



INTERNATIONAL FEDERATION
OF PSORIASIS ASSOCIATIONS

**“Psoriasis – new insights
and innovations”**

Final Program and Abstracts

**4th World Psoriasis & Psoriatic
Arthritis Conference 2015**

July 8–11, 2015
Stockholm Waterfront Congress Centre
Stockholm, Sweden



Program at a glance

	Thursday, July 9	Friday, July 10	Saturday, July 11
07.30–08.15		Posters/Exhibits	Posters/Exhibits
08.15	OPENING CEREMONY		
30	Plenary 1 Psoriasis as a multiorgan disease: Consensus and controversies Panel discussion with Q & A	Plenary 3 Outcomes measures (–9.05) Treatment considerations in pregnancy	Plenary 6 Diagnostics (–09.25)
45			
09.00		(09.25–) Abstract session 2 Oral abstract presentations	(09.25–) Abstract session 3 Oral abstract presentations
15			
30			
09.45–10.15	Coffee/Posters/Exhibits	Coffee/Posters/Exhibits	Coffee/Posters/Exhibits
10.15	Case session 1 Interactive session with three case presentations	Plenary 4 Phenotypes of psoriasis (–10.55)	Plenary 7 Long-term treatment with available therapies
30			
45	Case session 2 Interactive session with three case presentations (–11.55)		
11.00			
15	Keynote lecture 1 Psoriasis and psoriatic arthritis: les extremes se touchent?		
30			
45			
12.00–13.30	Lunch/Posters/Exhibits	Lunch/Posters/Exhibits	Lunch/Posters/Exhibits
12.30	Plenary 2 Psoriasis and psoriatic arthritis around the world	Keynote lecture 3 Molecular and immunological biomarkers in psoriasis and psoriatic arthritis	Keynote lecture 5 Psoriasis guidelines and recommendations Psoriatic Arthritis guidelines and recommendations (–14.10)
45			
14.00		Plenary 5 Cost effectiveness in the management of psoriasis and psoriatic arthritis	(14.10–) Plenary 8 New therapies in various stages of development
15			
30			(15.10–) Coffee/Posters/Exhibits
45			
15.00	(15.10) Abstract session 1 Oral abstract presentations		
15			
30	Coffee/Posters/Exhibits	Coffee/Posters/Exhibits	CONCLUDING SESSION Keynote lecture 6 The genetics of psoriasis and psoriatic arthritis – current and future developments Keynote lecture 7 Patient advocacy: Insights for a better future for people with psoriasis and psoriatic arthritis
45			
16.00	Keynote lecture 2 The international perspective of the treatment of psoriasis	Keynote lecture 4 Treat to target	
15			
30			
16.40–16.50			CLOSING OF SCIENTIFIC PROGRAM

Industry-sponsored Satellite symposia			
07.15–08.00		Satellite symposium	
12.15–13.15	Satellite symposium	Satellite symposium	Satellite symposium
17.00–18.00	Satellite symposium	Satellite symposium	

4th World Psoriasis & Psoriatic Arthritis Conference 2015

Content

Program at a glance	2
Welcome	4
– IFPA President	4
– Scientific Executive Committee	4
Committees	5
Contact and Conference information	5
Scientific Program	6
Keynote Speakers	12
Social Program.....	16
Hotels and social event locations – map	17
General Information	17
Invited speaker abstracts and disclosures	19
Abstracts	28
Biomarkers and Imaging	28
Clinical phenotypes.....	29
Comorbidities	30
Current and new therapeutic modalities	37
Epidemiology	59
Genetics	61
Health Economics and Health Policies	63
Interesting Clinical Cases	64
Pathophysiology and immunobiology	65
Psoriasis and Psoriatic Arthritis relationship	69
Quality of Life	79
Young scientists (born on or after January 1, 1980)	86
Program Industry-sponsored satellite symposia	89
Stockholm Waterfront Congress Centre	90
Advertisements	92
Acknowledgements	100
Authors and presenters index	101

Welcome to the 4th World Psoriasis & Psoriatic Arthritis Conference 2015

"Psoriasis – new insights and innovations"

Dear Friends,

Thank you for joining us for the 4th World Psoriasis & Psoriatic Arthritis Conference!

The purpose of the conference is to elucidate psoriasis and psoriatic arthritis from a number of scientific aspects. At the first conference, in 2006, the focus was on clarifying the connection between psoriasis of the skin and psoriatic arthritis. At the second conference, in 2009, we moved on to present an aggregated picture of psoriasis as a complex, chronic, inflammatory disease that can affect several of the body's organs through a number of comorbidities. The third conference, in 2012, presented psoriasis as a global health challenge.

At this conference we are looking to the future. So many great advances have been made within both dermatology and rheumatology during the last years and we now more than ever feel a strong hope that the care and treatment of people with psoriasis and psoriatic arthritis is going to improve even further. And for the first time in history, we have a WHO resolution on psoriasis, recognizing it as a serious, chronic inflammatory disease.

The scientific program has been developed by a committee of dedicated, patient-centered key opinion leaders within psoriasis and psoriatic arthritis, and IFPA is most grateful for the outstanding educational program they have put forward.

We are also happy to present a Complementary program for general practitioners, allied health professionals and patient leaders, who have a very important role in the daily care of and contact with the psoriasis patients.

We hope that you will have a wonderful learning and networking experience at the conference and thank you again for coming.

Yours sincerely,



Lars Ettarp
President
International
Federation of
Psoriasis Associations, IFPA

Dear Colleagues, Ladies and Gentlemen,

Our understanding of psoriasis as a disease with significant comorbidities has made important progress since the last World Psoriasis & Psoriatic Arthritis Conference, held in Stockholm in 2012. The recognition of psoriasis as a noncommunicable disease with a significant disease burden has been formally recognized by the WHO resolution in May 2014. New insights have been obtained into the pathogenesis of psoriasis and psoriatic arthritis, which are revolutionizing the treatment of the patient of today and tomorrow. Innovative new treatments based on these specific pathways are being introduced for routine use with multiple others in development. Thus, management of each patient in clinical practice will be driven by more specific evidence based guidelines. As our current drugs lose their patents, biosimilars will be an important development. The previous conferences, in 2006, 2009 and 2012, were very successful in allowing researchers, clinicians and patients to keep pace with this progress, and reinforced the need to continue this form of interaction.

The 4th World Psoriasis & Psoriatic Arthritis Conference will provide us with the opportunity to address and discuss a broad spectrum of topics relevant for the patient of today and tomorrow. Based on surveys among the national psoriasis patient organizations, and with the excellent support from our colleagues on the scientific program committee, we have developed a conference agenda with plenary lectures given by recognized experts in their field. This will ensure that relevant issues are being addressed with practical expertise at the highest possible scientific level. Case-based learning and interactive sessions will foster the development of necessary clinical skills, treatment selection and screening for the multiple comorbid conditions associated with psoriasis. Industry-sponsored satellite symposia will provide further information relevant to the clinical care and quality of life of patients with psoriatic disease.

We are confident that this program will be able to provide a lively platform for continuing medical education and scientific discussion related to psoriatic disease while allowing us all the opportunity to have open discussions with our colleagues and patient representatives from around the world.

Thank you for joining us here in the beautiful city of Stockholm.

Yours sincerely,



**Peter van de
Kerkhof**



Philip Helliwell



Alan Menter

Committees

Scientific Executive Committee

Peter van de Kerkhof, Chairman
Alan Menter, Co-Chair, Dermatology
Philip Helliwell, Co-Chair, Rheumatology
Barbra Bohannon, Secretary

Complementary Program Committee

Hoseah Waweru, Chair
Colin Theng, Co-Chair
Ulla Lindqvist, Co-Chair

Organizing Committee

IFPA Executive Committee
IFPA Secretariat

IFPA Scientific Advisory Board

Dermatology

Peter van de Kerkhof
Mark Lebwohl
Alan Menter

Jörg Prinz
Mona Stähle

Rheumatology

Philip Mease
Christopher Ritchlin

Scientific Program Committee

Luna Azulay-Abulafia
Hervé Bachelez
Jonathan Barker
Vinod Chandran
Siew Eng Choon
Edgardo Chouela
Marie Feletar
Minerva Gómez Flores
Arthur Kavanaugh
Alexa Kimball
Ennio Lubrano
Peter Nash
Akira Ozawa
Sergio Toloza
Tsen-Fang Tsai
Kurt de Vlam
Robert Weiss
Zheng Min

Contact and Conference information

Conference organizer

International Federation of Psoriasis Associations, IFPA

IFPA Secretariat
Bellmansgatan 30
118 47 Stockholm, SWEDEN
Phone: +46 8 556 109 18
E-mail: ifpa@pso.se
www.ifpa-pso.org

Conference bureau

MCI Scandinavia

Box 6911
102 39 Stockholm, Sweden
Phone +46 8 5465 1500
Fax + 46 8 5465 1599
Email : confirmation@mci-group.com

Conference venue

Stockholm Waterfront Congress Centre

Nils Ericsons Plan 4, Stockholm
Phone: +46 8 5050 6000
www.stockholmwaterfront.com

Conference opening hours

Registration desk and general information desk

Wednesday, July 8	12.00 – 20.00
Thursday, July 9	07.30 – 18.00
Friday, July 10	07.00 – 18.00
Saturday, July 11	07.30 – 17.00

Tourist information

Thursday, July 9	12.00 – 18.15
Friday, July 10	12.00 – 18.15

Speakers' preview room

Wednesday, July 8	12.00 – 20.00
Thursday, July 9	07.30 – 17.00
Friday, July 10	07.00 – 17.00
Saturday, July 11	07.00 – 16.30

Commercial exhibition*

Wednesday, July 8	17.30 – 20.00
Thursday, July 9	08.00 – 18.00
Friday, July 10	08.00 – 18.00
Saturday, July 11	08.00 – 17.30

*Open for healthcare professionals only

Registration

For questions about the social program, payment or accommodation please contact the registration desk or conference bureau MCI. Please see page 17 to view the map including the official hotels.

The registration fee for participants includes

- Admission to the conference and the exhibitions July 8-11
- Conference documentation
- Coffee/tea
- Welcome program and reception, July 8 (if pre-registered)
- Reception at Stockholm City Hall, July 9 (if pre-registered)
- Conference dinner at Berns at subsidized rate, July 10 (if pre-registered)

Scientific Program

Thursday, July 9

08.15 Opening ceremony
Lars Ettarp, Peter van de Kerkhof

08.30–09.45 Plenary 1

Chairs: Mark Lebwohl, Alexis Ogdie

Psoriasis as a multiorgan disease: Consensus and controversies

- 08.30–08.45 Psoriasis: more than skin deep
Speaker: Joel Gelfand
- 08.45–09.00 Psoriatic arthritis: complexities and comorbidities
Speaker: Oliver FitzGerald
- 09.00–09.15 Psoriasis and psoriatic arthritis: Psychological and psychosocial associations
Speaker: Sylvia van Beugen
- 09.15–09.45 Panel discussion with Q & A

09.45–10.15 Coffee/Posters/Exhibits

Stockholm Waterfront Congress Centre



Photo: Daniel Ostlund

Thursday, July 9

10.15–11.15 Case session 1

Chairs: Mona Ståhle, Elaine Husni

Interactive session with three case presentations

- 10.15–10.25 Case 1. Managing hepatic comorbidity
Speaker: William Alazawi
- 10.25–10.35 Discussion case 1
- 10.35–10.45 Case 2. Managing cardiovascular comorbidity
Speaker: Toomas Talme
- 10.45–10.55 Discussion case 2
- 10.55–11.05 Case 3. Managing renal comorbidity
Speaker: Joel Gelfand
- 11.05–11.15 Discussion case 3

11.15–12.00 Key note lecture 1

Psoriasis and psoriatic arthritis: les extremes se touchent?

Speaker: Wolf-Henning Boehncke

12.00–13.30 Lunch/Posters/Exhibits

- 12.15–13.15 Industry-sponsored
Satellite symposium

13.30–15.10 Plenary 2

Chairs: Nelida Raimondo, Ade Adebajo

Psoriasis and psoriatic arthritis around the world

- 13.30–13.50 Sub-Saharan Africa
Speaker: Girish Mody
- 13.50–14.10 North Africa and the Middle East
Speaker: Mahira El-Sayed
- 14.10–14.30 Latin America
Speaker: Sergio Toloza
- 14.30–14.50 Asia Pacific
Speaker: Steven Loo
- 14.50–15.10 Panel discussion with Q & A

Thursday, July 9

15.10–15.30 Abstract session 1

Oral abstract presentations:

Global outlook on psoriasis & psoriatic arthritis

15.10–15.20 The impact of depression on the risk of myocardial infarction, stroke, and cardiovascular death in patients with psoriasis: a Danish nationwide cohort study (P012)

Presenter: Alexander Egeberg

15.20–15.30 The Swedish early psoriatic arthritis (SWEPSA) registry 5-year follow-up: Slow radiographic progression with highest scores in male feet and patients with baseline x-ray abnormalities (P001)

Presenter: Ulla Lindqvist

Thursday, July 9

15.30–16.00 Coffee/Posters/Exhibits

16.00–16.45 Key note lecture 2

Chairs: Ulrich Mrowietz,

Christopher Ritchlin

The international perspective of the treatment of psoriasis

Speaker: Matthias Augustin

17.00–18.00 Industry-sponsored
Satellite symposium

Complementary program

Please note that the Complementary program's sessions will be in hall C1-C3 located on level 2.

10.00 Complementary program opens

Main topic of the day: Present knowledge – psoriasis and psoriatic arthritis

10.00–10.10 Introduction to complementary program
*Hoseah Waweru, Chairman
Complementary Program Committee*

10.10–10.30 Psoriasis of the skin – present knowledge
Speaker: James Krueger

10.30–10.50 Psoriatic arthritis – present knowledge
Speaker: Björn Gudbjörnsson

10.50–11.00 Short break

11.00–11.50 Symposium: The future is now

11.00–11.15 Triggering the psoriatic immune response, what we know today
Speaker: Jörg Prinz

11.15–11.30 The memory of skin
Speaker: Liv Eidsmo

11.30–11.50 New biologics, biosimilars and small molecules – understanding the new developments in the treatment of psoriasis and psoriatic arthritis
Speaker: Ulrich Mrowietz

11.50 Panel discussion including patient representative
*Patient representative:
Silvia Fernandez Barrio*

Scientific Program

Friday, July 10

07.15–08.00 Industry-sponsored
Satellite symposium

07.30–08.15 Posters/Exhibits

08.15–09.25 Plenary 3

Chairs: Alice Gottlieb, Philip Helliwell

Outcomes measures

08.15–08.25 Introduction to Outcomes measures
symposium

Speaker: Alice Gottlieb

08.25–08.45 Outcomes measures related to psoriasis

Speaker: April Armstrong

08.45–09.05 Outcomes measures related to psoriatic
arthritis

Speaker: Philip Mease

09.05–09.25 **Treatment considerations
in pregnancy**

Speaker: Alan Menter

09.25–09.45 Abstract session 2

Oral abstract presentations:
Outcomes measures

Friday, July 10

09.25–09.35 A Phase 2b dose-ranging trial of
baricitinib, an oral JAK 1/JAK 2 inhibitor,
in patients with moderate-to-severe
psoriasis: Results from the randomized
withdrawal and re-treatment periods
(P032)

Presenter: Kim Papp

09.35–09.45 Real-world validation of the minimal
disease activity index in psoriatic
arthritis: An analysis from a prospective,
observational registry (P033)

Presenter: Francois Nantel

09.45–10.15 Coffee/Posters/Exhibits

10.15–10.55 Plenary 4

Chairs: Marieke Seyger, Ennio Lubrano

Phenotypes of psoriasis

10.15–10.35 Clinical phenotyping of psoriasis
of the skin and nails

Speaker: Christopher Griffiths

10.35–10.55 Clinical phenotyping of psoriatic
arthritis

Speaker: Dafna Gladman

Complementary program

Please note that the Complementary program's
sessions will be in hall C1–C3 located on level 2.

**10.00 Main topic of the day:
Treating the whole patient
– a multidisciplinary approach**

**Symposium: How do we treat
the whole patient?**

10.00–10.10 The dermatologist
Speaker: Colin Theng

10.10–10.20 The rheumatologist
Speaker: Ulla Lindqvist

10.20–10.30 The psychodermatologist
Speaker: Sylvia van Beugen

10.30–10.40 The skin care nurse
Speaker: Barbara Page

10.40–11.00 Panel discussion

11.00 Short break

11.10 The ideal treatment – what would it
be and is it possible?

Moderator: Randy Beranek

Moderator-led discussion between
expert physicians and patients
*Specialists: April Armstrong,
Sergio Toloza*

*Patients: Kathleen Gallant,
Josef de Guzman*

11.30 The patient's safety at heart
– risk assessment and patient infor-
mation

Speaker: Matthias Augustin

11.50 Panel discussion

Friday, July 10

10.55–11.55 Case session 2

Interactive session with three case presentations

- 10.55–11.05 Case 1: Psoriasis involving difficult to treat sites
Speaker: Luis Puig
- 11.05–11.15 Discussion case 1
- 11.15–11.25 Case 2: Treating psoriatic arthritis with widespread pain – Is this enthesitis or fibromyalgia?
Speaker: Antonio Marchesoni
- 11.25–11.35 Discussion case 2
- 11.35–11.45 Case 3: Pustular psoriasis
Speaker: Peter van de Kerkhof
- 11.45–11.55 Discussion case 3

12.00–13.30 Lunch/Posters/Exhibits

- 12.15–13.15 Industry-sponsored Satellite symposium

13.30–14.15 Keynote lecture 3

Chairs: Olle Larkö, Vinod Chandran

Molecular and immunological biomarkers in psoriasis and psoriatic arthritis

Speaker: James Krueger

Friday, July 10

14.15–15.30 Plenary 5

Cost effectiveness in the management of psoriasis and psoriatic arthritis

- 14.15–14.30 Primary care involvement in the treatment of psoriasis & psoriatic arthritis
Speaker: Louise Warburton
- 14.30–14.45 Cost reduction in psoriasis and psoriatic arthritis treatment: An uphill struggle
Speaker: Peter van de Kerkhof
- 14.45–15.15 Biosimilars
Speaker: Jonathan Kay
- 15.15–15.30 Panel discussion with Q & A

15.30 – 16.00 Coffee/Posters/Exhibits

16.00–16.45 Key note lecture 4

Chairs: Jonathan Barker, Philip Helliwell

Treat to target

Speaker: Laura Coates

- 17.00–18.00 Industry-sponsored Satellite symposium



Photo: Daniel Ostlund

Old Town with the Royal Palace in the background.

Scientific Program

Saturday, July 11

07.30–08.15 Posters/Exhibits

08.15 –09.25 Plenary 6

*Chairs: Wolf-Henning Boehncke,
Kurt de Vlam*

Diagnostics

- 08.15–08.35 Diagnostic tools for early diagnosis of psoriatic joint disease
Speaker: Philip Helliwell
- 08.35–08.55 Pediatric psoriasis and early diagnosis
Speaker: Marieke Seyger
- 08.55–09.15 Cardiovascular screening in psoriasis & psoriatic arthritis
Speaker: Nehal Mehta
- 09.15–09.25 Panel discussion with Q & A

09.25–09.45 Abstract session 3

Oral abstract presentations:
Related to diagnosis

- 09.25–09.35 IL-1 and IL-36 are the dominant cytokines in generalized pustular psoriasis (P089)
Presenter: Andrew Johnston
- 09.35–09.45 Screening for PsA in Primary Care Psoriasis Patients with Musculoskeletal Complaints with PEST, PASE & EARP (P112)
Presenter: Maren Karreman

09.45– 10.15 Coffee/Posters/Exhibits

Saturday, July 11

10.15 –12.00 Plenary 7

Chairs: Luis Puig, Arthur Kavanaugh

Long-term treatment with available therapies

- 10.15–10.25 Early intervention (psoriasis)
Speaker: Liv Eidsmo
- 10.25–10.35 Early intervention (psoriatic arthritis)
Speaker: Enrique Soriano
- 10.35–10.45 Panel discussion with Q & A
- 10.45–10.55 A biologic forever? (psoriasis)
Speaker: Alan Menter
- 10.55–11.05 A biologic forever? (psoriatic arthritis)
Speaker: Georg Schett
- 11.05–11.15 Panel discussion with Q & A
- 11.15–11.45 Safety management and pharmacovigilance
Speaker: Luigi Naldi
- 11.45–12.00 Panel discussion with Q & A

12.00–13.30 Lunch/Posters/Exhibits

- 12.15–13.15 Industry-sponsored
Satellite symposium

13.30–14.10 Keynote lecture 5

Chairs: Jörg Prinz, Ulla Lindqvist

Psoriasis guidelines and recommendations

Speaker: Alexander Nast

Psoriatic Arthritis guidelines and recommendations

Speaker: Christopher Ritchlin



The hills of Södermalm as seen from the Old Town.

Saturday, July 11

14.10–15.10 Plenary 8

Chairs: Alan Menter, Philip Mease

New therapies in various stages of development

- 14.10–14.20 What is new in topical treatment and phototherapy?
Speaker: Jo Lambert
- 14.20–14.30 What is new in small molecules? (psoriasis)
Speaker: Kim Papp
- 14.30–14.40 What is new in small molecules? (psoriatic arthritis)
Speaker: Arthur Kavanaugh
- 14.40–14.45 Panel discussion with Q & A
- 14.45–14.55 What is new in biologics? (psoriasis)
Speaker: Ulrich Mrowietz
- 14.55–15.05 What is new in biologics? (psoriatic arthritis)
Speaker: Kurt de Vlam
- 15.05–15.10 Panel discussion with Q & A

15.10–15.30 Break

Saturday, July 11

Concluding session

Chairs: Peter van de Kerkhof, Dafna Gladman

15.30–16.15 Key note lecture 6

The genetics of psoriasis and psoriatic arthritis – current and future developments

Speaker: Jonathan Barker

16.15–16.40 Key note lecture 7

Patient advocacy: Insights for a better future for people with psoriasis and psoriatic arthritis

Speaker: Lars Ettarp

16.40–16.50 Closing of scientific program

Complementary program

Please note that the Complementary program's sessions will be in hall C1-C3 located on level 2.

