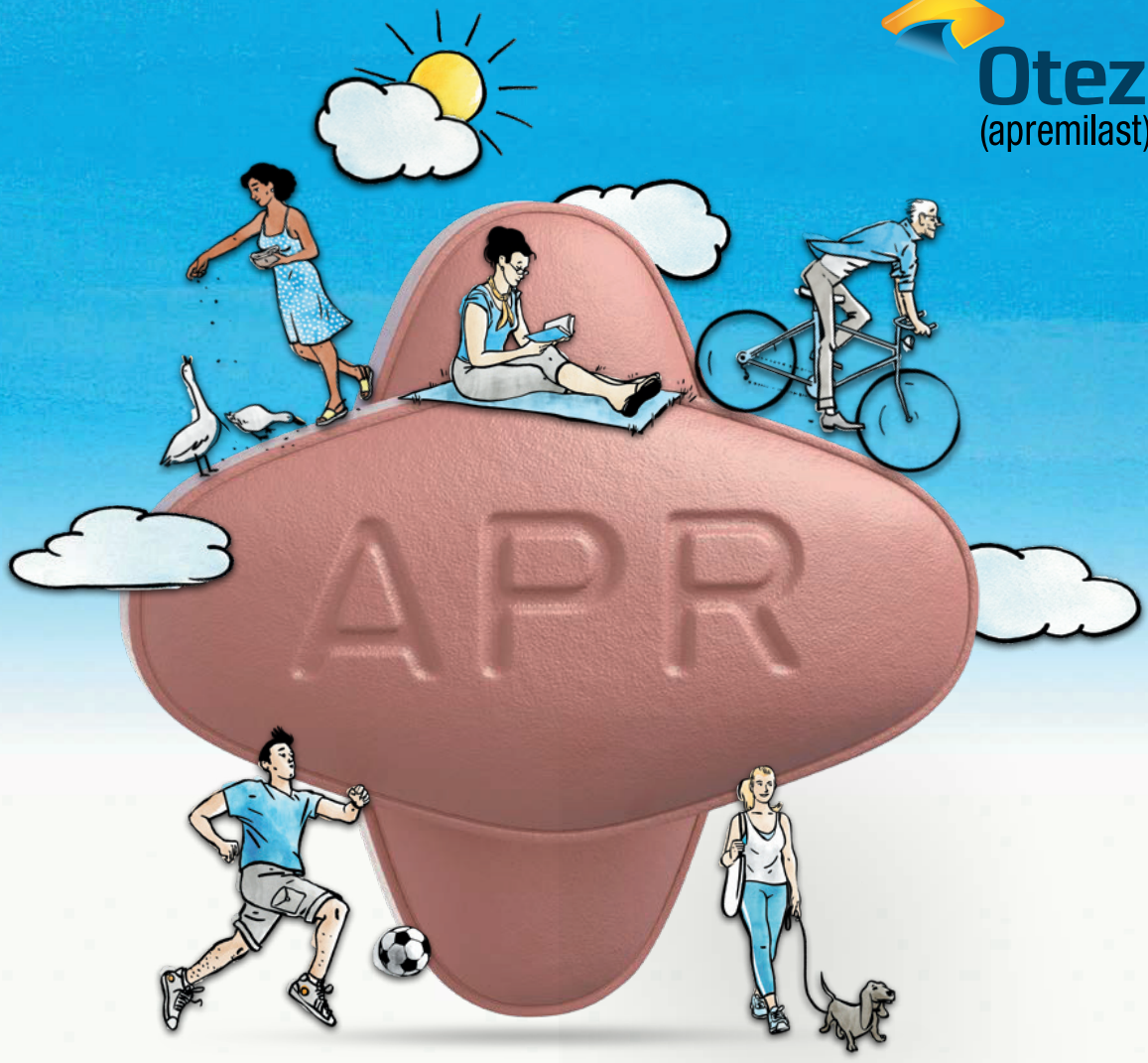

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Referenser: 1. Otezla SmPC, December 2018. European medicines agency. **Otezla** 10 mg, 20 mg, 30 mg (apremilast) filmdragerade tabletter. **ATC kod:** L04AA32, **℞**, F. **Indikationer:** För behandling av aktiv *psoriasisartrit* hos vuxna patienter som har visat otillräckligt svar eller som har varit intoleranta mot tidigare DMARD-behandling, ensamt eller i kombination med sjukdomsmodifierande antireumatiska läkemedel (DMARDs), för behandling av måttlig till svår kronisk *plackpsoriasis* hos vuxna patienter som inte svarat på eller som har någon kontraindikation mot eller är intoleranta mot annan systemisk behandling inklusive ciklosporin, metotrexat eller psoralen och ultraviolett A ljus (PUVA). **Dosering:** Rekommenderad dos är 30 mg två gånger dagligen, morgon och kväll. Se dostitreringsschema för initial titrering, i SPC. Behandling med Otezla ska initieras av specialister med erfarenhet av diagnos och behandling av psoriasis eller psoriasisartrit. **Kontraindicerat** vid graviditet. Graviditet ska uteslutas innan behandling påbörjas. Ska inte användas under amning. **Varningar och försiktighet:** Äldre patienter ≥65 år kan ha en högre risk för komplikationer som svår diarré, illamående och kräkningar, behandlingen med apremilast kan behöva avbrytas. Ökad risk för psykiska störningar som sömnlöshet och depression, suicidala tankar och beteenden, inklusive självmord, har observerats hos patienter med eller utan tidigare depression. Riskerna och nyttan med att inleda eller fortsätta en behandling ska beaktas noga om patienter redogör för tidigare eller befintliga psykiska symtom eller om samtidig behandling med andra läkemedel som kan orsaka psykiska händelser planeras. Patienter och vårdgivare ska instrueras att meddela den förskrivande läkaren om eventuella förändringar avseende beteende eller humör samt om suicidala tankar. Om patienter drabbas av nya eller försämrade psykiska symtom, eller om suicidala tankar eller självmordsförsök identifieras, bör behandlingen med apremilast avbrytas. Vid gravt nedsatt njurfunktion ges reducerad dos, 30 mg en gång dagligen. Underviktiga bör kontrollera sin vikt regelbundet. Innehåller laktos. **Förpackningar och förmån**: Vid behandling av plackpsoriasis subventioneras Otezla enligt indikation. Vid behandling av aktiv psoriasisartrit subventioneras Otezla men med begränsningen endast i monoterapi. Startförpackning 27 tabletter: 4 × 10 mg, 4 × 20 mg och 19 × 30 mg. Standardförpackning (30 mg) 56 tabletter. **Texten är baserad på produktresumé:** 2019-02-27. För fullständig information om dosering, varningar och försiktighet, biverkningar och pris, se www.fass.se.