10.00 Main topic of the day: Improving patient outcomes

Symposium: Collaborating to improve patient outcomes on all levels

- 10.00–10.20 Global: The Global Psoriasis Atlas project
Speaker: Christopher Griffiths
- 10.20–10.40 Regional: PsorAsia and PsorAsia MD
Speaker: Colin Theng & Josef de Guzman
- 10.40–11.00 National: Working together to create treatment guidelines
Speaker: Jens Sloth-Nilsen & Kirstine Bukhave

11.00 Short break

- 11.10 Improving patient outcomes through active patient involvement in clinical trials
Speaker: Maarten de Wit
- 11.30 Building a better world, and life, for people with psoriasis and psoriatic arthritis
Speaker: Kathleen Gallant
- 11.50 Closing remarks
Speaker: Hoseah Waweru

Keynote Speakers

Thursday, July 9



Wolf-Henning Boehncke, Prof.
Chairman of the Dermatology Unit at Geneva University

Wolf-Henning Boehncke earned his M.D. as a fellow of the German Scholarship Foundation in Kiel and Glasgow, and received his postdoctoral training at the National Institutes of Health in Bethesda, USA. Following assignments at the University Hospitals in Kiel and Ulm he became Full Professor and Head of the Section of Allergy/Immunology at the Goethe-University in Frankfurt am Main. Since 2012, he is the Chairman of the Dermatology Unit at Geneva University.

Prof. Boehncke is a board member of

numerous psoriasis initiatives, and currently serves as the president of the Group for Research and Assessment of Psoriasis and Psoriatic Arthritis (GRAPPA). He is also an active member of the International Psoriasis Council (IPC).

His research focuses on the pathogenesis of inflammation on which he published more than 200 peer-review articles, among them landmark papers in the *New England Journal of Medicine*, *The Lancet*, *Nature Medicine*, and *Nature*, several of these were honoured by distinguished prizes.



Matthias Augustin, Prof. Dr. med.

Since 2004 Prof. Augustin has a chair for health economics and for dermatology at the University Medical Center Hamburg-Eppendorf. Since 2010 he is founding director of the Institute for Health Services Research in Dermatology and Nursing as well as head of the Comprehensive Wound Center (CWC), chair of the Center for Dermatological Research (CeDeF) and chair of the German Center for Health Services Research in Dermatology (CVderm). Prof. Augustin is also a founding director of the Hamburg Institute for Health Economics (HCHE), the largest center in this discipline in Germany.

Furthermore he has authored 27 medical books and about 550 scientific and medical papers.

Prof. Augustin is a senior consultant to the

German Ministry of Health, to several statutory health insurance companies and to a large number of companies in the health sector. He has been a spokesman at the German National Parliament (Bundestag), the Federal Joint Committee (GBA) and the Institute for Quality and Efficiency in Medicine (IQWiG).

Prof. Augustin founded the “Eppendorfer Dialog zur Gesundheitspolitik” (Eppendorf dialogue on health policy), a well-known biannual national meeting on current issues in health policy and health economics.

As a dermatologist and allergist, he holds more than two decades of clinical experience and is – in addition to the scientific activities – also still active in his own clinic.

Friday, July 10

James G. Krueger, MD, PhD
Professor, Laboratory Head. The Rockefeller University

James G. Krueger, MD, PhD is Head of the Laboratory for Investigative Dermatology at the Rockefeller University. He also serves as a Physician, Co-director, Center for Clinical and Translational Science at the Rockefeller University Hospital, and Chief Executive Officer of the Rockefeller University Hospital in New York City.

Dr. Krueger earned his bachelor's degree from Princeton University and a PhD in virology and cell biology from the Rockefeller University. He received an MD from Cornell University Medical College, where he also completed an internship in internal medicine and residency in dermatology. Dr. Krueger is certified by the American Board of Dermatology.

His research group at Rockefeller was the first to conduct clinical trials with specific, targeted

immune antagonists in psoriasis and this work established that elimination of pathogenic T-cells from skin lesions could reverse the full pathological phenotype of psoriasis. Since then his group has used immune-based therapeutics to dissect inflammatory pathways in psoriasis and to conduct parallel pharmacogenomic studies that define mechanisms of targeted therapeutics in human populations. A more recent focus has been definition of new inflammatory pathways, as well as new types of inflammatory cells in psoriasis lesions that are now being targeted with new biologic drugs. He has been an advocate of bidirectional translational research (bench to bedside and back) in humans using psoriasis as a model inflammatory disease to dissect pathogenic pathways that cannot be studied in animal models.



Laura Coates, Dr.
NIHR Clinical Lecturer in Rheumatology, University of Leeds

Dr. Coates has a research focus in psoriatic arthritis (PsA) and the spondyloarthritides. Her particular interests include early diagnosis of PsA, optimum treatment guidelines and the concept of treating to an objective target. She is the first author of a national multicentre RCT funded by Arthritis Research UK to test the concept of tight control of inflammation in early psoriatic arthritis (the TICOPA trial). She has further interests and experience in outcome measure development working within the Outcome Measures in Rheumatology Clinical Trials (OMERACT) group. She is also involved in the development and validation of novel clinical

and imaging outcome measures. She has specific interests in MRI and ultrasound imaging, both the utilisation of imaging as an outcome measure but also in investigating the imaging phenotype of early psoriatic arthritis with existing and novel imaging techniques.

- Steering Committee Member of the Group for Research and Assessment of Psoriasis and Psoriatic Arthritis (GRAPPA)
- Member of the Psoriatic Arthritis Genetics European (PAGE) Consortium
- Member of the Psoriatic Arthritis and MRI in inflammatory arthritis OMERACT groups.



Keynote Speakers

Saturday, July 11



Alexander Nast, PD Dr.
Department of Dermatology, Venerology and Allergy,
Charité – Universitätsmedizin, Berlin

PD Dr. Alexander Nast (MD) is a consultant dermatologist and senior lecturer at Charité – Universitätsmedizin Berlin, Germany. At the Charité hospital he heads of the division of evidence based medicine (dEBM). He is the chairman of the German (DDG) and European (EDF) Guidelines Committee for dermatology.

He obtained his medical degree in 2005 at Charité – Universitätsmedizin Berlin, including training at Université René Descartes Paris V (Necker), Paris, France and St. John's Institute of Dermatology, London, UK. He is an expert in evidence based medicine and the development of guidelines.



Christopher T. Ritchlin, M.D. MPH
Professor and Chief of the Allergy, Immunology and Rheumatology Division,
University of Rochester Medical Center

Dr. Ritchlin is Professor and Chief of the Allergy, Immunology and Rheumatology Division at the University of Rochester Medical Center. His basic science research efforts are directed towards understanding the mechanisms that underlie pathologic bone resorption and new bone formation in psoriatic arthritis and rheumatoid arthritis. Using animal models and translational approaches, investigators in his lab are analysing the cell surface molecules expressed by osteoclast and dendritic cell precursors with the goal to identify susceptibility and response biomarkers in patients with inflammatory arthritis. They are also analysing the function of DC-STAMP, a molecule expressed by monocytes, in cell fusion during osteoclastogenesis. In addition, collaborative studies are underway with the lab of Dr. Eddie Schwarz to understand the mechanisms that are responsible for flares in inflammatory arthritis with special focus on how alterations in lymphatic flow trigger and sustain synovitis. Studies are underway in both animal

models and in patients with rheumatoid and psoriatic arthritis.

Dr. Ritchlin is also the Director of the Clinical Immunology Research Unit where he is the principle investigator on several clinical trials testing the efficacy of biologic agents and other biologic molecules in the treatment of psoriatic and rheumatoid arthritis and ankylosing spondylitis. In the Clinical Immunology Research Unit, patient oriented research is conducted on multiple levels. Investigator New Drug (IND) trials of novel agents in the treatment of PsA (anti-IL-17 and JAK-STAT inhibitors) have been completed or are about to start. Additional trials examining effect of TNF inhibition on the frequency of osteoclast precursors and enhancing bone marrow edema in PsA are in progress. In 2 observational studies, imaging and cellular risk factors for arthritis in psoriasis patients are under investigation and in the second longitudinal study, we are examining the ability of DC-STAMP and TRAF-3 monocyte expression ex vivo to predict early response to anti-TNF agents in PsA.

Saturday, July 11

**Jonathan Barker BSc MD FRCP FRCPath
St John's Institute of Dermatology, King's College London, London UK**

Jonathan Barker is Professor of Medical Dermatology and Academic Head of Department at St John's Institute of Dermatology, King's College London. He is Co-Director of the Skin Therapy Research Unit and the Psoriasis Service at the Institute, a large tertiary referral service for patients with severe disease. His research interests extend from genetic discovery through to clinical outcome measurement. As such he is a key investigator in international consortia aiming to map psoriasis susceptibility genes. He is deputy director of a multi-centre MRC stratified medicine programme in psoriasis outcomes to biologic therapy (PSORT) and heads its genetics working

group. He is a member of the British Association of Dermatologists biologics outcomes registry (BADBIR) steering committee.

Professor Barker has published over 200 peer-reviewed papers, authored and edited several books including the new edition of the 'Rook Book'. Highly cited publications include those in Nature Genetics and New England Journal of Medicine. He sits on the editorials boards of several dermatology journals. He is past President of the European Dermatology Forum. Currently he is a director of the International Psoriasis Council and Secretary-Treasurer and President-elect of the European Society for Dermatological Research.



**Lars Ettarp
President of the International Federation of Psoriasis Associations,
Chairman of the Stockholm county regional Psoriasis Association**

Mr Ettarp is the President of the International Federation of Psoriasis Associations as well as the Chairman of the Stockholm county regional Psoriasis Association. He was the Chairman of the Swedish Psoriasis Association between 1991–2014. Mr Ettarp holds a Bachelor's Degree in Sociology and has also studied Political Science and Statistics. He has a background in both the Swedish Ministry of the Interior and Ministry of Labour. Before he retired he was the Director General of the Swedish Board for Accreditation and Conformity Assessment and was also active as a consultant for the European Union Commission and Board Member of the ILO.

Mr Ettarp was diagnosed with psoriasis

during his childhood and was later on forced to discontinue both his compulsory military service and later on his profession as a licensed welder due to his severe psoriasis and psoriatic arthritis. At the age of 27 Mr Ettarp joined the Swedish Psoriasis Association and became one of the founders of the regional Psoriasis Association of Stockholm County.

He is also the founder of six outpatient treatment centers in Stockholm county, contracted by the regional government. Today the centers provide care to approximately 6 000 patients with psoriasis and a number of other skin diagnoses and are managed by specialist skin care nurses.



Social program

All social events are available for the conference delegates if pre-booked in the registration form. For late bookings please contact the registration desk to inquire about availability.



Location: Stockholm City Hall

Time: 19.30 (sharp)

Please note: Delegates must be pre-registered. The official invitation card from the City of Stockholm must be shown at the entrance. You will receive this card together with your name badge.

Wednesday, July 8

Welcome ceremony and reception

The Organizing Committee of the 4th World Psoriasis & Psoriatic Arthritis Conference cordially invites you to attend the welcome ceremony and reception in the evening of July 8 at the conference venue.

The welcome program will be held in the main auditorium of the conference (A1) and will be followed by a reception where beverages and canapés will be served.

Location: Waterfront Congress Centre

Time: Welcome program starts at 18.00, the reception starts at approximately 18.45.

Please note: Delegates must be pre-registered for this event.



Photo: Erik C Svendsen

Thursday, July 9

Reception hosted by the City of Stockholm and the County of Stockholm

The reception takes place at the City Hall of Stockholm, one of the best known buildings in Sweden. It holds the most exclusive ballroom in Stockholm, hosting the yearly Nobel Banquet. The City Hall is famous for its hospitality, its unique art treasures, magnificent banquettes and intriguing history - attracting close to 400,000 visitors each year. Beverages and small snacks will be served.



Photo: Creative Commons

Friday, July 10

Conference Dinner

Since its doors opened in 1863, Berns has been an oasis for curious cosmopolitans. By constantly presenting cutting edge events and challenging conventions Berns has been the Stockholmers' own living room for over a century. World famous stars mix with up-and-coming artists, sophisticated businessmen and trendy media people. The contrasts are mirrored in the extravagant halls that are decorated with gold and stucco that hold secret corners and scandalous stories. Berns is also known for being the setting of the famous August Strindberg book "The red room".

Location: Berns Salonger, Berzelii Park, Stockholm

Time: 19.30 (sharp) – 00.30

Price: Subsidized price for conference delegates is SEK 700 (aperitif, three-course dinner with wine, coffee)

Please note: The bars will be open to serve the guests refreshments (not included in the dinner price) after the dinner has concluded. The venue will open to the public at approximately 1 am.

How to get here:

WALK: From the Central Station/Conference venue. Approximate time: 10 minutes.

METRO: Red line to station Östermalmstorg, exit Birger Jarlsgatan. From there it is a 3–4 minute walk.

Hotels and social event locations & General information



General information

Abstracts

You will find abstracts of the invited speakers presentations beginning on page 19 of this program book. Accepted research abstracts are listed from page 28. The research abstracts will also be published after the summer in the Journal of Investigative Dermatology.

Badges

The participant name badge will be provided at the registration desk. Delegate category will be indicated on the name badges of all delegates by color codes on the badge. All participants are requested to wear the badge throughout the conference. Only badge holders will be admitted to the sessions.

Badges are color coded as follows:

White: Delegate, healthcare professional

Orange: Delegate, non-healthcare professional

Light blue: Faculty

Dark blue: Organizing committee and staff

Green: Exhibitors

Business center

A business center is available within the venue located on level 3 and will be open during the conference hours.

Certificate of Attendance

You will be able to pick up your Certificate of Attendance from 12.00 on Friday July 10 at the registration desk.

CME Credits

The European Accreditation Council for Continuing Medical Education (EACCME) has granted the 4th World Psoriasis & Psoriatic Arthritis Conference 18 European CME credits (ECMEC).

Cloakroom

The cloakroom is located on the same level as the main entrance (level 4). The cloakroom is open during the conference hours. The cost for using the cloakroom is SEK 20 per item and cash or credit card payment is possible.

Conference organizer

All matters regarding registration, hotel booking, social events, abstract handling, exhibition management and general information are managed by MCI Scandinavia AB who has been appointed official conference organizer for this event. The MCI Group is a worldwide company with 61 offices in 31 countries. For more information, please visit: www.mci-group.com



General information

» Disclaimer/Liability

The conference organizers cannot accept liability for injuries or losses of whatever nature incurred by participants, nor for loss of or damage to their luggage and/or personal belongings. Please check the validity of your own travel insurance. All reasonable endeavors will be made to hold the 4th World Psoriasis & Psoriatic Arthritis Conference 2015 and to present its program as scheduled under circumstances which assure the comfort and safety of all participants.

However, neither IFPA nor its committees, representatives or agents, shall be held liable by any person as a result of the cancellation of the conference or of any of the arrangements, programs or plans connected therewith, or for any injury, damage or inconvenience which may be suffered by any person while travelling to or from, or during such person's presence in Sweden in connection with this conference. Participants are advised to purchase their own insurance against any such occurrences.

Emergency phone numbers

Police	112
Ambulance	112
Fire brigade	112

Exhibition

You will find the conference exhibitors in room M1 on level 4 as well as on level 5 (foyer and balcony). Please see page 91 for more details.

To ensure that the 4th World Psoriasis & Psoriatic Arthritis Conference complies with national and regional regulations and guidelines for the Pharmaceutical Industry, access to the commercial exhibition area (M1) and to any industry-sponsored satellite symposia dealing with development, research or suchlike pertaining to prescription medication will be restricted to healthcare professionals only.

Exhibitors/booth staff that have purchased an exhibition badge are exempt from this rule, but please note that access to the satellite symposia will be for registered delegates only.

Evaluation

After the conference you will receive an evaluation form by e-mail. Your opinion is very important for us and we appreciate that you take your time to fill it out.

Hearing aid

A limited number of receivers for hearing aid are available in the main hall only –A1.

Please contact the hall hostess for assistance with the receiver.

iTec – interact with the presenters and panelists

Through the conference's iTec-solution, you can both ask and answer questions during the sessions.

Log onto the following web address:
www.mediatecgroup.com/psoriasis

When you have opened the web address, you will find two options:

1. 'Open question' button where you can ask questions to the speaker. The questions will be sent to the session chairs who will forward the questions, verbally, to the speaker.
2. Live feed – where you answer questions from the speakers or participate in audience polls.

Language

The official conference language is English. No simultaneous interpretation will be made.

Lost and found

Contact the registration desk in case of personal belongings being lost or found. Belongings not picked up during the conference will be handed over to Waterfront Congress Centre.

Meals

Morning and afternoon coffee will be served in the exhibition area (M1) and on level 2. Lunches are not included in the registration fee. There are several restaurants in the vicinity of the conference venue.

Posters

The abstract posters will be displayed on level 2 and on the balcony located on level 5 of the conference venue.

Smoking policy

This is a non-smoking conference. Please note that Sweden has a non-smoking policy, i.e. smoking is prohibited in public buildings, public transport taxis, buses and trains and any indoor facilities.

Speakers' preview room

Speakers are requested to use the facility to ensure that their presentation projects clearly and is in the correct order. Presentations that haven't been admitted previously should be handed over to the technical staff a minimum of 2 hours before the session starts. Presentations received after this deadline cannot be guaranteed optimal audio-visual support. The speakers' preview room will be in room 37, located on level 3 of the conference venue.

Tourist information

A representative from the Stockholm Visitors Board will be present in the information desk from 12.00 to 18.15 on Thursday July 9 and Friday July 10, where you also will be able to book sightseeing tours.

For more extensive tourist information about Stockholm please visit the website: www.visitstockholm.com/en/. You will find more practical information and tips about Sweden on www.visitsweden.com.

Twitter

The official hashtag for the conference is #WPPAC15. IFPA will be reporting extensively from the conference, so please make sure to follow @PsoriasisIFPA as well as the hashtag on Twitter to get full coverage of the proceedings.

Wireless Internet

- Open the network setting on your device
- Choose network IFPA 2015
- Log in is Psoriasis

Invited speaker abstracts and disclosures

(Alphabetic order by Presenter)

Managing Hepatic Comorbidity

William Alazawi ^{1,*}

¹ Queen Mary University, London, United Kingdom

Non-alcoholic fatty liver disease (NAFLD) is the most common cause of chronic liver disease in the western world. Defined as the presence of excess fat in the liver in the absence of significant alcohol consumption or other known causes, it is widely regarded as the hepatic manifestation of the metabolic syndrome. The prevalence of NAFLD is significantly increased in patients with psoriasis than the general population, particularly in those who are obese or have other metabolic risk factors. A significant proportion of patients with NAFLD can develop the more aggressive form of the disease, non-alcoholic steatohepatitis (NASH) which is characterised by inflammation, liver cell death and fibrosis. Although often asymptomatic, patients with NASH are at risk of developing cirrhosis, liver failure and hepatocellular carcinoma. Therefore, it is important to identify individuals with psoriasis and NAFLD who are likely to develop hepatic complications.

This presentation will discuss the risk factors for NAFLD and the relationship between psoriasis and NAFLD. A practical approach to the management of patients with abnormal liver tests will be presented.

Disclosure of Interest: W. Alazawi Paid instructor of: Janssen and Gilead (fees for speaking)

Abbvie, Janssen and Gilead (travel support)

Outcome Measures in Psoriasis

April Armstrong ^{1,*}

¹ Department of Dermatology, University of Colorado, Denver, United States

Outcome measures are critical to capture various aspects of the disease burden. To determine how effective novel therapies are, to distinguish among the systemic therapies, and to accurately assess the overall psoriasis disease burden, the choice of outcome measure is critical. A good outcome measure meets the criteria of “truth, discrimination, and feasibility.” How well do some of the time-honored outcome measures in psoriasis live up to these criteria and how well do the emerging outcome measures in psoriasis perform? In this presentation, we explore how our data interpretation and clinical decision-making may be quite different depending on the choice of outcome measures.

Disclosure of Interest: None to declare

The genetics of psoriasis and psoriatic arthritis – current and future developments

Jonathan Barker ^{1,*}

¹ King's College London, St John's Institute of Dermatology, London, United Kingdom

Historically, psoriasis has been classified according to clinical features alone. However it is clear that considerable heterogeneity of phenotype, natural history, disease associations and response to treatment exists. This talk will examine the impact that genetic research has made on our understanding of psoriasis and the clinical consequences thereof. In particular, progress towards completing the genetic map of psoriasis will be discussed along with the utility of genetics in defining clinical entities and providing a rationale for new therapeutic interventions. Genetics will inevitably play a role in personalised medicine and already it is contributing to this goal in psoriasis.

Disclosure of Interest: None to declare

Psoriasis and psoriatic arthritis: les extrêmes se touchent?

Wolf-Henning Boehncke ^{1,*}

¹ Dpt. of Dermatology and Dpt. of Pathology and Immunology, University of Geneva, Geneva, Switzerland

Presence (current or past) of psoriasis of the skin (PsO) is a major criteria to establish the diagnosis of psoriatic arthritis (PsA). However, the course of PsO and PsA in any given patient seem not to correlate. This raises the issue of whether these are two distinct entities, or whether we should regard them as parts of the spectrum of a “psoriatic disease”. Arguments in favour of both hypotheses can be found, using several different approaches:

Genetics: While some overlap can be demonstrated with regard to genetic susceptibility loci, there are also genetic associations not shared between PsO and PsA.

Pathophysiology: T-lymphocytes, namely TH17 cells, are thought to play a central role in PsO and PsA. To which extend the complex interplay between the adaptive and the innate immune system observed in PsO finds a counterpart in PsA is less clear.

Clinical observation: Numerous systemic therapies are quite effective in controlling PsO and PsA alike (e.g. methotrexate, TNF- α inhibitors, inhibitors of IL-17 or IL-23, PDE4 inhibition), while others are preferentially or exclusively effective in PsA (e.g. leflunomide) or PsO (e.g. fumaric acid esters). Whether or not PsA and PsO are considered comorbidities (versus two clinical manifestations of a “psoriatic disease”) remains an academically challenging question. With regard to patient management, both have to be taken into account. It is the task of dermatologists (or other non-rheumatologists) seeing patients suffering from PsO to always screen for the presence of PsA for the following reasons:

Independent of severity, PsO in the context of PsA necessitates systemic therapy.

The presence and clinical type of PsA have a direct impact on choosing the “right” drug for any given patient.

Time matters: A delay in the introduction of an effective treatment of PsA substantially impacts the long-term outcome.

In real life, PsA and PsO do not only “touch” each other, but are intimately linked. The nature of this link awaits further clarification. But open questions in this regard should not affect clinical decision-

Invited speaker abstracts and disclosures

making with the goal of a more comprehensive therapeutic approach already today.

Disclosure of Interest: W.-H. Boehncke Consultant of: Abbvie, Biogen Idec, Covagen, MSD, Novartis, Lilly, Janssen, Pfizer, UCB, Leo, Speakers bureau of: Abbvie, Biogen Idec, Janssen, UCB, MSD, Lilly, Novartis, Pfizer, Lilly

Treat to Target

Laura Coates ^{1,*}

¹ Leeds Institute of Rheumatic and Musculoskeletal Medicine, University of Leeds, Leeds, United Kingdom

This talk aims to summarise the evidence on treating to target (T2T) in psoriatic arthritis (PsA) and discuss the relevance of treating to target in psoriasis. The evidence from the recent EULAR literature search in SpA is reviewed. This article found no studies in SpA in 2011 which compared a T2T approach against standard care in a RCT. One of the issues raised in PsA is what target to use. The minimal disease activity (MDA) criteria were developed specifically for PsA and have been validated in observational and interventional cohorts. These have now been utilized in the Tight Control of PsA (TICOPA) study comparing T2T to standard care in early PsA providing the first evidence that T2T in PsA can improve outcomes. To translate this into clinical practice in PsA, patient education and feasibility are key. Future research must address the optimal therapies to be used within a T2T framework which will need to take subtype of PsA into account.

Disclosure of Interest: L. Coates Grant/Research support from: Abbvie, Janssen, Consultant of: Abbvie, Janssen, UCB, MSD, Celgene, Speakers bureau of: Abbvie, Pfizer, Janssen, UCB, MSD

Improving patient outcomes through active patient involvement in clinical trials

Maarten De Wit ^{1,*}

¹ Medical Humanities, VU Medical Center, Amsterdam, Netherlands

There is a worldwide trend to incorporate patient representatives in health care innovations and health research. Patient participation is expected to lead to research that is more relevant for patients and that provides better answers to their questions. Involving patients in clinical trials is still rare although there are some case studies where patients have influenced the recruitment strategy, the informed consent procedure, the outcome measures and the dissemination of results. In this presentation we will explore the opportunities for patients and researchers to collaborate during every phase of a clinical study. Based on the state-of-the-art literature on patient and public involvement, potential benefits and challenges will be presented and discussed.

Disclosure of Interest: None to declare

Early systemic intervention in psoriasis

Liv Eidsmo ^{1,*}, Mona Stähle ¹

¹ Department of Medicine Solna, Karolinska Institutet, Stockholm, Sweden

The European guidelines on the treatment of psoriasis vulgaris advise a “step-up” strategy starting with topical treatment. Systemic treatment is typically started after several years of disease progression in patients with severe disease. In contrast, rheumatology

has adapted an aggressive approach in treating rheumatoid arthritis by initiating systemic treatment within six months of the onset of disease. This early systemic intervention has proven very successful in preventing destructive inflammation of the joints and many patients are able to discontinue treatment due to complete disease remission.

A similar approach could be considered for psoriasis patients but data on the efficacy of early intervention is lacking. One challenge is to identify patients that would benefit from early intervention. The obvious target group for early systemic intervention would be patients with severe disease and patients that develop arthritis and other comorbidities. It could potentially be desirable to minimise disease progression by early and powerful intervention even in moderate cases of psoriasis, taken that the pathogenic skin inflammation is not normalised in resolved lesions and that the disease often recurs in the same areas of the skin throughout life. Clinical trials are necessary to clarify if, and for whom, early systemic treatment would be successful in psoriasis.

Disclosure of Interest: L. Eidsmo Grant/Research support from: Novartis, Pfizer, Consultant of: Novartis, Paid instructor of: Pfizer, M. Stähle Grant/Research support from: Pfizer, Novartis, Consultant of: Novartis, Paid instructor of: Pfizer

Psoriasis as a multiorgan disease: Consensus and controversies

Oliver Fitzgerald ^{1, 2,*}

¹ Conway Institute for Biomolecular Research, University College Dublin, ² Consultant Rheumatologist and Newman Clinical Research Professor, St. Vincent's University Hospital, Dublin, Ireland

Patients with psoriasis often present with a complex array of clinical features including skin and nail involvement, musculoskeletal inflammation such as arthritis, enthesitis, dactylitis and axial disease, extra-cutaneous, extra-musculoskeletal involvement such as uveitis or inflammatory bowel disease and co-morbidities including obesity, hypertension, hyperlipidaemia and type-2 diabetes mellitus. This clinical heterogeneity is matched by genotypic diversity with recent data suggesting that clinical phenotype is at least in part determined by diversity within the HLA region. Results have shown that: (1) HLA-CW0602 is associated with early onset psoriasis and late-onset synovial-based disease; (2) haplotype B*27:05:02-C*01:02:01 or the alleles B*27:05:02; C*01:02:01 are associated with early onset musculoskeletal disease, symmetrical spinal involvement, enthesitis and dactylitis; and (3) Haplotype B*08:01:01-C*07:01:01 or the alleles B*08:01:01; C*07:01:01 are associated with synovial-based disease, asymmetrical spinal involvement, dactylitis and joint fusion/deformity. Given this clinical and genetic diversity, it is not surprising that there is considerable divergence in treatment responses. It is certainly a testable hypothesis that specific genotypes are associated with certain pro-inflammatory pathways and that defining these pathways may well lead to more rational therapeutic choices.

Disclosure of Interest: None to declare

Psoriasis more than skin deep

Joel Gelfand ^{1,*}

¹ Department of Dermatology, University of Pennsylvania Perelman School of Medicine, Philadelphia, United States

Psoriasis is a chronic disease that manifests clinically with skin and joint findings. The pathophysiology is complex and includes chronic

inflammation, epidermal proliferation, and angiogenesis. Many of the pathophysiological mechanisms of psoriasis share common features with other systemic diseases such as insulin resistance, atherosclerosis, and thrombosis. A variety of studies have demonstrated that psoriasis is associated with myocardial infarction, stroke, mortality, diabetes, and more recently moderate to advanced chronic kidney disease. Many of these studies demonstrate that these associations are independent of traditional risk factors and occur in a “dose-response” manner in that the more severe the skin disease is, the stronger the association with co-morbidity. As a result, many now consider psoriasis a systemic disease and not one simply confined to the skin and joints. The clinical implications of these findings and future research needs will be addressed.

Disclosure of Interest: J. Gelfand Grant/Research support from: Abbvie, Jansen, Pfizer, Novartis, Consultant of: Amgen, Abbvie, Eli Lilly, Novartis, Coherus, Celgene, Merck, Jansen, Pfizer

Managing renal co-morbidity – case presentation followed by interactive discussion

Joel Gelfand ^{1,*}

¹ Department of Dermatology, University of Pennsylvania Perelman School of Medicine, Philadelphia, United States

Psoriasis is a common chronic inflammatory disease of the skin and joints. In the last decade an enormous amount of research has demonstrated that psoriasis is associated with major medical morbidity such as diabetes, cardiovascular disease, and excess mortality. More recently, studies have emerged suggesting that moderate to severe psoriasis is associated with an increased risk of chronic and end stage renal disease. These findings have important implications for clinical practice. Some psoriasis treatments are nephrotoxic (cyclosporine) whereas others depend on the kidney for excretion (methotrexate). The implications of psoriasis and kidney disease will be explored through a case-based discussion.

Disclosure of Interest: J. Gelfand Grant/Research support from: Abbvie, Jansen, Pfizer, Novartis

Clinical phenotyping of psoriatic arthritis (PsA)

Dafna Gladman ^{1,*}

¹ Medicine/Rheumatology, Toronto Western Hospital, Toronto, Canada

Abstract text: Psoriatic arthritis has been defined as an inflammatory arthritis associated with psoriasis. Originally 5 patterns were described, including distal arthritis, oligoarthritis, polyarthritis, axial disease, and arthritis mutilans. While these patterns may classify patients at presentation, they change over time. More recently, five domains have been identified, namely, peripheral arthritis, axial disease, dactylitis, enthesitis, skin and nail disease. PsA is now defined as an inflammatory musculoskeletal disease associated with psoriasis. The peripheral arthritis may be oligo or polyarticular, it is often asymmetric. Axial disease may affect the sacroiliac joints and the spine. Dactylitis refers to inflammation of the whole digit. It most commonly affects the toes, and digits with dactylitis have more severe radiological changes. Enthesitis is inflammation at the insertion of tendons and ligaments into bone. The most commonly affected sites are the Achilles and the plantar fascia insertions around the calcaneus. All of these are associated with an inflammatory type pain which commonly occurs at night or times of inactivity and usually improves with activity. There may be reddish discoloration over the affected areas. More severe skin involvement appears to be a risk for developing PsA among patients with psoriasis. However,

in rheumatology clinics patients with PsA do not have as severe psoriasis as those seen in dermatology clinics. Nail lesions have also been identified as risk factors for the development of PsA among patients with psoriasis. In addition to these clinical features, patients with PsA may also have extra-articular features, including iritis, mucous membrane lesions, and inflammatory bowel disease. Also important when describing patients with PsA is what the response to therapy has been. When assessing the clinical phenotype all of these features must be included.

Disclosure of Interest: None to declare

Clinical phenotyping of psoriasis of the skin and nails

Christopher Griffiths ^{1,*}

¹ The University of Manchester, Manchester Academic Health Science Centre

Disclosures of Interest: Professor Griffiths is in receipt of research grants and/or has received honoraria from AbbVie, Actelion, BMS, GSK, Janssen, Leo Pharma, MSD, Pfizer, Novartis, Sandoz, Eli Lilly and UCB Pharma.

Psoriatic arthritis – present knowledge

Björn Guðbjörnsson ^{1,*}

¹ Centre for Rheumatology Research, University Hospital, Reykjavik, Iceland

Psoriatic arthritis is a relatively common inflammatory joint disease with a prevalence of 0.16% > 0.2% in Scandinavia, or 5-10% of all patients with psoriasis. However, individuals with psoriatic arthritis frequently go undiagnosed and therefore do not receive the most effective available treatment.

Most patients with psoriatic arthritis suffer from arthritis in the peripheral joints, while a significant number are diagnosed with spondyloarthritis. Others suffer from enthesitis and dactylitis or “sausage finger” as the most prominent symptom. Extra-articular manifestations are uncommon in patients with psoriatic arthritis, except for the skin signs of psoriasis. Psoriasis is likely to be present at the time of diagnosis of the arthritic condition in the majority of patients, but may present simultaneously with the arthritis manifestations or even later in the disease course.

Psoriatic arthritis has been divided into five clinical subcategories: DIP joint involvement (distal interphalangeal joints), asymmetric oligoarthritis, symmetric polyarthritis, spondylitis predominant or arthritis mutilans. These subcategories have recently been modified to peripheral arthritis, spondyloarthritis and mutilans arthritis. In addition, special attention is also given to those who present with enthesitis, dactylitis and nail changes.

Strong heritability of psoriatic arthritis through several generations has been well described. Results from genetic research combined with clinical findings (phenotype) may bring forward targeting treatment alternatives and personalized therapy.

The prompt and accurate diagnosis of psoriatic arthritis is essential, thus the best management can be offered. New treatment algorithms for psoriatic arthritis have recently been published by GRAPPA, which aim to further improve the patients' care.

This review will discuss the most recent knowledge about psoriatic arthritis.

Disclosure of Interest: None to declare

Invited speaker abstracts and disclosures

Management of Psoriatic Arthritis Challenges in Egypt

Mahira Hamdy El Sayed^{1,*}

¹ *Dermatology and Venereology, Ain Shams University, Cairo, Egypt*

Psoriatic arthritis has been defined as a unique inflammatory arthritis associated with psoriasis, it affects 5–42% of patients with psoriasis depending on the geographical location.

In 75% of cases the skin condition precedes arthritis in 15% it appears after arthritis and in 10% of patients they appear simultaneously.

The outcome depends on the association with severe comorbidities such as hypertension, diabetes and dyslipidemia.

Early diagnosis requires a high degree of clinical suspicion especially when skin changes are subtle and poorly defined. It is important to diagnose cases early, thus providing adequate treatment to prevent the occurrence of progressive mutilating, disabling disease.

Progress in the identification of biomarkers and imaging techniques as ultrasound and MRI, together with the development of specific instruments for clinical assessment represent important perspectives for early diagnosis and follow up before the development of severe disease.

New forms of therapy as TNF alpha inhibitors have improved dramatically the quality of life and the prognosis of patients with psoriatic arthritis.

Our weekly psoriasis clinic in Ain Shams University showed a high prevalence of PsA among patients attending the weekly clinic, even in those not presenting with any joint pain. Xrays and imaging studies by ultrasound confirmed joint affection.

In Egypt there are several unmet needs facing the dermatologists especially in the government sector namely limited resources, preventing expensive physicians from proceeding with any further investigations or supplying the patients with early adequate treatment, as most of the newer biologic drugs are very expensive and the ministry of health budgets are stretched very thin.

There is an urgent need in the developing countries especially in Africa and the Middle East for the implementation of a national strategy involving both patients and physicians of the importance of early diagnosis and treatment of the disease.

Dermatologists should be aware of the early diagnosis of Psoriatic arthritis through the use of simple clinical tests as PEST, a high score will necessitate further investigations and early treatment.

Disclosure of Interest: M. Hamdy El Sayed Shareholder of: none, Grant/Research support from: none, Consultant of: Leo, Pfizer, Abbvie, Jansen, Novartis, Employee of: none, Paid instructor of: none, Speakers bureau of: Janssen, Novartis

What is new in Small Molecules?

Arthur Kavanaugh^{1,*}

¹ *Professor of Medicine, University of California, San Diego, United States*

Current treatment options for patients with active PsA include synthetic disease-modifying antirheumatic drugs and biologic agents. Propelled by increased understanding of the immunopathogenesis of PsA, new therapeutic agents targeting different biologic pathways have been evaluated. These include orally available treatments that are approved or in clinical development for the treatment of psoriasis and PsA. This includes the phosphodiesterase 4 inhibitor apremilast and Janus kinase (JAK) inhibitors. Apremilast has demonstrated significant improvements in patients with moderate to severe psoriasis and PsA in phase II and III clinical trials and was recently

approved in several countries for the treatment of psoriatic arthritis and psoriasis. Tofacitinib, an oral inhibitor of JAK3 and JAK1, and to a lesser degree JAK2, already approved for the treatment of RA in several countries, has demonstrated positive results in psoriasis in and studies in PsA are ongoing. Interestingly, Tofacitinib ointment was also well tolerated and efficacious in improving chronic plaque psoriasis in a phase II study. Other novel agents under development in psoriasis include JAK1/JAK2-selective inhibitor baricitinib an oral PKC inhibitor, and others. With these new developments treatment options will continue to improve in the future.

Disclosure of Interest: None to declare

Biosimilars

Jonathan Kay^{1,*}

¹ *Division of Rheumatology, Department of Medicine, University of Massachusetts Medical School, Worcester, Massachusetts, United States*

Biosimilars are intended to be cost-effective biopharmaceuticals priced lower than their reference products. A biosimilar is designed to be nearly identical to its reference product. It is engineered to have the same primary amino acid sequence as the reference product and is produced in a cell line chosen for its ability to produce post-translational modifications that closely resemble those of the reference product. Most importantly, the biosimilar has been subjected to review by a regulatory agency, according to a prespecified abbreviated pathway for approval of biosimilars, to ensure that it is as pure, potent, and safe as the reference product and that there are “no meaningful clinical differences” between the biosimilar and the reference product.

Regulatory agencies review the “totality of evidence,” including data from extensive comparative analytical, in vitro, pharmacokinetic, and pharmacodynamic testing demonstrating that the biosimilar is “highly similar” to its reference product, and from at least one clinical trial in a disease for which the reference product has been approved. These data can then be extrapolated to other indications for which the reference product is approved. However, after approval of the biosimilar, extensive pharmacovigilance studies are required to assess its immunogenicity and safety over an extended time period.

Copies of biopharmaceuticals are marketed in several countries, including China, Colombia, India, and Mexico. However, these “biomimics,” which have not been reviewed according to a defined regulatory pathway for approval of biosimilars, are not true biosimilars.

A biosimilar infliximab has been approved and now is marketed in over 50 countries. In the EU, this biosimilar infliximab was granted extrapolation of indications to all 8 diseases for which reference infliximab was approved: rheumatoid arthritis, ankylosing spondylitis, psoriatic arthritis, psoriasis, and juvenile and adult Crohn's disease and ulcerative colitis. However, in Canada, the same biosimilar infliximab was approved only for rheumatoid arthritis, ankylosing spondylitis, psoriatic arthritis, and psoriasis, but not for the inflammatory bowel diseases.

Disclosure of Interest: J. Kay Grant/Research support from: AbbVie Inc.; Eli Lilly and Company; Pfizer Inc.; Roche Laboratories, Inc. (all paid to the University of Massachusetts Medical School), Consultant of: Amgen, Inc.; AbbVie Inc.; AstraZeneca; Boehringer Ingelheim GmbH; Bristol-Myers Squibb Company; Eli Lilly and Company; Epirus Biopharmaceuticals, Inc.; Genentech Inc.; Hospira, Inc.; Janssen Biotech, Inc.; Merck Sharp & Dohme Corp.; Nippon Kayaku Co., Ltd.; Novartis Pharmaceuticals Corporation; Pfizer Inc.; Samsung Bioepis; Roche Laboratories, Inc.; UCB, Inc.

Molecular and immunological biomarkers in psoriasis and psoriatic arthritis

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The World Health Organization has defined a biomarker as “a characteristic that is objectively measured and evaluated as an indicator of normal biological processes, pathological processes, or pharmacological responses to a therapeutic intervention.” By this definition, psoriasis is a disease rich with biomarkers that show altered skin structure, skin infiltration by several types of leukocytes including specific types of dendritic cells and T-cells, and >4000 genes with altered expression in lesional skin vs. background “unaffected” skin. Biomarkers of disease also include alterations in leukocyte activation and subsets in peripheral blood, as well as increases in cytokines, e.g., TNF and IL-17, and other inflammatory products in the blood. Likewise, synovial tissue from patients with psoriatic arthritis has definable biomarkers for infiltrating leukocytes and inflammatory gene sets. The cumulative set of biomarkers in psoriatic lesions, as well as blood, has been used over at least two decades to create biomarkers that define active cutaneous disease and response of psoriasis skin lesions to specific (broad and narrow) immune antagonists. Through this analysis, a subset of disease biomarkers have been identified as pathogenic mediators of cutaneous disease. These molecules include key inflammatory cytokines of T-cells and dendritic cells (TNF, IL-17, and IL-23), as well as inflammatory molecules that are induced in keratinocytes and which lead to epidermal hyperplasia, leukocyte recruitment, and an autoimmune inflammatory environment. A central “IL-23/Th17 axis” is now understood to be the main driver of cutaneous disease and new therapeutics are focusing on suppression of this key inflammatory axis in psoriasis. This inflammatory axis may also be activated in circulating leukocytes and blood plasma to increase risk of systemic inflammation and associated cardiovascular disease risk. The identification of functional biomarkers in psoriatic arthritis tissues is currently a work in progress, but available data suggest that inflammatory pathways may be significantly different from cutaneous disease in affected joints.

Disclosure of Interest: J. Krueger Grant/Research support from: Novartis, Pfizer, Janssen, Lilly, Merck, Kadmon, Dermira, Boehringer, BMS, Paraxel during the conduct of the study; grants paid to Institution from Amgen, Innovaderm and Kyowa. Personal fees from Serono, BiogenIdec, Delenex, AbbVie, Sanofi, Baxter, Xenoport, Kineta, Consultant of: Delenex, AbbVie, Sanaofi, Baxter, Xenoport, Kineta, Novartis, Pfizer, Lilly, Merck, Kadmon, Dermira, Boehringer, BMS, Serono, BiogenIdec, Janssen

What is new in topical treatment and phototherapy?

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Introduction: Psoriasis vulgaris is a chronic inflammatory skin disease affecting 2-3% of the population worldwide. Some patients have a limited to moderate affection of the skin, and will tend to use topical therapy and ultraviolet therapy. Additionally, some patients have contra-indications for the now wide range of systemic treatments, or have to combine these with topical therapy because of partial efficacy.

Objectives and Methods: To give a critical and evidence-based overview of the advantages and limitations of topical drug therapy and ultraviolet light therapy in psoriasis. Emphasis will also be put on

the possibility of combining them with systemic therapy for psoriasis. A systematic literature search was conducted in PubMed in May 2015, and also in Google Scholar, using key words ‘psoriasis’, ‘topical treatment’, ‘phototherapy’. No inclusion or exclusion dates were defined. Only articles in English were considered.

Results and Conclusions: Topical treatment of psoriasis remains the mainstay for several patients. Vitamin D preparations in combination with corticosteroids of various potencies are the most important active ingredients for maintenance of clinical response. The formulation and the clinical efficacy determine the level of adherence - usually a problem with topicals - of the patient. Certain small molecules in various stages of clinical development seem to be promising in topical application. Phototherapy is another standard option for psoriasis, especially when topical treatment options are not sufficient, contraindicated or when these are not practical e.g. in guttate psoriasis. It is efficacious and cost-effective. When total doses are respected, the risk for non-melanoma skin cancer can be contained. Several forms of rays and application methodologies are present.

Disclosure of Interest: None to declare

Psoriasis in Asia-Pacific Region

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Asia-Pacific region varies in the definition depending on context, but it typically includes much of the East Asia, South Asia, Southeast Asia, and Australia. Patients with psoriasis in this highly heterogeneous region differ in terms of ethnicity, socio-economic status, geographic influence, system of health care and traditional health belief. Variation in the clinical disease pattern, as a result, would be expected when compared to the Western populations. Understanding the differences of their disease may provide us further insights and broader understanding of the etiology and pathogenesis of psoriasis.

Differences in the epidemiology, genotype-phenotype characteristics and comorbidities between Asian and Caucasian patients will be discussed. Although therapeutic options for disease control are similar to those being used in Western countries, the consideration for choosing systemic treatments are different due to the different skin type and background clinical characteristics in Asian patients. Treatment efficacy and side effect profile of the commonly used systemic treatments will be highlighted.

Complementary and alternative therapy in particular Traditional Chinese Medicine (TCM) is widely accepted and used in Asian countries. Advances in the molecular understanding of the pharmacology of TCM in psoriatic disease process and the metabolomics study in the classification of specific “TCM phenotype” in psoriasis will be illustrated. Perhaps the knowledge of TCM in psoriasis may provide us an opportunity to have a completely new angle on viewing the pathomechanism of the disease.

Clinical research and therapeutic trials in psoriasis was traditionally performed among Caucasian patients. In the past decades, there is increasing number of clinical studies including epidemiology, comorbidities, quality of life and clinical trial being performed for Asian patients. The joined research effort and collaboration from dermatologists among different Asia-Pacific regions will enable us to assemble the disease puzzle from different angles and will ultimately improve the care of our psoriasis patients.

Disclosure of Interest: None to declare

Invited speaker abstracts and disclosures

Treating psoriatic arthritis with widespread pain – is this enthesitis or fibromyalgia?

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Introduction: Enthesitis affecting multiple sites results in a widespread pain syndrome (WPS). In this case, the differential diagnosis with fibromyalgia (FM), may be particularly challenging. Psoriatic patients with WPS may have polyenthesitic PsA, or FM or both polyenthesitic PsA and FM.