▼Detta läkemedel är föremål för utökad övervakning.

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Oviderm (propylenglykol) 250 mg/g kräm, ATC-kod D02AX. Oviderm är ett registrerat läkemedel som kan förskrivas eller köpas receptfritt. **Förpackningsstorlek:** 100 g och 500 g. 500g ingår i läkemedelsförmånen. **Indikation:** Behandling av torr hud. **Varningar och försiktighet:** Oviderm ska inte användas på brännskadad hud. Undvik applicering i hörselgången eftersom propylenglykol kan vara ototoxiskt. **Graviditet och amning:** Oviderm ska inte användas på eller omkring bröstvårtorna vid amning. För fullständig förskrivarinformation och pris, se www.fass.se. **Översyn av produktresumén:** 2017-09-26. Galenica AB, Medeon Science Park, SE 205 12

Oviderm (propyleeniglykoli) 250 mg/g emulsiovoide, ATC-koodi D02AX. Oviderm on rekisteröity lääke, jota voi myydä reseptillä tai ilman. **Pakkaukset ja hinnat (8/2018):** 100 g tuubi 4,83 €, 500 g pumppupullo 20,52 €. Molemmat pakkaukset peruskorvattavia pitkäaikaisen ihotaudin hoidossa. Käyttöaiheet: Kuivan ihon hoitoon. **Varoitukset ja käyttöön liittyvät varotoimet:** Oviderm-valmistetta ei saa käyttää palaneelle iholle. Valmisteen käyttöä korvakäytäviin on vältettävä, sillä propyleeniglykoli voi olla ototoksista. **Raskaus ja imetys:** Oviderm-valmistetta ei saa käyttää imetyksen aikana nänneille eikä niiden ympärille, jotta lapsi ei altistu tarpeettomasti propyleeniglykolille suun kautta. Täydellinen reseptinkirjoitusohjeistus ja hintatiedot löytyvät osoitteesta www.fimea.fi. **Valmisteyhteenveto**: 17.06.2017. Galenica AB, Medeon Science Park, 205 12 Malmö, Ruotsi.

Oviderm 250 mg/g krem (inniheldur própýlenglýkól) er notað við húðþurrki. Kremið er borið á húð eftir þörfum, helst nokkrum sinnum á dag og alltaf eftir snertingu við vatn. Kremið má ekki nota á brennt húðsvæði eða í eyrnahlustir. Lesið vandlega upplýsingar á umbúðum og fylgiseðli fyrir notkun lyfsins. Leitið til læknis eða lyfjafræðings sé þörf á frekari upplýsingum um áhættu og aukaverkanir.
Sjá nánari upplýsingar um lyfið á www.serlyfjaskra.is. Markaðsleyfishafi: **Galenica AB**
Umboð á Íslandi: **Vistor hf., sími 535-7000**

GALENICA

Oviderm®
PROPYLENE GLYCOL