Study results: Number of tender points and somatic symptoms may be useful to distinguish FM and PsA on a clinical ground [1]. More precisely, the presence of 6 or more FM-associated symptoms and 8 or more tender points was the best predictor of FM as opposed to PsA. The new diagnostic criteria for FM [2, 3], which are based solely on pain and FM-associated symptoms, should be well-suited to identify FM in psoriatic patients. AS power-doppler ultrasound (PDUS) may reveal objective signs of inflammation at the enthesal sites, it might be helpful to distinguish true enthesitis from FM pain. A PDUS study revealed that the features indicative of PsA were the presence of inflammatory changes, the number of enthesal sites with abnormalities (≥ 3 being the best cutoff point), and the inflammatory involvement of the plantar fascia and the Achilles tendon [3]. However, these findings were not seen in all of the PsA patients and were present also in a few FM patients. Another PDUS study confirmed these results and showed that the concordance rate between number of clinically and PDUS positive entheses was low in FM patients (25%) and relatively high in PsA patients (60%) [4].

Conclusion: PsA patients with WPS are likely to have FM when they have many somatic symptoms. They are also likely to have polyenthesitis when PDUS examination shows involvement of 3 or more enthesal sites and a good concordance rate between PDUS changes and clinical findings. However, the lack of PDUS signs does not exclude enthesitis and a minority of FM patients have PDUS findings indicative of enthesitis.

References: [1] Marchesoni A, et al. *J Rheumatol* 2012;39:849–55. [2] Wolfe F, et al. *Arthritis Care Res* 2010;62:600–10. [3] Wolfe F et al. *J Rheumatol* 2011;38:1113–22. [4] Marchesoni A, et al. *J Rheumatol* 2012;89 (supp Jul):29–31. [5] Salvarani C, et al. *Ann Rheum Dis* 2014;73 (Supp.2):734.

Disclosure of Interest: None to declare

Cardiovascular Screening in Psoriasis and psoriatic Arthritis

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Cardiovascular and metabolic comorbid disease, also termed cardiometabolic diseases, are increasingly prevalent in patients with psoriasis and psoriatic arthritis. Whether or not these associations are independent of risk factors for diabetes and heart disease is currently the focus of intense investigation. While these studies are developing data to better understand these associations, it is important that healthcare providers for patients with psoriasis and psoriatic arthritis are aware of best practice guidelines in screening for these conditions. This symposium will cover basic approaches to cardiometabolic disease screening, with the goal of improving both education and detection of potentially reversible causes of comorbid disease. Healthcare providers should spend time performing height & weight, so that a body mass index can be calculated to screen for

obesity. Fasting laboratory data should be drawn to evaluate for cholesterol and glucose concentration in the blood, to screen for hyperlipidemia and diabetes, respectively. Finally, a seated blood pressure after five minutes of rest should be obtained to screen for hypertension. Following these simple guidelines has resulted in a high detection rate of any one of these abnormalities in a large psoriasis and psoriatic arthritis cohort study currently underway at the National Institutes of Health in the United States of America.

Disclosure of Interest: None to declare

Outcomes measures related to psoriatic arthritis

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Psoriasis and Psoriatic Arthritis: Focus on Sub-Saharan Africa

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The prevalence of psoriasis ranged from 0.70% to 2.9% in Europe and 0.72% to 2% in the USA. Psoriatic arthritis (PsA) occurs in 0.02% to 0.42% of the population. A lower prevalence of psoriasis and PsA is reported in Asia. The prevalence of psoriasis and PsA in Blacks in sub-Saharan Africa (SSA) is not known as there are no epidemiological studies. The prevalence of psoriasis in dermatology clinics has been reported in many studies in SSA. They show that the prevalence of psoriasis is low with regional differences. The prevalence of psoriasis in West Africa was <0.1% to 0.9% in Nigeria, 0.03% in Mali, 0.3% in Angola, 0.4% in Ghana and 0.6% in Senegal. A higher prevalence has been reported in South Africa (1.5% – 2.1%) and East Africa, with 2.3% in Ethiopia, 2.8% in Uganda, 3.2% in Kenya and 3.5% in Tanzania. The HLA-CW6 allele, which is associated with psoriasis in Caucasians, has a high prevalence in African Blacks. Thus other genetic factors or environmental factors may be important in Blacks. HIV infection may be associated with a severe or explosive form of psoriasis. Reviews of hospitalised patients' with severe psoriasis showed that 34% of 56 patients in Ghana and 10 of 16 patient (63%) in South Africa had HIV infection. In a Zambian study of 28 patients with psoriasis and PsA, 27 had HIV infection. In HIV negative patients, reports of psoriatic arthritis have only consisted of small case series. The low prevalence of HLA B27 in African Blacks in SSA will also contribute to a lower prevalence of psoriatic spondyloarthritis.

In SSA patients face many challenges which include poverty, poor education, cultural beliefs, limited access to health care and availability of treatment. Many of the studies on psoriasis in SSA were conducted a long time ago. Thus there is a need for newer studies on psoriasis in SSA. Clinical assessment and imaging studies in Blacks with psoriasis, will help to provide more information about psoriatic arthritis. Further studies on psoriasis and PsA should also

include the role of genetic and environmental factors, impact of HIV and anti-retroviral treatment, prevalence of co-morbidities, response to treatment and outcome.

Disclosure of Interest: G. M. Mody Consultant of: Advisory Board Member for Vimovo – Astra Zeneca (South Africa)

What is new in biologics? (for psoriasis)

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Abstract text: With the registration of the first anti-IL-17A biologic secukinumab another challenging period in systemic psoriasis therapy has started. Targeting IL-17A with secukinumab and the forthcoming ixekizumab as well as with the anti-IL-17 receptor antibody brodalumab results in a large proportion of responders and in a high degree of improvement. This achievement is paralleled by a favorable safety and tolerability profile as far as clinical study data are available.

A next generation biologics is in late stage development namely the IL-23p19-antibodies and first study data provide evidence for an even superior efficacy and no specific safety signals so far.

Apart from biologics targeting cytokines well known to be involved in psoriasis pathogenesis other developmental products neutralize mediators of inflammation in general such as GM-CSF.

Disclosure of Interest: None to declare

What is new in the Update of the European Psoriasis Guidelines?

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Introduction: Guidelines for the treatment of psoriasis provide an overview of a variety of practical aspects relevant to selecting drugs and monitoring patients on therapy. Based on the evaluation of efficacy and safety data, as well as on the practical experience obtained with different treatment modalities, they contain a range of recommendations reached in a structured consensus process.

Methods: For the development of the guidelines, available evidence of the efficacy and safety of the systemic treatments for psoriasis was summarized. Based on the evidence, recommendations were formulated and consented by an expert panel. Members of the expert group were dermatologists, a clinical pharmacologist and a rheumatologist. They were officially nominated by the European Dermatology Forum (EDF), the European Association for Dermatology and Venereology (EADV) and the International Psoriasis Council (IPC).

Results: The European Guidelines for the Treatment of Psoriasis have been updated. The changes in the guidelines will be presented and new recommendations will be presented. In addition to the detailed assessment and advice on how to use the available systemic treatments, chapters on how to manage special patient populations have been added.

Disclosure of Interest: A. Nast Grant/Research support from: Research grant from Pfizer, GSK.

How do we treat the whole patient?

A Nursing Perspective

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The role of the dermatology nurse is pivotal in the management of patients with a chronic skin disease. The nurse patient/consultation must ensure a shift from a paternalistic approach to a patient centred approach with the ultimate aim to empower the patient to make a decision about their own health. The use of a holistic exploration of the patients' needs should encompass the physical, cognitive, spiritual, emotional and social assessment of the individual. Accurate assessment will determine not only the person's understanding of the disease but their level of motivation, their perspective of the disease and their expected outcomes of disease management. Effective communication through addressing health care literacy is fundamental to the process leading to self management for the individual. Patient's understanding must be established to ensure the person has enough knowledge, skills and confidence to use the information given and therefore take an active part in their own health and wellbeing. The outcome of the patient's experience through improved clinical interventions will be enhanced in holistic assessment by a dermatology nurse with the necessary knowledge, skills and understanding of their skin disease.

Disclosure of Interest: None to declare

Case Presentation: Psoriasis in difficult to treat sites

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Psoriasis localized to certain areas of the body like scalp, nails, palms and soles remains difficult to treat. The efficacy of topical treatments is limited by bioavailability and patients' adherence, since ideal vehicles have not been found yet. In many cases, systemic treatment is required, and the response to treatment is variable. Palmoplantar psoriasis, especially the pustular variants, continues to be a therapeutic ordeal. This presentation will review the challenges posed by treatment in the scalp, the nails and palmoplantar locations, with a discussion on therapeutic choices available and examples of the successful use of biologic treatments.

Disclosure of Interest: L. Puig Grant/Research support from: Investigator in clinical trials sponsored by Amgen, Lilly, Janssen, Novartis, Consultant of: Abbvie, Amgen, Boehringer Ingelheim, Leo Pharma, Lilly, Janssen, Novartis, Pfizer, Speakers bureau of: Janssen

Psoriatic Arthritis Guidelines

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Abstract text: Psoriatic arthritis is a heterogeneous disorder that involves multiple domains including skin, peripheral joints, axial skeleton, dactylitis and enthesiis. The involvement of multiple domains in a single patient presents the clinician with therapeutic challenges. To address this challenge, I will discuss a comprehensive approach to the treatment of PsA based on evidence base treatment strategies developed by GRAPPA. I will demonstrate how these

Invited speaker abstracts and disclosures

strategies which include consideration of domain involvement and the presence of comorbidities can improve outcomes for patients with psoriatic disease.

Disclosure of Interest: C. Ritchlin Grant/Research support from: Abbvie, UCB, Amgen, Consultant of: Abbvie, Amgen, Janssen, Regeneron, Sanofi

Pediatric psoriasis and early diagnosis

Marieke Seyger ^{1,*}

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Conflict of Interest Disclosure: Dr. Seyger received grants from/was involved in clinical trials from Abbvie, Almirall, Astellas, Leo Pharma and Pfizer. She served as a consultant for Abbvie, Almirall, Boehringer Ingelheim and Pfizer, gave lectures for Pfizer and travelled with Abbvie, Pfizer and Leo Pharma to meetings; fees were paid directly to the institution.

Early Intervention in Psoriatic Arthritis

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Psoriatic arthritis (PsA) is nowadays considered a progressive disease where a substantial number of patients can develop severe erosive and deforming disease with major structural damage. It has been shown that 27% of patients with early disease develop erosions within 2 years of follow-up, despite treatment with traditional Disease modifying-antirheumatic drugs. There is limited evidence that early treatment is effective or that might prevent the progression of damage, disability, or increase survival. The evidence of the effectiveness of early interventions in PsA comes from observational studies, as there are no randomized controlled trials.

Gladman et al. showed that patients followed up prospectively in a specialized clinic within 2 years of diagnosis had significantly diminished rate of damage/radiographic progression compared with those first seen after 2 years of disease diagnosis, suggesting that patients with PsA should be treated earlier. Similarly, Tillett et al. analyzed their cohort of 267 PsA patients and found that symptom duration of more than 1 year before diagnosis was significantly associated with an increase in HAQ scores. Haroon et al. published their experience with an Irish cohort and found that more than 6 months delay to the first rheumatologic visit was associated with the development of peripheral joint erosions and worse HAQ. Recently, in a follow-up study of the Swedish Early Psoriatic Arthritis Register, a short delay between onset of symptoms and diagnosis was found to be an independent predictor of attaining minimal disease activity (MDA) at the 5-year follow up. In summary, evidence from cohort studies support the idea that early diagnosis and treatment are beneficial in PsA patients.

Around 30% of patients with Psoriasis develop PsA. Several studies have found that patients with psoriasis without musculoskeletal symptoms have significantly more enthesitis than controls. With the theory of the enthesitis as involved in the pathophysiology of PsA, this feature might have treatment implications that are going to be discussed in the presentation.

Disclosure of Interest: E. Soriano Grant/Research support from: Abbvie, Pfizer, Roche, Janssen, Bristol Myers Squibb, UCB, Speakers bureau of: Abbvie, Pfizer, Roche, Janssen, UCB

How does psoriasis develop from onset and during a decade?

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Stockholm Psoriasis Cohort (SPC) was established in 2000 recruiting adult (>15 years) psoriasis individuals with onset of their skin disease within the past 12 months. Recruitment stopped in 2005. Three dermatologists examined the patients and only cases with a confident clinical diagnosis were included. Population controls matched for age, sex and postal code were recruited and examined by a trained nurse for signs of skin disease to exclude psoriasis. In all, 757 patients (56% women) and 506 controls were enrolled. The main phenotypes were Plaque psoriasis (74%) and Guttate psoriasis (26%). Patients with joint complaints were examined by a rheumatologist and 20% of patients with plaque phenotype at onset were diagnosed with PsA, whereas 11% were diagnosed with PsA in the guttate group. So far 550 patients have been followed up after at least 10 years disease course. In the plaque group the diagnosis of PsA has increased to 29% and in the guttate group 17% showed symptoms compatible with PsA.

In the guttate cohort, 40% were completely healed after the initial episode whereas 52% had developed a clear plaque phenotype, the remaining having experienced recurrent guttate episodes. PsA diagnosis was more common in those that developed plaque (23% versus 11%)

An important aim of the study is to identify biomarkers and the first question was how the HLA-Cw6 status would distribute among groups. As expected HLA-C was significantly associated with the guttate phenotype (72%) compared with plaque (29%) but did not seem to influence the course (healed 74%) versus (development of plaque 70%). In the plaque group 13% were healed (HLA-Cw6 21%) at follow up, 19% had developed a severe phenotype (HLA-Cw6v 28%) with the remaining staying rather mild (HLA-Cw6 30%). In accordance with our published data HLA-C status does not seem to influence disease severity. We are currently exploring genetic markers in more detail using GWAS data. Using nationwide databases and registries there was no difference in overall or cardiovascular mortality between patients and controls. Comorbidity profiles and epigenetic signatures will be studied more in detail.

Disclosure of Interest: None to declare

Managing cardiovascular comorbidity

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Psoriasis has recently been recognized as a systemic disease that is associated with multiple comorbidities. Many studies have identified cardiovascular risk factors in patients with psoriasis, such as abdominal obesity, dyslipidemia, hypertension and insulin resistance. These results suggest the need for improved screening and management of traditional cardiovascular risk factors but also counseling practices for modifiable life style factors, such as smoking and obesity, in patients with psoriasis. Irrespective of classical cardiovascular risk factors, the systemic inflammation may itself play a pivotal role in increasing cardiovascular risk by accelerating atherosclerosis. Vascular inflammation and the related elevated

cardiovascular risk may affect all patients beginning in the early stage of disease (perhaps even preceding clinical onset) and worsening with additional classical cardiovascular risk factors. Treatment of the underlying inflammatory process could contribute to improved cardiovascular outcomes in patients with psoriasis and psoriasis arthritis. This interactive session starts with a case presentation followed by a discussion about managing cardiovascular comorbidity in psoriasis.

Disclosure of Interest: T. Talme Consultant of: Abbvie, MSD, Pfizer, Jansen, Amgen, Lilly, Novartis, Cellgene, UCB

Psoriasis and psoriatic arthritis around the world Focus on: Latin America

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Psoriasis and its related manifestations, including psoriatic arthritis, are prevalent disorders in the Western world, particularly among Caucasians. The study of these disorders in Latin America lags way behind the study of other more common rheumatic disorders, such as rheumatoid arthritis and systemic lupus erythematosus. From the scarce evidence available, however, it appears that the prevalence and incidence of psoriasis and psoriatic arthritis are lower than in other parts of the Western world and almost negligible among natives from the Andean region, although confirmatory epidemiologic studies are lacking. Documenting the disease burden of psoriasis and psoriatic arthritis (PsA) in Central and South America is difficult. The most conclusive data have come from the Iberoamerican Registry of Spondyloarthritis (RESPONDIA), a cross-sectional study conducted between 2006 and 2007 which registered patients with a diagnosis of spondyloarthritis in a multinational, multicenter (Argentina, Brazil, Costa Rica, Chile, Mexico, Peru, Uruguay, Venezuela, Spain, and Portugal).

Disclosure of Interest: None to declare

Psoriasis and psoriatic arthritis: Psychological and psychosocial associations

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Patients with psoriasis and psoriatic arthritis regularly experience psychological and psychosocial problems, which are often not fully addressed in routine dermatological care. However, as these problems have been shown to influence for example treatment adherence and symptom severity in these groups, they are highly relevant.

In the current presentation, an overview will be given of psychological and psychosocial aspects of these physically and psychologically disabling conditions. The influence of psychological distress will be discussed, with a focus on a highly prevalent specific stressor in especially psoriasis: the experience of stigmatization. Based on fresh off the press results of our psychodermatology research group, the stigmatization experience and its prevalence and predictors will be presented, as well as innovative experimental research methods showing that psoriasis patients show behavioral

avoidance to stigmatization-related cues such as pictures of people with disgusted facial expressions.

In order to effectively treat these psychological and psychosocial problems such as distress in these conditions, a multidisciplinary approach is needed. Treatment options will be briefly discussed, with a special focus on tailored cognitive behavioral eHealth treatment for risk groups of patients with psoriasis.

Disclosure of Interest: None to declare

Psoriasis and psoriatic arthropathy in the UK

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Psoriasis and psoriatic arthropathy in the UK discusses the current management of these conditions within Primary Care in the UK; a discussion of the difficulties diagnosing and managing psoriasis in the UK is the basis of this presentation. Following this, there is discussion of difficulties in diagnosing psoriatic arthropathy and issues with training GPs in the UK to recognise psoriasis and arthritis. There follows a short section on commissioning health services in the UK to manage psoriasis and psoriatic arthropathy.

Disclosure of Interest: None to declare

Biomarkers and Imaging

P001

The Swedish early Psoriatic Arthritis (SWEPSA) Registry 5-year follow-up: Slow Radiographic Progression with highest scores in male feet and patients with Baseline X-ray Abnormalities

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Objectives: The aim is to describe early X-ray findings in psoriatic arthritis (PsA) from the SwePsA registry using the Wassenberg score, evaluate progression of structural damage, analyze correlations to clinical disease parameters and identify predictors of progressive radiographic joint disease.

Methods: Out of 197 SwePsA patients followed for 5 years, 72 (38% of the women and 35% of the men) had radiographs at baseline and 5-year follow-up. Clinical data were collected according to the SwePsA protocol.

Results: Mean (SD) age of the 43 women and 29 men was 48.7 (15.0) and 46.4 (14.5) years. In the total SwePsA cohort women had higher disease activity (Theander et al, ARD 2014), in this sub-cohort mean baseline DAS28 / DAPSA were similar in women and men (3.94 / 22.27 and 3.73 / 21.63, ns). However, radiographic abnormalities were more pronounced in men. See Table for total score. Feet scores for women and men at baseline were 0.30±0.74 vs. 0.93±1.69 (p=0.039) and at 5 year 0.84±2.13 vs. 2.35±3.92 (p=0.028) respectively. Baseline and 5-year scores were highly correlated (for total scores: Spearman rho 0.752, p=0.000). Baseline total score correlated with ESR (rho: 0.364, p=0.004) and 5-year score with swollen joint count (rho 0.310, p=0.016). Male gender and higher total baseline score were the only predictors of radiographic abnormalities after 5 years: OR (male/female): 4.42 (95% CI: 0.35-8.49) p=0.034. Baseline total score: OR: 2.23 (1.80-2.65), p=0.000. Only the baseline Wassenberg score was an independent predictor of radiographic progress. None of the 15 patients with the highest scores/progress had received TNF-blockers.

Discussion/Conclusions: Radiographic progression in early PsA is slow in general, very prevalent in male feet and predicted by baseline radiographic findings. Thus scoring of hand and feet X-rays at baseline cannot be substituted by clinical signs, especially not in men.

Gender	Total score	Sign.	Erosion	Sign.	Prolifera-tion	Sign.
Men	3.05±4.04	p=0.044	1.17±2.27	p=0.025	1.79±2.41	p=0.35
Women	1.38±2.44		0.30±0.88		1.30±1.99	
		5-year follow-up				
Men	7.79±12.46	p=0.034	3.41±8.20	p=0.051	4.62±4.92	p=0.041
Women	3.37±4.85		0.86±1.68		2.56±3.49	

Disclosure of Interest: None to declare

P002

Association between tumor necrosis factor inhibitor therapy and changes in C-reactive protein among patients with psoriasis, psoriatic arthritis, or rheumatoid arthritis

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Introduction: The use of tumor necrosis factor inhibitors (TNFi) for psoriasis is associated with a significant reduction in myocardial infarction (MI) incidence and risk,¹ and in cardiovascular mortality.²

Objective: To assess changes in C-reactive protein (CRP) for patients with PsO, PsA, or RA exposed to a TNFi with concomitant exposure to methotrexate (MTX) compared to patients exposed to methotrexate therapy with no TNFi.

Methods: This was a retrospective cohort study from data extracted from the electronic databases of the Kaiser Permanente Southern California (KPSC) Health Plan from January 1, 2002 to July 31, 2011. Patients had at least 3 ICD-9 diagnosis codes of PsO (696.1), PsA (696.0), or RA (714.0, 714.1, 714.2, 714.4, 714.81) during the study period but prior to the index date. Among the underlying cohort of patients exposed to MTX, those who initiated a TNFi (adalimumab, etanercept, infliximab, or golimumab) anytime during the study period comprised the TNFi+MTX cohort. The study protocol was approved by the local institutional review board.

Results: There were 979 and 294 patients in the MTX and TNFi+MTX cohorts, respectively. The mean crude change was 1.1 mg/dL (SD=19.84) for the MTX cohort and -9.2 mg/dL (SD=26.64) for the TNFi+MTX cohort. In the main effects ANCOVA model, there was a significantly lower difference in the mean change of -5.18 mg/dL (95% CI: -8.24,-2.12) for the TNFi+MTX cohort compared to the MTX cohort after adjusting for baseline CRP, age, gender, type 2 diabetes, and inflammatory condition.

Conclusions: The use of TNF inhibitors with concomitant MTX was associated with a clinically and statistically significant decrease in CRP in patients with PsO, PsA, or RA.

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P003

Assessments of neutrophil to lymphocyte ratio and platelet to lymphocyte ratio in Korean patients with psoriasis vulgaris and psoriatic arthritis

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Introduction: There are no simple and clinically useful biomarkers for both psoriasis and PsA patients yet. Recently, the neutrophil to lymphocyte ratio (NLR) and platelet to lymphocyte ratio (PLR) have been recognized as markers for inflammatory markers of cardiac and noncardiac disease and indicators for poor prognosis in various cancers.

Objectives: To assess neutrophil to lymphocyte ratio (NLR) and platelet to lymphocyte ratio (PLR) as inflammatory markers in patients with psoriasis and psoriatic arthritis (PsA).

Methods: This was retrospective cross-sectional study. A hundred and eleven psoriasis patients and 25 PsA patients were compared to 94 healthy controls. Demographic, clinical and laboratory information were collected and analyzed. NLR and PLR were calculated. White blood cell (WBC), neutrophils, eosinophils and NLR were increased in psoriasis patients compared to controls.

Results: WBC, neutrophils, NLR, monocytes, platelets and PLR were increased in PsA patients compared to both controls and psoriasis patients. ESR and CRP were significantly higher in PsA patients compared to psoriasis patients. Among psoriasis patients, PASI score correlated positively with platelets, NLR and PLR. These parameters were all significantly higher in moderate to severe psoriasis patients (PASI \geq 10) compared to mild patients (PASI $<$ 10). Elevated platelets, NLR and PLR were statistically significant predictors of the increased PASI scores in multivariate analysis. NLR, PLR and ESR were statistically significant predictors for the presence of PsA in psoriasis patients. NLR was the strongest predictor (OR 3.351, P=0.005).

Conclusions: In conclusion, elevated NLR and PLR were significantly associated with psoriasis and PsA. Both NLR and PLR can be used as one of the inflammatory markers in patients in psoriasis and PsA.

Disclosure of Interest: None to declare

P004

Ultrasound Enthesitis in Primary Care Psoriasis Patients with Musculoskeletal Complaints

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Introduction: Psoriasis patients with enthesitis can classify as psoriatic arthritis since the introduction of the CASPAR classification criteria in 2006. However, clinical assessment of the entheses could be challenging. Therefore, we need a better way to identify the inflammatory component of enthesal involvement in psoriasis. To detect these inflammatory components at the entheses, an ultrasound (US) examination can be used to identify inflammatory disease at the entheses.

Objectives: Our aims were to determine the prevalence of US abnormalities among psoriasis patients in primary care and to determine the concordance of clinical and US information at individual enthesal sites.

Methods: Adult primary care patients with psoriasis were invited. Patients who reported pain in joints, entheses or the lower back were clinically evaluated. If a painful enthesitis on the LEI/MASES or if arthritis was present, US examination of the entheses was performed. Seven entheses were evaluated according to the Madrid Sonographic Enthesis Index (MASEI) scoring system. Structural US changes were calcifications, increased thickness, irregular fibre structure and erosions. Enthesitis was defined as US inflammation (i.e. positive power Doppler (PD) signal or a thickened enthesitis of the plantar fascia) with one clinical feature at the same enthesitis (i.e. tender LEI/MASES enthesitis; reported pain in the history; self-reported pain in the questionnaires).

Results: In total, 111 patients were assessed both by physical examination and by US. In 106 (95%) patients we detected US abnormalities. In 56 (50%) patients we found structural changes without indication for inflammatory disease. In 50 (45%) patients we found US abnormalities indicating inflammatory disease at the enthesitis (positive PD: n=35; thickened plantar fascia: n=15). When we combined US data with clinical information, 36% of US inflammatory disease were confirmed.

Conclusions: We found US abnormalities in 95% of the primary care psoriasis patients with musculoskeletal complaints. In 45% of primary care psoriasis patients we observed US inflammatory disease, which was confirmed in 36% of the patients by clinical information.

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Clinical phenotypes

P005

Clinical features and course of generalized pustular psoriasis in Korea

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Introduction: The clinical course of generalized pustular psoriasis (GPP) is variable and unpredictable. Sufficient data on the clinical course of the disease has not been reported due to its rarity.

Objectives & Methods: To investigate the clinical features and course of GPP according to its subtypes, medical records of patients diagnosed with GPP from 2002 to 2012 at two tertiary hospitals were reviewed. The data included patient demographics, associated symptoms, aggravating factors, patterns of relapse, and prognosis.

Results: Thirty-three patients with GPP were included in our study, with a mean age of 45.6 years and a male:female ratio of 1:1.2. Patients were categorized based on the following subtypes: acute GPP, 21 (63.6%); GPP of pregnancy, 2 (6.1%); juvenile GPP, 3 (9.1%); and annular GPP, 7 (21.2%). In the acute GPP population, skin lesions cleared within 2 months in 11 (73.3%) of patients, and 6 (40.0%) of these patients had no relapse. Severe complications, abortion or death, were observed in two patients (100.0%) with GPP of pregnancy. Nineteen (76.0%) of GPP patients experienced persistence or relapse of skin lesions. The patterns of skin lesions upon relapse included plaques in 6 patients (31.6%), pustules in 8 patients (42.1%), and plaques and pustules in 5 patients (26.3%). Among acute GPP patients, 16.7% of patients with no relapse had a history of plaque psoriasis.

Conclusions: Our study presents the detailed clinical course of GPP by subtype in Korean patients.

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Disclosure of Interest: None to declare

P006

Frequency and prevalence of flares in psoriasis: results of the Adelphi Real World Psoriasis Disease Specific Programme in the United States

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Introduction: Plaque psoriasis is a chronic disease with periods of exacerbation (flares) and remission.

Objectives: To report the frequency and prevalence of flares in patients (pts) with moderate to severe psoriasis in the US.

Methods: This was a retrospective, cross-sectional analysis of survey data of pts with psoriasis treated by a dermatologist from Jan to Mar 2013 in the Adelphi Real World Psoriasis Disease Specific Programme. Data included pt demographics, clinical information and medication use. Differences are described between flaring and non-flaring pts using Wilcoxon rank sum and Fisher's exact tests. Flaring was defined as pts with current disease activity, with worsening/unstable disease progression, and included pts in remission ≤ 12 weeks according to indicators of current disease activity.

Results: Of the 525 pts available for analysis, 142 (27.0%) were categorised as currently flaring. Flaring pts who experienced an episode had a mean of 2.1 physician-defined episodes/year, with mean length of 30.1 days. Females had more flares than males (54.6% vs 45.4% with flares; $p=0.0056$); age and body mass index were not significant factors. Time since diagnosis was shorter for flaring vs non-flaring pts (median: 20.7 vs 46.6 months; $p<0.0001$). Current disease severity was greater in flaring pts: physician rated disease severity, 'severe' 26.1% vs 1.6%, for flaring vs non flaring, respectively ($p<0.0001$); median Psoriasis Area and Severity Index 12.0 vs 8.0 ($p=0.0002$). Anxiety ($p=0.0139$) and renal impairment ($p=0.0374$) were significantly associated with increased risk of flaring. A greater proportion of flaring pts (vs non flaring) was not currently treated with biologic therapies (71.0% vs 56.3%; $p=0.0031$).

Conclusions: To our knowledge, this is the first characterisation of flaring in pts with moderate to severe psoriasis. Over a quarter of pts were currently affected by flaring. Flaring was associated with significantly worse disease severity and was more common in pts with a shorter time since diagnosis, possibly indicating that the most appropriate treatment regimen for disease management has not yet been determined.

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Comorbidities

P007

Psoriasis may not be a significant risk factor for ischemic cardiovascular diseases: results from a matched nationwide cohort study

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Introduction: The complex associations among psoriasis, systemic treatment and cardiovascular diseases continue to be debated.

Objectives: To determine the independent role of psoriasis in the development of cardiovascular diseases and the effects of disease severity and systemic anti-psoriatic treatments.

Methods: A nationwide cohort study from Taiwan's National Health Insurance Research Database between 1997 and 2011. We identified three age-, gender- and comorbidities-matched study groups, consisting of 26892 patients (severe psoriasis), 26892 patients (mild psoriasis) and 107568 patients (reference cohort). The risks of ischemic heart disease and stroke were compared among the three groups. Cumulative incidences and hazard ratios were calculated after adjusting for competing mortality. Additional adjustments were made for presence of psoriatic arthritis; anti-inflammatory drugs; number of hospital visits and Charlson's comorbidity index.

Results: The risks of ischemic heart disease and stroke were comparable among the three cohorts, with 12-year adjusted cumulative incidences of 15.83% (95% CI 15.26-16.39), 15.31% (95% CI 14.74-15.88) and 15.44% (95% CI 15.14-15.74), respectively. Multivariate stratified analyses indicated comparable risks for ischemic heart disease and stroke for mild and severe psoriasis in terms of matched reference subjects in almost every subset of patients. Subjects with severe disease taking biologics, methotrexate or retinoid had lower incidence rates of ischemic heart disease and stroke than those not taking these drugs. No significant differences of risk were observed among patients taking each of these three drugs.

Conclusions: Psoriasis has comparable risks for ischemic heart disease and stroke in terms of cardiovascular risk factor-matched reference subjects. Use of biologics may be associated with lower risks in severe psoriasis.

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P008

The difference of cardiovascular risk factor between mild psoriasis patients and moderate to severe psoriasis patients group

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Introduction: Psoriasis is a chronic inflammatory skin disease that is associated with an increased cardiovascular risk profile. The relationship between PASI and cardiovascular risk factor has not been evaluated in Korean psoriasis patients yet.

Objectives: We aimed to evaluate the relationship between PASI and cardiovascular risk factors in Korean patients.

Methods: Physical examination, serum lipid profile analysis, and the

medical history of the psoriasis patients were reviewed. The severity of psoriasis was assessed using Psoriasis Area Severity Index (PASI) scores: mild, <10; moderate to severe, ≥10. A total of 96 patients with plaque type psoriasis were included.

Results: Significant differences of prevalence of cardiovascular risk factor and the level of lipid profile according to the severity of the psoriasis were not discovered except triglyceride level.

Conclusions: Our results suggest that there is no close correlation between the severity of psoriasis and cardiovascular risk factor in Korean psoriasis patients.

Disclosure of Interest: None to declare

P009

A study of awareness and screening behavior of cardiovascular risk factors in patients with psoriasis and dermatologists

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Introduction: A number of studies have suggested that an increased frequency of cardiovascular (CV) diseases in patients with psoriasis.

Objectives: In this study, we assessed the awareness among psoriasis patients and dermatologists in private primary clinics about the increased CV risk linked to psoriasis, and examined the screening behaviors of dermatologists for CV risk factors in psoriasis patients.

Methods: We distributed the questionnaires to dermatologists in primary clinics and psoriasis patients about their awareness of the increased CV risk factors in psoriasis patients.

Results: One hundred and four patients and 50 dermatologists were included; 64.4% of patients and 92% of dermatologists answered that they knew that the risk of CV diseases increased in psoriasis patients. However, far fewer dermatologists than expected followed the screening guidelines for CV risk factors. We found that duration ($P < 0.0001$) and severity ($P < 0.0001$) of psoriasis were related to patient's awareness. A significant correlation between dermatologist's awareness and the number of psoriasis patients they cared for each month was also observed ($P < 0.024$).

Conclusions: This study may help promote the idea that psoriasis patients require education about increased CV risk factors and that dermatologists require further education about screening practices to detect CV risk in psoriasis patients.

Disclosure of Interest: None to declare

P010

Arterial stiffness and carotid intima-media thickness in Asian patients with psoriasis

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Introduction: The risk of cardiovascular events is reportedly elevated for psoriasis patients. Evaluation of the beta stiffness index (BSI) and carotid intima-media thickness (IMT) are noninvasive methods of assessing arterial stiffness and subclinical atherosclerosis.

Objective: To compare the carotid arterial stiffness and IMT of Asian psoriatic patients and healthy controls, using high-resolution ultrasonography, to analyze if psoriasis is an independent risk factor for the differences in values, and to determine their correlation with clinical characteristics among psoriasis patients.

Methods: Fifty-four psoriatic patients and 60 age- and gender-matched healthy volunteers were enrolled. The BSI and IMT of the common carotid artery were assessed using a high-resolution, B-mode ultrasonographic echo-tracking system.

Results: Psoriasis patients exhibited a significantly higher BSI compared with control subjects ($P < 0.001$). The IMT tended to be higher in patients with psoriasis, but was not statistically significant ($P = 0.076$). There was no significant difference in the presence of carotid plaques between groups. BSI was positively correlated with age, systolic blood pressure, disease severity defined according to the history of systemic treatment, and traditional cardiovascular disease (CVD) risk factors. Psoriasis was independently correlated with BSI.

Conclusions: This study showed that psoriasis was independently associated with arterial stiffness. Increased arterial stiffness in patients with psoriasis suggests that the risk of cardiovascular disease is elevated in relatively non-obese Asian psoriatic patients. Arterial stiffness represents a functional vascular change, and allows for earlier detection of CVD than IMT, which represents a structural vascular change. Using BSI to assess CVD may allow patients to benefit from more timely intervention.

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P011

Decreased plasma Brain-Derived Neurotrophic Factor (BDNF) levels in psoriasis: a case-control study

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Introduction: Brain-derived neurotrophic factor (BDNF) is a molecule associated with neuroplasticity and synaptic strengthening, being decreased in mental disorders and other conditions associated with chronic stress. Nonetheless, BDNF has not yet been investigated in psoriasis, a chronic inflammatory skin disease that exacerbates with stress and is associated with mental illness.

Objectives: to determine BDNF plasma levels in patients with psoriasis and healthy volunteers.

Methods: Case-control study. We enrolled adult patients ($n=94$) with psoriasis for at least one year, which were matched by age and gender with healthy volunteers ($n=307$) from the Brazilian Longitudinal Study of Adult Health (Elsa-Brasil). Participants presented no history of mental disorders or coronary artery disease. BDNF plasma levels were determined using the Promega ELISA kit. We performed a general linear model in which age, gender, systolic blood pressure, serum glucose, HDLc, LDLc, triglycerides, smoking status and body mass index were imputed to compare BDNF levels in psoriasis vs. controls.

Results: After adjustment for clinical and demographic variables, BDNF plasma levels were significantly decreased ($p=0,01$) in psoriasis (estimated marginal means of 3922 pg/mL; 95% CI 2660-5135) vs. controls (5788 pg/mL; 95% CI 5185-6442). Similar levels were found in mild vs. severe psoriasis.

Conclusion: Our findings support the "brain-skin" connection in psoriasis as BDNF, a critical neurotrophin associated with neuroplasticity, is decreased in psoriasis. Further studies should investigate whether BDNF increases after treatment and is associated with disease severity.

Disclosure of Interest: None to declare

P012

The impact of depression on the risk of myocardial infarction, stroke, and cardiovascular death in patients with psoriasis: a Danish nationwide cohort study

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Introduction: Psoriasis is a chronic inflammatory disease associated with depression, myocardial infarction (MI), and stroke. Patients with depression have an increased cardiovascular risk, but the link between psoriasis, depression, and cardiovascular disease is unclear.

Objectives: To investigate the impact of depression on the risk of MI, stroke, and cardiovascular death in patients with psoriasis.

Methods: All patients with psoriasis and incident depression aged ≥ 18 years from 1997 to 2011 were identified as cases, and matched with up to four patients with psoriasis without depression (controls). Information (e.g. age, gender, socio-economic status, medication, and comorbidity) was linked at individual-level through administrative registries. Information on comorbidity and medication was continuously updated throughout the study period. Depression was modeled as a time-dependent variable to estimate the effects of acute and chronic depression, and remission from depression, respectively. The primary endpoints were a diagnosis of MI, stroke or cardiovascular death, respectively. Incidence rates were calculated and incidence rate ratios (IRRs) adjusted for age, gender, socio-economic status, medication, and comorbidity were estimated by Poisson regression models.

Results: The cohort comprised 29,406 Danish patients with psoriasis, including 6,244 patients with incident depression. Risk of MI (IRR 1.57, 95% confidence interval [CI] 1.07-2.29), stroke (IRR 1.95, 95% CI 1.43-2.66), and cardiovascular death (IRR 2.24, 95% CI 1.53-3.26), was significantly increased during stages of acute depression, and the risk of stroke (IRR 1.51, 95% CI 1.19-1.90) was significantly increased in chronic depression. During remission from depression, only the risk of stroke continued to be increased, compared with patients who never experienced depression.

Conclusions: In psoriasis patients, depression is associated with an increased risk of MI, stroke, and cardiovascular death, especially during acute depression. Focus on symptoms of depression in patients with psoriasis may be relevant to potentially reduce their risk of cardiovascular morbidity and mortality.

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P013

Skin-mediated promotion of thrombosis is abrogated following IL-23/IL-17 inhibition or IL-6 deletion in mouse models of psoriasis

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Introduction: Psoriasis patients are at increased risk of dying of heart attack and stroke and have elevated S100A8/9 levels, which are predictive of poor CVD event outcomes. S100A9^{-/-} mice develop less

atherosclerosis and are protected against thrombosis. KC-Tie2 mice develop a psoriasis-like skin phenotype, have elevated skin and serum S100A9 and are pro-thrombotic.

Objectives: We hypothesized that genetic deletion of S100A9 in KC-Tie2 mice would improve skin disease, decrease systemic inflammation and be thrombo-protective.

Methods: KC-Tie2 and S100A9^{-/-} mice were mated and skin inflammation, circulating pro-inflammatory cells and thrombosis outcomes were examined.

Results: Thrombosis was similar between KC-Tie2 x S100A9^{-/-} and KC-Tie2 mice (n=14-20/grp; P=0.9), perhaps due to persistent skin inflammation, elevated pro-inflammatory cytokines including IL-6, IL-17A, IL-12/23 (n=9-12; ~5-6-fold; P<0.05) and sustained circulating Ly6Chi monocytes (n=3-7; ~4-fold; P<0.01). To explore the contributions of these cytokines in promoting thrombosis, we backcrossed KC-Tie2 with IL-6^{-/-} mice or treated KC-Tie2 mice with clinically validated cytokine function blocking antibodies targeting IL-17A, IL-17RA, IL-12p40, and IL23p19 (n=7-14/grp). Thrombosis returned to control mouse levels in KC-Tie2 x IL-6^{-/-} mice (n=14-20) and was significantly improved in KC-Tie2 mice treated with each of the cytokine function blocking antibodies vs. IgG controls (P<0.05 each). Improvement in skin inflammation was only observed in KC-Tie2 mice treated with antibodies, not KC-Tie2 x IL-6^{-/-} animals, consistent with clinical reports of skin improvement following IL-23/IL17 pathway inhibition, but not IL-6. We hypothesized that circulating monocytes contribute to atherothrombosis, however IL-6 deletion failed to decrease this cell population, whereas functional inhibition of IL-23/IL-17 pathway did, despite thrombosis improving in all groups.

Conclusions: These data reveal a critical role for skin-derived IL-6 and the IL-23/IL-17 pathways in promoting thrombosis related to psoriasiform inflammation and suggest that thrombotic events occur independently of elevated monocytes in KC-Tie2 mice.

Disclosure of Interest: None to declare

P014

Prevalence and Determinants of Psychiatric Disorders in Patients with Psoriasis

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Introduction: Psoriasis is a common skin disorder and is associated with impairments in quality of life and psychological distress.

Objectives: We investigated the prevalence and determinants of psychiatric morbidity in form of psychiatric disorders among patients with chronic plaque psoriasis approaching a dermatology service in our institute.

Methods: A two-stage cross-sectional assessment using a standardized self-rated diagnostic instrument (Patient Health Questionnaire), severity of psoriasis and a quality of life (QOL) assessment followed by a clinician-administered diagnostic instrument (Mini International Neuropsychiatric Interview) was conducted on 104 consenting consecutive patients from January to November 2013.

Results: The prevalence of any psychiatric disorder was 19.23% with the self-rated instrument and 45.19% with the clinician rated instrument. Depressive disorders were the most common group of diagnoses. Impairment in quality of life (QOL) was found to be predictive of any psychiatric disorder and depressive disorders.

Conclusions: Our findings suggest a need for effective screening for psychiatric disorders in psoriasis, a greater sensitivity to the

association of QOL and psychiatric morbidity and the necessity of inputs from mental health professionals towards ensuring better outcomes for patients.

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Disclosure of Interest: None to declare

P015

Clinical outcome of a novel promising anti CD-6 biologic Itolizumab, in 7 patients with Psoriasis and co morbid conditions

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Introduction: Psoriasis is universal in occurrence, its prevalence in different population group varies from 0.1% to 11.8% (1). The root cause is unknown but with a strong genetic basis, T-cell mediated cytokines and keratinocytes forming an integral part of the cutaneous immune response, many biologic agents have shown promising results in management of Psoriasis. Itolizumab is a novel anti CD-6 humanized monoclonal anti body which works upstream by inhibiting the co-stimulation of T cells, lowering release of signature cytokines of Th1 & Th 17 cells(2).

Objectives: The aim of this study was to ascertain clinical efficacy, long term remission, safety, immunogenicity and improvement in DLQI of the patients with psoriasis and co morbid conditions.

Method: Study was designed on humans, 52 weeks study with follow ups, number of subjects included were 07 stratified by baseline PASI,DLQI and co morbid conditions. All patients were only on topical modality of treatment for 02 months before inclusion into the study. A dose of Itolizumab 1.6mg/kg body weight was given by intra venous route for 10 infusions, 6 infusions at 15 days intervals and rest 4 at monthly intervals to maintain the desired serum level of C min >10ugm/ml. All the patients were intolerant/ non responders to conventional immunosuppressant/immunomodulator.

Result: A statically significant improvement in PASI at baseline to PASI at the 10th infusion was achieved in all patients and similar results were obtained in DLQI &, PGA. Average remission period after 10th dose was for 30 weeks. Co morbid conditions were not affected by Itolizumab injections.

Conclusion: Itolizumab a novel anti CD-6 is safe and efficacious in the management of patients with moderate to severe plaque Psoriasis with co morbidities.

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Disclosure of Interest: None to declare

P016

HLA-Cw6, the Quintessential Psoriasis Gene Linked to Early Age of Onset, Decreased Longevity, CV Risk and the Response to Biologic Therapy

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Introduction: HLA-Cw6 has been linked to psoriasis (PsO), especially with early age of onset and it is very well documented that PsO has a significant impact on quality of life and is associated with comorbidities like arthritis and cardiovascular disease. Studies suggest that treatment with anti-TNFs could decrease the risk of myocardial infarction (MI).

Objectives: A case-controlled study to test for a significant difference between the risk of suffering cardiovascular events in two groups of patients with severe PsO. Patients who received biologic therapies and patients who did not.

Methods: Cases were extracted from patients' charts at a dermatology clinic (178), controls (440) were obtained from a publicly funded, privacy protected and secure data base.

Results: Early age of onset (before 25 years) was not only linked to HLA-Cw6, but also to a relative risk of suffering a MI of 8.852 ($p<0.05$) (885% increase). Patients with early age of onset had a mean age of death of 59.3 years, which was 11.9 years less than patients whose PsO began after the age of 25 ($p<0.01$). Patients who were Cw6-positive on average died 4.3 years earlier than those are Cw6-negative. Cardiovascular disease was the cause of death in 39.2% of patients.

Patients treated with biologic therapy had no increased risk of MI (RR 0.17, $p>0.1$), according to the relative risk calculations of patients on biologic therapy, risk was lowered by 83% (RR 0.176, $p=0.0611$).

Conclusions: HLA-Cw6 is linked to early age of onset of PsO and early age of onset increases the relative risk of MI by 885% in patients with moderate-to-severe PsO. Our data confirms that patients who are HLA-Cw6-positive, on average die 4 years earlier than patients who are Cw6-negative. Early age of onset is associated with 11.9 years of loss of life as compared to other PsO patients and almost 20 years compared to the general population. Our data also confirms observations that biologic therapy does not increase the risk of MI. In fact, biologics significantly decrease the risk of MI (by 83%), and therefore likely has a protective effect against MI and cardiovascular death in moderate-to-severe PsO patients, many who are at risk of MI.

Disclosure of Interest: None to declare

P017

Prevalence of comorbidities and its relationship to the clinical severity of psoriasis among patients seen in a tertiary hospital

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Background: Psoriasis has been shown to be associated with systemic diseases including hypertension, diabetes, dyslipidemia, obesity, and metabolic syndrome.

Objective: To determine the prevalence of comorbidities and its relationship with the clinical severity of psoriasis among patients seen in a tertiary hospital.

Methods: All patients with psoriasis seen from May to July 2013 were included in this study. Patients underwent clinical examination and laboratory examinations including fasting blood sugar and lipid profile. The clinical severity of psoriasis was assessed using the Psoriasis Area and Severity Index (PASI) and percentage of body surface area (BSA) involved. The prevalence of smoking, alcohol consumption, and comorbidities such as elevated blood pressure, diabetes mellitus, dyslipidemia, being overweight, and metabolic syndrome was reported in proportions. The relationship between smoking, alcohol consumption, and comorbidities with psoriasis severity was analyzed using Chi square test and Fisher's exact test.

Results: Among the 72 patients (50% males and 50% females with mean age 45.56 years), 33.33% had hypertension, 22.22% had diabetes mellitus, 72.2% had dyslipidemia, 33.3% were overweight, and 72.2% had metabolic syndrome. Elevated blood pressure ($P=0.0006$), diabetes mellitus ($P=0.0001$), being overweight ($P=0.015$), and metabolic syndrome ($P=0.0001$), were significantly associated with moderate or severe psoriasis.

Conclusion: Psoriasis is significantly associated with comorbidities. Significantly higher proportions of patients with moderate to severe psoriasis are found to be overweight and have elevated blood pressure, diabetes mellitus, and metabolic syndrome.

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P018

Prevalence of psoriasis and its comorbidities in relatives of psoriatic patients – a cross sectional study from a tertiary center in Northern Greece

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Introduction: Psoriasis is a chronic, inflammatory, multifactorial disease. Genetic predisposition of psoriasis has been indicated by family based studies. Prevalence among first degree relatives varies among different populations worldwide. Objectives: Aim of this cross – sectional study was to collect data on the prevalence of psoriasis and its comorbidities in first – and second – degree relatives of patients with psoriasis from Northern Greece. Methods: A non – validated questionnaire was handed to 100 patients (57 males and 43 females) who are followed up at the Psoriasis Outpatient Clinic of the 2nd Dermatology Department, Aristotle University School of Medicine in Papageorgiou General Hospital in Thessaloniki, Greece, from May to October 2014. Patients were completing demographic data and answered questions on the medical history of their first – and second – degree relatives. Results: Psoriasis was reported in 14% of first degree patients' relatives, in 15% of second degree patients' relatives and in 9% in both degree relatives. Psoriatic arthritis was reported in 6% of first degree relatives and in 3% of second degree relatives. The most common comorbidities were cardiovascular disease, cancer, dislipidemia, diabetes mellitus and strokes. Internal malignancies were found in 28% of first degree relatives and in 22% of second degree relatives. Cardiovascular disease was reported in 31% of first degree relatives, in 19% of second degree relatives and in 12% of first and second degree relatives. The less common comorbidities were inflammatory bowel disease and other autoimmune diseases. Conclusion: As an overall estimate, the most common among the comorbidities in the relatives of psoriatic patients were associated with the risk of metabolic syndrome.

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Disclosure of Interest: None to declare

P019

Psoriasis and comorbidities

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Introduction: In the project were included 42 obese patients with moderate-to-severe chronic plaque psoriasis with systemic treatment. Patients were divided in two groups – exercising with dietary habits change and non-exercising group. During 48 weeks we monitored blood count, biochemical, cytokines; weight loss, BMI, quality of life, PASI. In the control group was included 32 obese exercising persons without psoriasis.

Objectives: The aim was elicit if the change of dietary habits and lifestyle improves the effect of systemic treatment of psoriasis.

Methods: Patients were treated by systemic treatment. The blood parameters were monitored in weeks 0, 4, 8, 12, 16, 24, 36, 48. The quality of life, PASI and BMI was noticed in week 0 and 48.

Results: We observed significant improvement of average PASI, quality of life, non-significant improvement of BMI in exercising group. In all patients and in the control group was observed similar average weight loss. The level of total cholesterol, HDL and triacylglycerides decrease non-significantly in exercising patients. The sdLDL and LpPLA2 levels were lower during whole 48 weeks in the exercising patients than in the non-exercising. In non-exercising patients the PASI improvement was less significant. We observed decrease of IL-6 level in both groups. The increase of IL-10, TNF- α , adiponectin and leptin levels was noticed in both groups, more in the non-exercising. In control group IL-6 level was lower than in patients. In controls the leptin level was higher than in patients. The TNF- α level in controls was lower than in non-exercising group but comparable with exercising patients.

Conclusion: Marked improvement of PASI, quality of life and also some parameters of metabolic syndrome in exercising patients were observed. The average sdLDL and LpPLA2 levels, risk factors for cardiovascular disease, were lower in exercising patients. We observed increased level of cytokines IL-10 and TNF- α in all patients but more in non-exercising group.

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P020

Increased Risk of Herpes Zoster among Patients with Psoriasis: A Population-Based Cohort Study in the United Kingdom

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Introduction: Infection is the second leading cause of death among psoriasis patients receiving phototherapy or systemic medications and is an important comorbidity associated with psoriasis. Herpes zoster (HZ) is a common infection, especially among the elderly and those with impaired immunity, and it is associated with potential long-lasting complications and considerable negative impact on quality of life. The risk of HZ among psoriasis patients remains poorly understood.

Objectives: To determine the risk of HZ among patients with vs. without psoriasis.

Methods: We conducted a cohort study of patients with (N=192,986) and without (N=893,175) psoriasis in The Health Improvement Network electronic medical record database in the United Kingdom. Patients receiving phototherapy or systemic therapy were considered to have severe psoriasis (N=11,918). The outcome was defined by receipt of a diagnostic code for HZ. We compared rates of HZ between patients with and without psoriasis using multivariable Cox regression.

Results: Among patients <50 years old, the incidence rates of HZ per 1,000 patient years in all patients with psoriasis and those with mild and severe disease vs. patients without psoriasis were: 3.1 (95% confidence interval [CI], 3.0-3.3), 3.1 (2.9-3.2), and 4.0 (3.4-4.8) vs. 2.6 (2.6- 2.7), respectively. Among those ≥50 years old, the incidence rates were: 8.1 (7.9-8.4), 8.1 (7.8-8.3), and 9.0 (8.0-10.2) vs. 6.2 (6.1-6.3). In multivariable analyses adjusting for age, sex, comorbid disease, and systemic corticosteroid use, we found patients with vs. without psoriasis to be at increased risk of HZ: hazard ratio 1.28 (95% CI, 1.24-1.32). Risk of HZ was greater among those receiving phototherapy or systemic medications for severe psoriasis: mild, 1.27 (1.24, 1.31); and severe psoriasis 1.41 (1.27-1.56). Vaccination for HZ was reported in only 0.01% of patients with and without psoriasis.

Conclusions: Our results suggest that patients with psoriasis, particularly those receiving treatment for severe disease, are at increased risk of developing herpes zoster.

References: Abuabara et al. *Br J Dermatol.* 2010; 163:586.

Wakkee et al. *JAAD.* 2011; 65:1135.

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P021

Alcohol and psoriasis-the role of signalling neuromediators

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Introduction: Alcohol may worsen psoriasis and increase pruritus. The substance P/neurokinin-1 (NK-1) receptor (R) system may be involved in the control of alcohol intake.

Objectives: To investigate the expression of tachykinins among individuals with psoriasis and correlate the alcohol use with extent of the disease, pruritus and expression of tachykinin markers.

Methods: Fourteen males and fifteen females with moderate to severe psoriasis were recruited. The extent of their disease (PASI), the degree of pruritus (VAS), and their drinking habits using the enquiry Lifetime Drinking History (LDH), were investigated. Phosphatidylethanol (PEth), an alcohol specific biomarker was determined. Biopsies from involved and non-involved skin were analyzed regarding expression of substance P, NKA and the NK-1R, using immunohistochemistry.

Results: Consumption of alcohol as determined by PEth and LDH was found to significantly correlate with the expression of the NK-1R in the apical part of the epidermis in involved and with the NK-1R basal expression in the non-involved skin. There was a reverse correlation between the yearly total units of alcohol (P=0.05), the yearly (P>0.01)

and weekly (P<0.01) reported intake of wine and number of NKA positive cells.

Conclusions: The tachykinin system seems to be involved in psoriasis related to the intake of alcohol.

Disclosure of Interest: None to declare

P022

Cardiovascular disorders in DMARD-naïve patients with active early Psoriatic Arthritis

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Cardiovascular diseases (CVD) is the leading cause of death for Psoriasis (PsO) and psoriatic arthritis (PsA).

Objective: to evaluate CVD traditional risk factors (TRFs), cardiac and vascular damage in early PsA (EPsA) patients (pts).

Methods: 25 (M/F –13/12) DMARD-naïve EPsA pts, according to the CASPAR criteria, mean age 36[27;46] years, PsA duration 5[3;7] months, PsO duration 36[12;84] months, DAS 3.9[3.1;4.7], CRP 15[9.7;25.1] mg/l were included. CVD TRFs according to ESC (2013), waist circumference (abdominal obesity), body mass index (BMI), ambulatory blood pressure (BP)/24h-ECG monitoring, carotid-intima-media thickness (cIMT) by a high-resolution B-mode ultrasound machine, coronary calcinosis by computer tomography were evaluated. Subclinical atherosclerosis was defined as mean cIMT>0.9mm. Me [Q75; Q50], (%), R was calculated. All p<0.05 were considered to indicate statistical significance.

Results: Among early PsA pts, arterial hypertension was identified in 11(44%) pts, obesity (BMI>30 kg/m²) in 7(28%), abdominal obesity in 14(56%), smoking in 16(64%), family history of early CVD in 6(24%), the increased values of total cholesterol (TC) were found in 14(56%), low-density lipoproteins (LDL) in 13(52%), triglycerides in 4(16%), and the decreased values of high-density lipoproteins (HDL) were found in 4(16%) pts. CVD TRFs ≥3 were observed in 12 (48%) pts. Cardiac arrhythmia (high-degree ventricular extrasystole, runs of supraventricular tachycardia, frequent supraventricular extrasystole) was identified in 12(48%). Increased cIMT was found in 10(40%), atherosclerotic plaques - in 8(32%), coronary calcinosis - in 4(16%) pts. Significant positive correlations were found between cIMT and TC (R=0.53), LDL (R=0.48), BP (R=0.59), waist circumference (R=0.64), for all p<0.03. Significant negative correlations were found between HDL and CRP (R=-0.52; p=0.03). 1 women had history of yearly ischemic brain stroke.

Conclusion: In nearly a half of newly diagnosed PsA pts we found high frequency of CVD TRFs, cardiac and vascular damage which in association with chronic inflammation can accelerate atherosclerosis in pts.

Disclosure of Interest: None to declare

P023

Itolizumab in management of Psoriasis with metabolic syndrome

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Introduction: Itolizumab is a humanized recombinant anti-CD6 monoclonal antibody which exerts an immunomodulatory action on T cells which in turn leads to prolonged control of psoriasis symptoms and lesser incidence of infections. Phase 3 results of itolizumab showed it to be a promising biologic. Here we present a case where a patient with psoriasis and metabolic syndrome was treated with Itolizumab.

Abstracts

Objectives: To assess the efficacy of Itolizumab in Severe Psoriasis patient with Metabolic syndrome

Methods: Observational study .Itoizumab was administered as per manufacturer recommendations i.e. once every fortnight for 3 months followed by once every month for next 3 months. PASI scores were assessed at every infusion visit. Remission period was considered to be duration for which the patients maintained response of PASI 50 after completion of 10 infusions. Adverse events during the treatment period were recorded .

Results: Patient had an initial PASI score of 39.8. PASI scores were 22.2 at completion of 10 infusions. Patient was then administered a maintenance dose of itolizumab every 3 months. Patient has received 3 maintenance doses till date. Currently the patient's PASI score is 12.2. There was no significant alteration in patient's weight during treatment period.

Conclusion: Patients with psoriasis and metabolic syndrome are difficult to treat. Itolizumab has shown good results in controlling psoriasis in patient with metabolic syndrome once the patient was put on once in 3 months dosage after completion of 10 infusions. These results were achieved without specific diet control measures etc. More studies need to be conducted to study efficacy of itolizumab in Psoriasis and metabolic syndrome.

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Disclosure of Interest: None to declare

P024

Psoriatic arthritis and underlying secondary Gout

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Introduction: It is known that there is a correlation between Psoriatic arthritis (PsA) and Secondary Gout. It has been noted to occur in approximately 3 to 4 % of the patients with PsA.

Objective: To demonstrate a higher incidence of different forms of secondary Gout in patients with PsA compared to patients with Ankylosing spondylitis (AS).

Methods: 92 patients with PsA and a control group of 15 patients with AS were included after signing an informed consent form. The patient history and activity of the disease were verified by validated scores and questionnaires. We used ultrasound (US) scores, biopsy of tophi and polarized light microscopy. We documented 76 (82.6%) patients with PsA and skin lesions and 16 (17.3%) with PsA without skin lesions.

Results: From all 92 patients with PsA 13 showed signs of different forms of secondary Gout (14.1%). 5 notified of a typical gouty attack in MTP 1 in the past (according ACR Criteria for Acute Arthritis of Gout from 1977), 6 had ultrasound signs for double contour in the knee joint, 2 had ultrasound tophus- like lesions and hyperechoic spots; 1 had biopsy proved Monosodium urate (MSU) crystals from tophus, 4 had MSU microcrystals in the synovial fluid. 9 of these 13 patients had hyperuricemia. There was only one patient in the control group with signs of secondary Gout (6.66%).

Conclusions: In our prospective study we found that PsA was associated with 3 times increased risk of secondary Gout compared

to the currently available literature data. These results are probably due to the introduction of new methods such as US and biopsy. We considered that the US will be accredited as imaging method for proving the deposition of MSU crystals in the joints and surrounding soft tissues.

References: 1. J. F Merola, Sh. Wu, J. Han, H. K Choi, A. A. Qureshi. Psoriasis, psoriatic arthritis and risk of gout in US men and women. *ARD Online First*, published on March 20, 2014 as 10.1136

Disclosure of Interest: None to declare

P025

Psoriatic Comorbidities: Patient Awareness and Provider Screening

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Introduction: Numerous bench, clinical and epidemiological studies over the past decade have revealed a host of comorbid diseases associated with psoriasis. Recommendations for screening patients with psoriasis have also been proposed (Lebowl et al, PUBMED: 24184141). In spite of this, investigation into patient understanding and provider screening of comorbid conditions is lacking.

Objectives: Two objectives were identified.

Analyze awareness of comorbidities among individuals with psoriasis.

Characterize provider screening of comorbidities as reported by patients

Methods: After three rounds of pre-testing and pilot-testing, an internet link for a survey was emailed to subscribers of the National Psoriasis Foundation's email database. Over three monthly emails, 1,232 of approximately 81,000 in the database reported demographic and comorbid information, including awareness of seven comorbidities, type of provider seen and frequency of provider screening by comorbid condition.

Results: Awareness of a higher risk of painful and swollen joints and mood disorders were the only comorbid conditions among seven in which greater than 50% of respondents were aware. With the exception of painful and swollen joints, "Never" was the most common frequency of screening for mood disorders, high blood pressure, diabetes and nail and genital involvement. Among patients with self-reported diabetes, hypertension, obesity and smoking, the most common frequency of screening was "Never." Screening of comorbid conditions varied by provider subtype with rheumatologists screening to the greatest extent and physician assistants and nurse practitioners screening the least.

Conclusions: Despite an established body of evidence supporting numerous comorbidities in psoriasis, patient awareness of comorbid conditions remains low. While screening for comorbid conditions was elevated among rheumatologist and dermatologists in academic practice, screening for comorbidities across all provider types was lacking. Screening for hypertension, diabetes, obesity and smoking was low even among respondents with the comorbidity.

Disclosure of Interest: None to declare

Current and new therapeutic modalities

P026

Efficacy and Safety of Indigo Naturalis Extract in Oil Ointment in Treating Psoriasis Vulgaris: A Randomized, Double-blind, Four-Arm Comparative Trial

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Background: Indigo naturalis is effective in improving psoriatic symptoms and the refined formulation in oil, Lindioil, is as effective as the crude form. The active ingredient, indirubin, plays a major role in treating psoriasis; however, the most effective and safest dosage of indirubin is unknown.

Objective: To determine the effective and safe dosage of indirubin in the Lindioil ointment for treating psoriasis among four dosages.

Methods: One hundred subjects with chronic plaque psoriasis were enrolled and randomized into four different indirubin dosage groups: 200, 100, 50, or 10 µg/g. Ointment was applied topically to psoriatic lesions twice a day for 8 weeks and followed up for another 12 weeks. The efficacy was evaluated using Psoriasis Area and Severity Index (PASI), Body Surface Area (BSA) involvement and Physician's Global Assessment (PGA).

Results: One-hundred subjects were randomized into 25 subjects per group, 91 subjects completed the 8-week treatment and 76 subjects completed the 12-week follow-up. The reduction percentage for PASI scores across the four groups from baseline to week 8 was 69.2%, 63.1%, 50.2%, and 53.9%, respectively ($P = 0.0595$). The percentage of subjects whose PASI scores achieved improvement > 90% within the four groups were 30.4%, 8.0%, 4.0% and 4.0%, respectively ($P = 0.0098$). The reduction percentage for BSA within the four groups was 64.7%, 44.5%, 41.0% and 39.4%, respectively ($P = 0.0322$). The percentage of subjects whose PGA achieved "almost clear and no sign of psoriasis" within the four groups at week 8 were 52.2%, 48.0%, 24.0% and 20.0%, respectively ($P = 0.098$). No severe adverse events related to the treatment were reported within the 20-week trial.

Conclusions: Lindioil ointment is a safe and effective topical medication in treating patients with skin psoriasis and the 200 µg/g of indirubin in the Lindioil ointment is the most effective dosage.

References: 1. Lin YK, et al. Comparison of refined and crude indigo naturalis ointment in treating psoriasis: randomized, observer-blind, controlled, inpatient trial. *Arch Dermatol.* 2012;148(3):397-400.

Disclosure of Interest: None to declare

P027

Association of Touch Avoidance with Disease Severity and Quality of Life in Psoriasis Patients

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Introduction and Objectives: A cross-sectional survey was conducted among patients with psoriasis (Ps) and included questions to assess the avoidance of interpersonal touch and its association with disease severity and quality of life.

Methods: An online survey consisting of various patient-reported outcome instruments, including the DLQI and the QIDS, was conducted during October and November 2013. Participants ($n=1109$) were asked to rate over the past two weeks whether they had avoided touching others or others touching them (e.g. shaking hands or hugging) because of the way their skin looks or feels (0 [not at all] to 10 [very much]). Participants were divided into two groups: "no touch avoidance" (0) or "touch avoidance" (>0). Disease severity was assessed according to participants' estimated body surface area (BSA) affected by Ps and a patient-rated global assessment of disease severity that ranged from 0 (clear) to 5 (severe). Associations between touch avoidance and other outcome measures were tested using unadjusted CMH chi-square tests and logistic model after adjusting for age, gender, presence of psoriatic arthritis, duration of disease, and BSA, if applicable.

Results: Approximately half (48.2%) of participants reported touch avoidance. Gender and marital status had no significant impact on touch avoidance. Younger participants had significantly more touch avoidance compared to older participants ($p < 0.05$). Those reporting itch avoided touch more than those without itching ($p < 0.05$). Touch avoidance was significantly associated with disease severity, using both the BSA and 0 – 5 disease severity scales ($p < 0.05$). Participants with Ps on hands, neck, feet, or nails were more likely to avoid touch than those without Ps in those locations. Participants reporting touch avoidance were significantly more likely to have worse quality of life (as measured by DLQI, $p < 0.05$), and more likely to have depression, compared to those with no touch avoidance ($p < 0.05$).

Conclusions: These data indicate that for patients with Ps, touch avoidance is associated with disease severity, location of psoriasis on the body, and worsened quality of life, including depression.

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P028

Efficacy of ixekizumab in patients with and without previous experience with biologic therapies compared to etanercept and placebo: results from UNCOVER-2, a phase 3 trial in patients with plaque psoriasis

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Introduction and Objectives: Ixekizumab is an anti-IL-17A monoclonal antibody. This subgroup analysis evaluated the efficacy of ixekizumab compared with placebo and etanercept in patients (pts) with moderate to severe plaque psoriasis with or without previous experience with biologic therapy.

Methods: 1224 pts were randomized to receive either placebo ($N=168$), or etanercept 50mg bi-weekly ($N=358$), or ixekizumab 80mg subcutaneously once every 2 weeks (IXE Q2W, $N=351$) or 4 weeks (IXE Q4W, $N=347$) after an initial dose of 160mg at Week 0. At Week 12, the proportions of pts with at least $\geq 75\%$ improvement in Psoriasis Area and Severity Index (PASI 75); a static physician global assessment of 0 or 1 (sPGA 0,1); and a 100% improvement in PASI (PASI 100) were evaluated in subgroups of pts with previous exposure to biologics and pts naive to biologic therapy. Treatment groups were compared

using Fisher's exact test within each subgroup and missing values were imputed as non-response.

Results: Overall, 288 pts had received prior biologic treatment and 936 were biologic-naïve. In both subgroups, respective PASI 75 response rates with IXE Q2W (92.9% and 88.8%) and IXE Q4W (74.1% and 78.6%) were significantly greater than those with placebo (0% and 3.2%, $p < 0.05$) and etanercept (30.3% and 44.3%, $p < 0.05$). Similarly, sPGA 0,1 response rates with IXE Q2W (84.5% and 82.8%) and IXE Q4W (67.1% and 74.8%) were significantly greater than those with placebo (0% and 3.2%) and etanercept (30.3% and 37.6%). The respective proportions of pts with PASI 100 in the biologic-experienced and biologic-naïve subgroups were also significantly higher with IXE Q2W (48.8% and 37.8%) and IXE Q4W (22.4% and 33.6%) compared with placebo (0% and 0.8%, $p < 0.05$) and etanercept (5.3% and 5.3%, $p < 0.05$).

Conclusions: In this subgroup analysis, both ixekizumab dose regimens (IXE Q2W and IXE Q4W) were significantly more effective in the treatment of psoriasis than either placebo or etanercept in pts who had prior exposure to biologic therapy or who were biologic-naïve.

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P029

Ixekizumab for Treatment of Moderate-to-Severe Plaque Psoriasis: 12-week Results from a Phase 3 Study (UNCOVER-1)

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Introduction: IL-17A plays a major role in the pathogenesis of psoriasis.

Objective: The objective of this study was to evaluate efficacy and safety of ixekizumab, an anti-IL-17A monoclonal antibody, in the treatment of psoriasis compared to placebo over 12 weeks.

Methods: In this multicenter, double-blind trial, 1296 patients were randomized to receive subcutaneous placebo (N=431), or 80 mg IXE as one subcutaneous injection every 2 (IXE Q2W, N=433) or 4 weeks (IXE Q4W, N=432) following a 160 mg initial dose at Week 0. The co-primary efficacy endpoints were the proportion of patients who achieve 1) an sPGA 0/1, and 2) PASI 75 by Week 12. Comparisons were done using logistic regression analysis, or Fisher's exact test. For response analyses, missing data was imputed using non-responder imputation.

Results: At Week 12, PASI 75 was achieved by 89.1% and 82.6% of patients receiving IXE Q2W and IXE Q4W, respectively, compared to 3.9% in patients receiving placebo ($p < 0.001$). sPGA 0/1 was achieved by 81.8% and 76.4% of patients receiving IXE Q2W and IXE Q4W, respectively, compared to 3.2% patients in patients receiving placebo ($p < 0.001$). Statistically significant differences were observed as early as Week 1 for both ixekizumab groups compared to the placebo group ($p < 0.001$). Complete resolution of psoriasis (PASI 100) was achieved by 35.3% and 33.6% of patients receiving IXE Q2W and IXE Q4W, respectively, compared to 0 patients receiving placebo ($p < 0.001$). Treatment-emergent adverse events reported in $\geq 5\%$ of all ixekizumab-treated patients and at higher percentages than in

placebo-treated patients included nasopharyngitis, upper respiratory tract infection, and injection-site reaction and erythema. Most of these events were mild to moderate in severity. Serious adverse events were seen in 1.4%, 2.8%, and 1.2% of patients in the IXE Q2W, IXE Q4W and placebo groups, respectively; no deaths were reported.

Conclusions: Both ixekizumab dosing regimens resulted in rapid and significant improvements in psoriasis, and safety results in this study were comparable to those in other Phase 3 studies with ixekizumab.

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P030

Canadian Humira Post-Marketing Observational Epidemiological Study Assessing Effectiveness in Psoriasis (COMPLETE-PS): Preliminary Analysis

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Introduction: COMPLETE-PS is an ongoing observational study planned to enroll 660 psoriasis (PS) patients (pts) from ~40 sites across Canada. Main objectives are to compare the real-life effectiveness of adalimumab (ADA) to topical and traditional systemic (TTS) agents and to describe the PS burden of illness.

Objectives: To describe the demographics and baseline disease parameters of the cohort; to report preliminary data on the real-life effectiveness of ADA in PS.

Methods: Pre-specified interim analysis in 306 pts (ADA, n=153; TTS, n=153) enrolled 8/2011–5/2014. Eligible pts must be adults; have active moderate-to-severe plaque PS; and require change in current PS treatment. Pts are followed for ≤ 2 years per routine clinical care. Parameters captured include disease activity (physician [PGA] and patient [PtGA] global assessment, PS BSA, PASQ, and DLQI), quality of life (SF-36, BDI-II), and work limitations (WLQ).

Results: At baseline, mean (SD) age was 49.7 (14.3) years; the majority were male (62.7%) without significant differences between groups. Mean (SD) years from diagnosis (17.7 [14.1]) and family history of PS (55.6%) were also comparable.

ADA pts had more flare-ups 12 months prior to enrollment (5.5 vs 2.9; $P=0.010$) and more commonly had concomitant psoriatic arthritis (41.3%

vs 15.5%; $P < 0.001$) compared with TTS pts. Furthermore, ADA pts had significantly higher BSA (21.0% vs 17.8%; $P = 0.012$), PASQ (7.4 vs 5.8; $P = 0.003$), and DLQI (13.2 vs 9.8; $P < 0.001$) scores, and PtGA (58.7 vs 50.0 mm; $P = 0.014$), but comparable PGA, BDI-II, SF-36, and WLQ scores.

Over 6 months, significant improvements were observed in almost all parameters, which were sustained or enhanced over time. Upon adjusting for baseline values, ADA pts had significantly lower PGA (1.2 vs 2.1; $P < 0.001$), PtGA (26.3 vs 38.5 mm; $P < 0.001$), BSA (3.7% vs 7.5%; $P = 0.002$), PASQ (5.8 vs 6.5; $P = 0.016$), and DLQI (3.0 vs 6.7; $P < 0.001$) at 6 months compared with TTS pts.

Conclusions: PS pts initiating ADA in Canadian routine clinical care have more severe disease compared with those initiating TTS agents. However, ADA treatment was more effective in reducing symptom severity and improving outcomes over time.

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P031

Direct access transient elastography for methotrexate-induced liver fibrosis

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Introduction: Usage of methotrexate in psoriasis is limited by liver toxicity. Liver biopsy remains the gold standard for diagnosing methotrexate-induced liver fibrosis but is associated with patient discomfort and morbidity. Transient elastography (TE) is an alternative, rapid, non-invasive method.

Scheduling of TE poses a significant barrier. Patients at a tertiary dermatology referral centre required a total of three visits for TE to be actualised; consult with gastroenterologist, TE scan on a separate date and another appointment to review results with the gastroenterologist.

Objectives: We present a review of TE for psoriasis patients on methotrexate and describe a direct access scheme.

Methods: Review of the literature for evidence for cutoff values of TE results, comparison of guidelines (British, Dutch, EU, German and American) for evaluation and monitoring of hepatotoxicity in psoriasis patients receiving methotrexate. We describe the new workflow for obtaining TE for psoriasis patients which allows the patient to have TE (FibroScan®) performed directly at a neighbouring hospital and the results to be uploaded to the patient's electronic medical records for review by the dermatologist.

Results: From the inception of the direct access programme on 1 Sep 2014 to 1 Mar 2015, 4 patients under one of the authors (HHO) have undergone direct access TE with an average waiting time of 9.75 days from appointment booking to the test date. This is a significant reduction from the mean waiting time of 69.33 days.

Conclusion: Direct access to TE for psoriasis patients reduces waiting time for testing and unnecessary gastroenterology appointments. Such joint collaborative efforts are important in providing seamless quality care for psoriasis patients.

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Disclosure of Interest: None to declare

P032

A Phase 2b dose-ranging trial of baricitinib, an oral JAK 1/JAK 2 inhibitor, in patients with moderate-to-severe psoriasis: Results from the randomized withdrawal and re-treatment periods

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Introduction: Baricitinib (BARI) was evaluated in a 4-part study. Parts A and B have been reported. 271 patients (pts) were randomized 1:1:2:2:2 to placebo (PBO) or BARI 2 or 4mg (low dose [L]) or 8 or 10mg (high dose [H]) for 12 weeks (Part A). Dose adjustments for an additional 12 weeks of treatment were based on % improvement in Psoriasis Area and Severity Index (PASI) (Part B). Parts C and D are reported.

Objectives: To determine, in patients who achieved a PASI 75 response at the end of Part B (responders), time to relapse (TTR, $\geq 50\%$ baseline disease severity) following treatment with $\frac{1}{2}$ dose BARI or placebo (Part C). Re-treatment efficacy was assessed in pts with relapse (Part D).

Methods: Part B responders were randomized 1:1 to $\frac{1}{2}$ dose BARI (10mg received 4mg; L \rightarrow $\frac{1}{2}$ L n=16; H \rightarrow L n=55) or PBO (L \rightarrow PBO n=15; H \rightarrow PBO n=55). TTR was assessed over 4 months. Pts with relapse were re-treated at the Part B effective dose (2mg n=3; 4mg n=13; 8mg n=19; 10mg n=37) for another 52 weeks. Treatment comparisons used Fisher's exact/log-rank tests; estimates were from Kaplan-Meier curves.

Results: In Part C, 60% of L \rightarrow PBO and 37.5% of L \rightarrow $\frac{1}{2}$ L relapsed ($p = .289$) while 65.5% of H \rightarrow PBO and 30.9% of H \rightarrow L relapsed ($p < .001$). Median TTR was 61-70 days on PBO vs ≥ 112 -117 days on $\frac{1}{2}$ dose. Two H \rightarrow PBO and 2 H \rightarrow L patients discontinued due to adverse events (DCAE). One H \rightarrow PBO and 1 H \rightarrow L pt had a serious AE (SAE). In Part D, PASI 75 was achieved by 100%, 69.2%, 52.6%, 81.1% of 2, 4, 8, 10mg pts. Median time to re-treatment response was 85-87 days for all treatments except 8mg (166 days). Re-treatment response (non-responder imputation) was 67%, 46%, 37%, 49% (week 12) and 0%, 15%, 32%, 54% (week 52) for 2, 4, 8, 10mg pts. DCAEs were 0/3, 1/13, 1/19, and 3/37 for 2, 4, 8, 10mg pts. One 8mg pt had an SAE.

Conclusions: Responders given a step-down dose during Part C had lower relapse rates and longer TTR vs PBO. After 12 weeks of re-treatment during Part D, 37-67% of pts achieved a PASI 75 response. There were no new safety findings.

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Disclosure of Interest: K. Papp Grant/Research support from: Abbott, Amgen, Anacor, Astellas, Celgene, Celtic, Dow Pharma, Eli Lilly, Galderma, Janssen, Janssen Biotech (Centocor), Merck, Novartis, Pfizer, Consultant of: 3M, Abbott, Akesis, Akros, Alza, Amgen, Astellas, Baxter, Boehringer Ingelheim, Celgene, Centocor, Cipher, Eli Lilly, Forward Pharma, Funxional Therapeutics, Galderma, Genentech, Isotechnika, Janssen, Janssen Biotech (Centocor), J&J, Kataka, Kirin, Kyowa Lypanosys, Medical Minds, Meiji Seika Pharma Co., Ltd., Merck, Mitsubishi Pharma, Mylan, Novartis Pfizer, Regeneron Pharmaceuticals Inc., Serono, Stiefel, Takeda, UCB Pharma, Vertex, Wyeth, Speakers bureau of: 3M, Abbott, Amgen, Astellas, Janssen, Merck, Novartis, Pfizer, A. Menter Consultant of: AbbVie, Allergan, Amgen, Convoy Therapeutics, Eli-Lilly, Janssen Biotech, LEO Pharma, Novartis, Pfizer, Syntrix, Wyeth, Xenoport, Speakers bureau of: AbbVie, Amgen, Janssen, LEO Pharma, Wyeth, M. Raman Consultant of: Galderma, Novartis, Valeant, Speakers bureau of: Allergan, Celgene, Galderma, Janssen, Valeant, J. Janes Shareholder of: Eli Lilly and Company, Employee of: Eli Lilly and Company, D. Disch Shareholder of: Eli Lilly and Company, Employee of: Eli Lilly and Company, W. Macias Shareholder of: Eli Lilly and Company, Employee of: Eli Lilly and Company

P033

Real-World validation of the minimal disease activity index in psoriatic arthritis: An analysis from a prospective, observational registry

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Introduction: The definition of minimal disease activity (MDA) in PsA includes fulfillment of ≥ 5 of the 7 following criteria: tender joint count (TJC) ≤ 1 , swollen joint count (SJC) ≤ 1 , PASI ≤ 1 or body surface area $\leq 3\%$, pain (VAS) ≤ 15 , patient global disease activity (PtGA) (VAS) ≤ 20 , HAQ ≤ 0.5 , and tender enthesal points ≤ 1 (1).

Objectives: To describe the rate of MDA achievement over time and to assess the association between MDA and DAS28 remission in PsA patients treated with Infliximab (IFX) or golimumab (GLM) in a routine clinical practice setting.

Methods: BioTRAC is an ongoing, prospective registry of patients initiating treatment for RA, AS or PsA with IFX or GLM as first biologics. Data from PsA patients who had available MDA information at baseline, 6 months, and/or 12 months were included. Improvement in patient parameters over time was assessed for statistical significance with the paired-samples t-test. Agreement between MDA and DAS28 remission < 2.6 was assessed.

Results: 123 PsA patients with mean (SD) age of 50.5 (10.5) yrs and mean (SD) dis duration of 6.1 (7.3) yrs were included. At baseline, mean (SD) patient parameters were: DAS28 = 4.2 (1.5), PASI = 2.7 (4.8), SJC28 = 4.1 (3.5), TJC28 = 6.1 (5.6), morning stiffness = 45.4 (43.0) min, HAQ-DI = 1.09 (0.65), MDGA = 5.3 (2.1), PtGA = 49.3 (27.3) mm, and pain = 46.5 (25.2) mm. By 6 mos of treatment, statistically significant ($P < 0.05$) improvements were observed in all clinical and patient outcome parameters studied, which were sustained or further enhanced over 12 months of treatment.

The proportion of patients with MDA significantly increased from 12.3% at baseline to 45.0% after 6 mos of treatment ($P < 0.001$), and 41.9% at 12 mos ($P = 0.021$). Similarly, DAS28 remission was observed in 15.9%, 47.8% and 45.1% of patients at baseline, 6 mos, and 12 mos, respectively. Using DAS28 as reference standard, sensitivity was 69.8%, specificity 93.0%, NPV 88.2%, and PPV 80.4%.

Conclusions: MDA has high discriminatory power for remission while being more rigorous than DAS28. Furthermore, treatment with anti-TNF is effective in inducing MDA in 45% of patients as early as 6 mos from treatment initiation.

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P034

Tofacitinib exposure-response characteristics in patients with moderate to severe chronic plaque psoriasis

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Introduction: Tofacitinib is an oral Janus kinase inhibitor that is being investigated for psoriasis.

Objectives: To evaluate the longitudinal relationship between tofacitinib exposure and clinical response.

Methods: Data for this analysis were pooled from a Phase 2b (NCT00678210) and four Phase 3 studies (NCT01276639, NCT01309737, NCT01241591, NCT01186744). A non linear, longitudinal exposure-response model for Psoriasis Area and Severity Index (PASI) improvement was used to describe dose- and time-dependent changes. Selected patient (pt) characteristics were evaluated as predictors of response.

Results: The analysis included 3431 pts with 17221 observations. Average systemic blood levels (Cavg) did not improve predictions relative to dose. For a typical pt (male; body weight, 86 kg; baseline PASI, 20; biologic agent naïve), 49% and 61% of pts receiving tofacitinib 5 and 10 mg BID, respectively, were predicted to achieve $\geq 75\%$ improvement from baseline in PASI score at Week 16; this corresponded to ~65% and 81% of the maximum effect (Emax) on the dose response curve. Covariate evaluation suggested that heavier pts required a higher dose to achieve a similar response to lighter pts; a doubling of body weight (eg from 60 to 120 kg) increased the dose needed to achieve 50% of Emax (ED50) 1.8-fold (90% CI 1.45, 2.20). This relationship could not be attributed to differences in pharmacokinetics (Cavg) with weight. ED50 was also lower for pts who were female, biologic agent-naïve or had higher baseline PASI; higher baseline PASI also resulted in slower onset of effect. Higher body weight and prior biologic use substantially reduced absolute clinical response. Dose response was evident in the above subpopulations; 10 mg BID consistently provided clinically meaningful higher response vs 5 mg BID.

Conclusions: Although significant improvements were observed with both tofacitinib doses, dose-response characterisation in pts with psoriasis showed that tofacitinib response was reduced with higher body weight and prior biologic experience, as seen with other psoriasis therapies. Tofacitinib 10 mg BID provided clinically meaningful benefit over 5 mg BID in these subpopulations.

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P035

Efficacy and Safety of Brodalumab In Patients With Moderate To Severe Plaque Psoriasis: Results of AMAGINE-1, a Phase 3, Randomized, Double-Blind, Placebo-Controlled Study

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Introduction: AMAGINE-1 evaluated the efficacy and safety of brodalumab, a human anti-IL-17 receptor A monoclonal antibody, for moderate to severe psoriasis.

Objectives: Report week 12 (induction phase) results for: PASI75 and sPGA 0/1 (static physician global assessment, 6 Point scale) [co-primary endpoints]; Psoriasis Symptom Inventory (PSI) response (total score ≤ 8 , no item score >1) [key secondary]; Dermatology Life Quality Index (DLQI) 0/1; improvement in Hospital Anxiety and Depression Scale (HADS).

Methods: Subjects were randomized (1:1:1) to brodalumab 210 or 140 mg Q2W or placebo [PBO]. Data were analyzed with a Cochran-Mantel-Haenszel test (PASI, sPGA, PSI, DLQI; non-responder imputation) or ANCOVA model (HADS; multiple imputation), adjusted for baseline weight, prior biologic use, geographic region, and endpoint baseline value.

Results: Of 661 subjects randomized, 633 completed week 12. Mean (SD) baseline scores were: PASI, 19.7 (7.3); PSI, 19.2 (6.9); DLQI, 14.1 (7.2); HADS anxiety and depression, 6.6 (4.1) and 5.3 (4.1). Week 12 results are shown below. The estimated difference (95% CI) between the 210 mg group and PBO for improvement in HADS anxiety and depression scores was 2.1 (1.5, 2.7) and 1.5 (0.9, 2.1) [unadjusted $p < .001$; similar estimated difference for the 140 mg group].

Week 12 Response Rates (95% CI)

	Brodalumab		Placebo (N=220)
	210 mg Q2W (N=222)	140 mg Q2W (N=219)	
PASI75*	83 (78, 88)	60 (54, 67)	3 (1, 6)
sPGA 0/1*	76 (70, 81)	54 (47, 61)	1 (0, 4)
PASI100*	42 (35, 49)	23 (18, 30)	1 (0, 3)
PSI response*	61 (54, 67)	53 (46, 60)	4 (2, 8)
PASI90†	70 (64, 76)	43 (36, 49)	1 (0, 3)
DLQI 0/1†	56 (49, 63)	43 (36, 50)	5 (3, 9)

*Adjusted $p < .001$; †Unadjusted $p < .001$

AE and SAE rates were 59%, 58%, and 51% and 1.8%, 2.7%, and 1.4% in the 210 mg, 140 mg, and PBO groups, with 1 AE each of neutropenia (140 mg) and decreased absolute neutrophil count (210 mg). Potential candida infections were reported by 2.3%, 0.5% and 1.4% of patients in the 210mg, 140mg and PBO groups.

Conclusion: Brodalumab treatment resulted in significant improvement in clinical and patient reported outcomes, with no negative impact on patient-reported anxiety and depression. AEs were consistent with prior reports.

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P036

Pregnancy outcomes in the tofacitinib psoriasis safety database up to April 2014

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Introduction: Tofacitinib is an oral Janus kinase inhibitor that is being investigated for psoriasis. No adverse foetal effects were observed in preclinical studies with exposures corresponding to the human dose tofacitinib 10 mg BID; at approximately >10 and 100-fold this exposure, tofacitinib was teratogenic (visceral and skeletal abnormalities) in rabbits and rats, and decreased the number of viable pups in rats. There are no well-controlled tofacitinib studies in pregnant women; the psoriasis clinical development programme excluded pregnant patients (pts) and required contraception use. If a patient became pregnant, treatment discontinuation was mandatory. Pregnancies were followed up to investigate occurrence of any adverse outcomes.

Objectives: To understand potential effects of tofacitinib on pregnancy outcomes in pts with psoriasis.

Methods: Cases were identified from Pfizer's internal safety database, including all tofacitinib exposure in clinical studies through April 2014. Cases included females administered study medication at time of conception and/or foetuses exposed to study medication through maternal or paternal exposure. Pregnancy outcomes were categorised as healthy newborns, spontaneous abortion, medical termination, pending, or lost to follow-up.

Results: In total 16 female pts, aged 19–40 years, became pregnant while on study drug over the course of 5203.6 patient-years of tofacitinib exposure. Most pts were treated with tofacitinib at the time of conception and early gestation. There were no cases of foetal demise or birth defects reported among these 16 pts; 4 abortions (1 spontaneous, 3 elective) were reported. All other pts had healthy newborns (6), had not yet reported pregnancy outcome (5), or were lost to follow-up (1). There were 42 cases of paternal exposure to tofacitinib: 13 healthy newborns, 5 spontaneous abortions, 19 pending outcome, and 5 lost to follow up.

Conclusions: No pregnancies resulting in birth defects or foetal demise were reported among cases of maternal tofacitinib exposure. Pregnancy outcomes reported here were generally similar to those reported with biologic psoriasis therapies, and in tofacitinib-treated RA pts.

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P037

Efficacy of tofacitinib for the treatment of nail psoriasis: two 52-week Phase 3 studies in patients with moderate to severe plaque psoriasis

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Introduction: Tofacitinib is an oral JAK inhibitor that is being investigated for psoriasis; Phase 3 studies have shown efficacy and safety of tofacitinib in patients (pts) with psoriasis.

Objectives: This is a post-hoc analysis of Nail Psoriasis Severity Index (NAPSI) in pts with existing nail psoriasis from two 52-week Phase 3 pivotal studies in moderate to severe plaque psoriasis (OPT Pivotal 1, NCT01276639; OPT Pivotal 2, NCT01309737).

Methods: Adult pts were randomised 2:2:1 to receive tofacitinib 5, 10 mg, or placebo, BID. At Week 16, placebo pts were re-randomised to tofacitinib 5 or 10 mg BID. Change in NAPSI score and proportions achieving ≥75% reduction in NAPSI (NAPSI75) or NAPSI100 at Weeks 16 and 52 were assessed; for NAPSI75 and NAPSI100 non-responder imputation was applied. Data were pooled from the studies; nominal p values for treatment comparisons presented for Week 16.

Results: 1196 (64%) pts had nail psoriasis: 487 (5 mg BID), 476 (10 mg BID) and 233 (placebo). These pts were aged 46.0 years (median), 77% were male, 80% were white, 24% also had psoriatic arthritis, median PASI score was 20. Mean [standard error; SE] number of nails affected at baseline were 73 [0.1] (5 mg BID), 73 [0.1] (10 mg BID), 74 [0.3] (placebo to 5 mg BID) and 73 [0.3] (placebo to 10 mg BID). Baseline mean [SE] NAPSI scores were 27.0 [0.9] (5 mg BID), 27.3 [1.0] (10 mg BID), 26.0 [2.0] (placebo to 5 mg BID) and 25.5 [1.8] (placebo to 10 mg BID).

Results at Weeks 16 and 52:

Week 16	5 mg BID	10 mg BID	Placebo
Least squares mean % change from baseline NAPSI score, mean [SE]	-17.4 [6.1]*	-34.2 [6.1]*	35.0 [9.3]
NAPSI75, % [SE]	16.9 [1.7]*	28.1 [2.1]*†	6.8 [1.7]
NAPSI100, % [SE]	10.3 [1.4]*	18.2 [1.8]*†	5.1 [1.4]

*p<0.01 vs placebo; †p<0.01 vs 5 mg BID

Week 52	5 mg BID	10 mg BID	Placebo to 5 mg BID	Placebo to 10 mg BID
Mean % change from baseline NAPSI score [SE]	-65.6 [3.7]	-75.5 [2.5]	-51.8 [26.5]	-72.7 [4.9]
NAPSI75, % [SE]	24.6 [2.0]	41.0 [2.3]	37.7 [5.5]	35.6 [4.8]
NAPSI100, % [SE]	16.4 [1.7]	29.2 [2.1]	24.7 [4.9]	23.8 [4.2]

Conclusions: Tofacitinib led to significant improvements in NAPSI at 16 weeks which were maintained for 52 weeks in pts with moderate to severe plaque psoriasis with nail psoriasis.

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P038

Safety of tofacitinib, an oral Janus kinase inhibitor, for the treatment of chronic plaque psoriasis: integrated data analysis from the global clinical trials

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Introduction: Tofacitinib is an oral Janus kinase inhibitor being investigated for psoriasis.

Objectives: We report pooled trial safety data.

Methods: Patients received tofacitinib 5 or 10 mg BID in one Phase 2 (P2) and three 1-year Phase 3 (P3) randomised controlled trials (1Y-RCTs). In a long-term extension (LTE) study, patients received 10 mg BID (3 months), then 5 or 10 mg BID (ongoing, database not locked, data cut-off April 4, 2014). Incidence rates (IR; patients with events/100 patient-years) were calculated for 1Y-RCTs and overall exposure (P2+P3+LTE). P2+P3+LTE doses were pooled.

Results: 3623 patients received tofacitinib (median days of tofacitinib exposure: 527, range: 1-1344, quartiles 1 and 3: 261, 766). Serious infection IRs were 1.37 and 2.42 with 5 and 10 mg BID (1Y-RCTs), and 1.68 (P2+P3+LTE). Herpes zoster IRs were 1.00 and 2.32 with 5 and 10 mg BID (1Y-RCTs), and 2.55 (P2+P3+LTE). Malignancy (excluding non-melanoma skin cancer [NMSC]) IRs were 1.12 and 0.81 with 5 and 10 mg BID (1Y-RCTs), and 1.00 (P2+P3+LTE). NMSC IRs were 0.63 and 1.27 with 5 and 10 mg BID (1Y-RCTs), and 0.74 (P2+P3+LTE). Major adverse cardiovascular event IRs were 0.50 and 0.23 with 5 and 10 mg BID (1Y-RCTs), and 0.37 (P2+P3+LTE). In 1Y-RCTs, 95% CIs for 10 vs 5 mg BID hazard ratios included 1 for each of these events.

Conclusions: Serious infection, herpes zoster, NMSC IRs were numerically, but not statistically, higher with 10 vs 5 mg BID. IRs were stable over time in P2+P3+LTE.

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P039

Efficacy, safety and patient-reported outcomes up to 52 weeks with tofacitinib, an oral Janus kinase inhibitor, for the treatment of chronic plaque psoriasis: results from two randomised, Phase 3 trials

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Introduction: Tofacitinib is an oral Janus kinase inhibitor that is being investigated for psoriasis.

Objectives: To assess tofacitinib efficacy, safety and patient-reported outcomes (PRO) in patients (pts) with moderate to severe plaque psoriasis up to 52 weeks.

Methods: Data were pooled across two identical Phase 3 studies: OPT Pivotal 1 and 2 (NCT01276639, NCT01309737). Pts were randomised to tofacitinib 5mg (n=746), 10mg (n=742) or placebo (n=373), BID. At Week 16, placebo pts were re-randomised to tofacitinib. Pts not achieving $\geq 75\%$ reduction in Psoriasis Area and Severity Index (PASI75) or Physician's Global Assessment of 'clear/almost clear' (PGA response) at Week 28 were withdrawn. Assessments included the proportions of pts achieving PASI75, PGA response, Dermatology Life Quality Index (DLQI) ≤ 1 (little/no effect of psoriasis on health-related quality of life), and Itch Severity Item (ISI) ≤ 1 (little/no pruritus). Incidence rates (IR, pts with event/100 pt-years) are reported for selected adverse events (AEs).

Results: At Week 16, the proportions of pts achieving PASI75 and PGA responses with tofacitinib 5mg were 43% and 44%, respectively, and with 10mg BID 59% for both. PASI75 and PGA responses were maintained up to Week 52 in 74% and 62% of pts with tofacitinib 5mg BID, and 79% and 72% with 10mg BID. At Week 16, among pts with baseline DLQI >1 , 28% and 44% achieved DLQI ≤ 1 with tofacitinib 5 and 10mg BID, respectively, and among pts with baseline ISI >1 , 43% and 61% achieved ISI ≤ 1 . Serious AEs and discontinuations due to AEs were both reported in $<6\%$ of pts with each dose. Five pts died. With tofacitinib 5 and 10mg BID, IRs (95% confidence interval) were 1.78 (0.89, 3.19) and 2.73 (1.62, 4.32) for serious infections, 1.46 (0.67, 2.77) and 0.61 (0.17, 1.55) for malignancies (excluding non melanoma skin cancer), and 0.49 (0.10, 1.42) and 0.30 (0.04, 1.09) for cardiovascular events.

Conclusions: Oral tofacitinib demonstrated sustained, dose-dependent efficacy and PRO improvements in pts with moderate to severe psoriasis over 52 weeks. Serious AEs were infrequent and no unexpected safety findings were observed.

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P040

Herpes zoster and tofacitinib therapy in patients with psoriasis

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Introduction: Recent registry data suggest herpes zoster (HZ) events increase with psoriasis therapy. Tofacitinib is an oral JAK inhibitor that is being investigated for psoriasis.

Objective: To assess HZ risk in pts with psoriasis using tofacitinib.

Methods: We identified HZ cases reported by investigators from Phase 2, 3 and long-term extension (LTE) clinical trials (3623 pts exposed to tofacitinib). An independent committee adjudicated cases as multidermatomal (non-adjacent or >2 adjacent dermatomes) or disseminated. We calculated HZ crude incidence rates (IR) as pts with event per 100 pt-years [95% confidence interval (CI)] stratified by baseline demographics and other factors. Potential HZ risk factors were assessed by Cox-proportional hazard models.

Results: 130 (3.6%) pts developed HZ, of which 40 (31%) were female, median age 52 years (range 21–73). Nine (7%) led to hospitalisation. Eight (6%) were multidermatomal; no encephalitis or visceral involvement, or deaths, occurred. Of HZ cases, 104 (80.0%) received antiviral therapy and 121 (93%) continued or resumed tofacitinib after the event. Overall HZ IR was 2.55 (2.13–3.03); IR was highest in older

pts, Asians (due to high rates in Japanese pts) and pts using tofacitinib 10 mg BID (Tables). Risk factors included being Asian [hazard ratio (HR) 4.05 (95% CI 2.68–6.11)], tofacitinib 10 mg BID [HR 1.88 (95% CI 1.12–3.15)] and prior biologics [HR 1.78 (95% CI 1.22–2.61)].

Conclusions: In tofacitinib-treated pts, complicated HZ was infrequent. Increased HZ IRs occurred in pts who were older, Asian or with higher tofacitinib dose. Further research is needed to assess the higher risk in Asian (Japanese) pts.

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P041

Efficacy and adverse effects of phototherapy in childhood population

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Introduction: Narrowband phototherapy is an effective and useful treatment for many dermatoses in adults, but there is not a lot of evidence for this use in children.

Objective: Report our experience with children treated with Narrowband phototherapy at the University Hospital Son Espases during the last 8 years.

Material and Methods: We made a retrospective analysis of children aged under 18 years old who had been treated with phototherapy between years 2008 and 2014.

Results: Seventeen children aged between 11 to 18 years old with photoresponsive dermatoses were treated with narrowband ultraviolet (UVB t01) phototherapy. Seven children had psoriasis, three had vitiligo, two had atopic dermatitis, two had pityriasis lichenoides, one had lichen planus, one had solar urticarial and another one had Schamberg's purpura. Patients with psoriasis, pityriasis lichenoides, lichen planus and Schamberg's purpura cleared completely, except for one children with psoriasis guttata who didn't show any improvement. Two of the three patients with vitiligo had more than half of repigmentation. Patients with atopic dermatitis had a partial response with a reduction of the area of eczema and a disappearance of the pruritus. There was no response in the patient with solar urticaria. Treatment was well tolerated and no serious effects were reported.

Conclusions: It appears that UVBt01 phototherapy is a valuable, safe and effective tool that can be used for photoresponsive dermatoses in children.

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P042

Analysis of non-melanoma skin cancer across the tofacitinib rheumatoid arthritis clinical programme

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Introduction: Tofacitinib is an oral Janus kinase inhibitor for the treatment of rheumatoid arthritis (RA).

Objectives: To assess incidence rates (IRs) of non-melanoma skin cancer (NMSC) in Phase (P) 1, 2, 3, and open-label long-term extension (LTE) studies in RA.

Methods: Data (cut-off: 30 August 2013) were pooled from two P1, eight P2, six P3, and two LTE studies; LTE studies ongoing (database not locked). Patients (pts) in P1, P3 and LTE studies received tofacitinib 5 or 10 mg twice daily (BID) as monotherapy or with background disease-modifying antirheumatic drugs (DMARDs). Pts in P2 studies received tofacitinib 1-30 mg BID or 20 mg once daily. IRs (pts with event/100 pt-years [py] of exposure) for first new NMSC were calculated. Overall IR (95% CI) and IRs for selected subgroups are presented.

Results: 6092 pts (15103 py exposure) received tofacitinib; ≥1 NMSC occurred in 83 pts (squamous cell carcinoma [SCC] in 39 pts, basal cell carcinoma [BCC] in 52 pts). Five pts had a history of NMSC prior to tofacitinib vs 78 pts who did not. The overall NMSC IR in P1, P2, P3 and LTE was 0.55 (0.45, 0.69); IRs for SCC and BCC were 0.26 (0.19, 0.35) and 0.35 (0.26, 0.45). The IRs for pts from P1/2/3 and LTE with tofacitinib 5 mg BID were 0.61 (0.34, 1.10) and 0.41 (0.26, 0.66), respectively; with tofacitinib 10 mg BID, the IRs were 0.47 (0.24, 0.90) and 0.79 (0.60, 1.05). NMSC IRs were higher in pts previously treated with tumour necrosis factor inhibitor (TNFi; 1.01 [0.67, 1.51]) vs TNFi-naïve pts (0.47 [0.37, 0.61]). Pts ≥65 years old had higher NMSC IR (1.67 [1.19, 2.35]) vs pts <65 years old (0.38 [0.29, 0.51]). White pts had the highest NMSC IR vs Asian, Black or Other pts (0.86 vs 0.03, 0.00, or 0.14).

Conclusions: NMSC IRs with tofacitinib in the clinical development programme remained stable over time. NMSC IRs appeared consistent with published estimates in pts with RA receiving TNFi (IR 0.22-0.66).¹ Previously presented,² reproduced with permission.

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P043

Integrated safety analysis of tofacitinib in RA clinical trials with a cumulative exposure of 12664 patient-years

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Introduction: Tofacitinib is an oral Janus kinase inhibitor for the treatment of rheumatoid arthritis (RA). Phase (P) 2, P3 and long-term extension (LTE) studies described the tofacitinib safety profile in RA.

Objectives: To describe tofacitinib safety data in patients (pts) from these studies, focusing on safety events of special interest over time.

Methods: Pts received ≥1 dose of tofacitinib (doses pooled), as monotherapy or with background disease-modifying antirheumatic drugs, in 6 P2, 6 P3 and 2 LTE studies (ongoing; database not locked) up to 10 April 2013. Incidence rates (IR; pts with events/100 patient-years [py] and 95% confidence intervals [CI]) are listed.

Results: 5671 pts were included (12664 py of tofacitinib exposure, median exposure 2.4 years); 4204 (74%), 3804 (54%), 1948 (34%) and 555 (10%) received tofacitinib for ≥12, ≥24, ≥36 and >48 months (mo), respectively; 926 (16.3%) discontinued due to adverse events (AEs). The IR of mortality was 0.3 (0.2-0.4). IRs for serious AEs (SAEs) and AEs of interest were consistent over time (Tables). IRs for opportunistic infections, tuberculosis and herpes zoster (HZ) were 0.3 (0.2, 0.4), 0.2 (0.1, 0.3) and 4.2 (3.9, 4.6). For HZ, 93% were non-serious; disseminated and multidermatomal cases were rare. Overall IR of major adverse cardiovascular events was 0.5 (0.3, 0.6) and IRs were similar over time.

IR (95% CI)	0-6 mo	6-12 mo	12-18 mo	18-24 mo
SAE	10.8 (9.6-12.1)	10.4 (9.2-11.9)	12.1 (10.6-13.8)	10.4 (8.9-12.2)
Serious infections (SI)	2.6 (2.0-3.3)	3.4 (2.7-4.3)	3.2 (2.5-4.1)	3.2 (2.4-4.2)
HZ (serious & non-serious)	4.2 (3.5-5.1)	4.7 (3.9-5.7)	4.2 (3.4-5.3)	4.4 (3.5-5.6)
Malignancy excluding NMSC	0.7 (0.4-1.1)	0.7 (0.4-1.1)	0.9 (0.6-1.5)	1.0 (0.6-1.7)

IR (95% CI)	24-30 mo	30-36 mo	36-42 mo	>42 mo
SAE	10.0 (8.4-11.9)	8.5 (6.9-10.4)	7.3 (5.5-9.8)	8.8 (6.9-11.3)
SI	2.9 (2.2-4.0)	2.9 (2.0-4.0)	2.8 (1.8-4.3)	1.9 (1.2-3.1)
HZ (serious & non-serious)	4.0 (3.1-5.2)	5.1 (3.9-6.6)	3.9 (2.6-5.7)	2.1 (1.3-3.4)
Malignancy excluding NMSC	0.8 (0.5-1.5)	1.0 (0.6-1.8)	0.8 (0.4-1.8)	1.0 (0.5-2.0)

Conclusions: The rates of SAEs and AEs of special interest were stable across time intervals; no new risks were identified.

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P044

Persistence of Biologic Therapy in Psoriatic Disease: Results from the Psoriasis Longitudinal Assessment and Registry (PSOLAR)

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Introduction/Objective: To evaluate persistency of biologic use in pts with PsO & PsA.

Methods: PSOLAR evaluates outcomes for PsO pts eligible to receive tx with systemic agents. Among PSOLAR pts, 36% (n=4317) have self-reported PsA. Duration of tx was defined as time (days) between first dose of biologic&first of: 1) discon 2)switch 3) registry withdrawal or 4) last data cut (Aug 23, 2013). Separate analyses were performed for: 1st line (bio-naïve), 2nd line, &3rd line usage to reduce confounding associated with prior exposures for overall&PsA pop. Persistence was assessed by Kaplan-Meier analysis for time to tx stop/switch separately for stekinumab(UST), infliximab(IFX), adalimumab(ADA), &etanercept(ETN). Cox proportional hazard regression analysis compared time to stop/switch of UST with other biologics for each cohort.

Results: Most starts were attributed to UST (1833 pts) & ADA (1303) with fewer starts for ETN (537) & IFX (327). Among UST starts, the proportions of 1st, 2nd & 3rd line usage were 20%, 31%, & 30%; ADA starts 31%, 48%, & 15%; ETN starts 54%, 29% & 13%; IFX starts 19%, 28% & 32%, respect. Baseline clinical characteristics were generally comparable across biologics & cohorts. Fewer pts discon UST than IFX, ETN, & ADA in all 3 lines. Median duration of tx was generally longer for UST vs anti-TNF txs. For 1st line starts, better persistence was observed for UST based on sig differences in time to stop/switch for each biologic vs UST (IFX vs UST: HR3.04; CI: 1.66-5.57; p=0.0003; ADAvsUST: HR4.99; CI: 3.39-7.35; p<0.0001; ETNvsUST: HR5.59; CI:3.77-8.29; p<0.0001). Similar results were observed for

2nd & 3rd line starts. In the subgrp with self-reported PsA, for 1st line starts, better persistence was observed with USTvsETN (HR 2.53; CI 1.39-4.62; p=0.0024); no sig differences were seen for USTvsIFX&ADA. UST had better persistence vs anti-TNFs in the analyses of 2nd & 3rd line starts. Reasons for stop/switch were similar across biologics & cohorts. Data were not adjusted for differences among cohorts, e.g. MTX use, insurance, administration setting, & region.

Conclusion: Persistence of UST tx in psoriatic disease was sig better than anti-TNF txs in biologic-naïve & experienced pts, with lower rates of stopping/switching & higher median days on tx.

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P045

Efficacy and Safety of Ustekinumab in Psoriatic Arthritis Patients with Spondylitis and Peripheral Joint Involvement: Results From 2 Phase 3, Multicenter, Double-blind, Placebo-controlled Study

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Introduction/Objective: To evaluate UST in a subgrp of PsA pts with physician diagnosed spondylitis & peripheral joint involvement(PJI) from PSUMMIT 1&2.

Methods: Adult PsA pts with active disease were rand to UST45mg, 90mg, or PBO at wks 0,4, & q12wks, thereafter. PBO pts crossed over to UST45mg at wks24&28 followed by q12wk dosing. At wk16, pts with <5% improvement in TJC&SJC entered blinded early escape. No concomitant DMARDs except for MTX were permitted.

Results: 256 (28% of PSUMMIT 1&2 pop) rand pts (92 PBO, 164 UST combined) had spondylitis with PJI at baseline; clinical efficacy&radiographic progression (see table). Sig more UST-tx pts achieved BASDAI20/50/70 responses vs PBO at wk24 (54.8%/29.3%/15.3%vs32.9%/11.4%/0%). During the PBO-controlled period, AE rates were numerically higher in PBO vs combined UST-tx grps (AEs 41.3%vs34.8%; SAEs 2.2%vs1.2%; discon due to AEs 3.3%vs0.6%; infections 16.3%vs13.4%). Thru 1yr, safety was consistent with the overall PsA pop.

Conclusion: UST sig improved signs&symptoms&radiographic progression vs PBO thru wk24; efficacy was maintained thru wk52. UST was well-tolerated&demonstrated a safety profile similar to the overall PsA study pop.

Table: PSUMMIT 1 and 2-Efficacy Outcomes in Patients with Spondylitis and Peripheral Joint Involvement at Baseline (BL)

	Wk 24		Wk 52	
	PBO	UST Combined	PBO→ 45mg	UST Combined
	92	164	81	156
ACR20 /ACR50/ ACR70 (%)	N=92 22.8/3.3/1.1	N=164 43.9 [^] /25.6/11.0 [^] P=0.001	N=81 65.4/39.5/16.0	N=156 62.8/34.6/19.2
Mean % change (median) from BL entheses score (MASES index)*	N=63 -16.01(-26.67)	N=132 -46.66(-50.00) P=0.017	N=60 -53.06(-87.50)	N=127 -54.76(-73.33)
Mean % change(median) from BL dactylitis score**	N=41 -11.03(0.00)	N=83 -57.48(-88.89) P<0.001	N=39 -69.76(-100.00)	N=82 -68.94(-100.00)
Mean (SD) change from BL HAQ-DI	N=92 -0.11(0.39)	N=164 -0.33(0.53) P<0.001	N=81 -0.39(0.42)	N=156 -0.37(0.55)
PASI 75 response***	N=69 11.6%	N=137 63.5% P<0.001	N=61 65.6%	N=129 70.5%
Total vdH-S mean change from BL (peripheral joints)	1.51(6.41)	0.00(1.69) P=0.003	3.04(11.86)	0.25(2.13)

Pts who did not receive UST excluded. [^]ACR20 only, *enthesitis and dactylitis **with spondylitis and peripheral joint involvement(PJI) at BL; *** pts with >3% BSA psoriasis involvement with spondylitis & PJI at BL

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P046

The Prediction and Benefits of Minimal Disease Activity in Patients with Psoriatic Arthritis in ADEPT trial

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Introduction: Minimal disease activity (MDA) is a clinically relevant treatment target for psoriatic arthritis (PsA).

Objective: To determine if baseline (BL) disease activity and/or patient (pt) demographics predict achieving MDA at Wk12 in pts with PsA. To evaluate pt-reported outcomes (PRO) at Wk24 associated with achieving MDA.

Methods: Data were from ADEPT (NCT00646386) trial of adalimumab v PBO in pts with PsA. BL variables predicting achieving

Wk12 MDA were identified by univariate (UVA) and multivariate (MVA) analyses: age, weight, modified total Sharp score, tender/swollen joint count, Pt Global Assessment of pain (PGA-p) or disease activity, Physician's GA of Disease or Psoriasis, Health Assessment Questionnaire (HAQ), dactylitis, enthesitis (Ent), PASI, sex, smoking/alcohol/MTX use, Rh factor (+/-), investigator-reported spondylitis, CRP (</=2.87), and Ps/PsA duration (</=5 yr). Pts achieving MDA or not at Wk24 were termed achievers and non-achievers (NA) respectively. Wk24 PROs were assessed (Table).

Results: In UVA, lower BL scores for PGA-p, SJC66, TJC68, Ent and HAQ predicted Wk12 MDA. In MVA, a 1-unit increase in BL HAQ and Ent score reduced odds of Wk12 MDA by 37.6% and 16.0% respectively. Odds of achieving MDA was reduced by 22.6% for pts with spondylitis at BL compared to pts without. At Wk24, achievers (n=27) had significantly better scores (p<0.01) for all PRO than NA (n=98) (Table). Achievers had favorable BL scores for SF-36 total, PCS and FACIT-F, but not MCS or DLQI; larger changes from BL than NA and reached MCID for all PRO; NA reached MCID only for SF-36 PCS. Age, sex, PsA duration and MTX use did not influence PRO.

Conclusion: Absence of spondylitis and lower scores for HAQ and Ent at BL were found to increase likelihood of Wk12 MDA achievement. MDA achievement at Wk24 was associated with clinically important improvement in quality of life and fatigue.

Table. Wk24 PROs

	Achievers (n=27)	NA (n=98)
Total SF-36 ^{1a}	65.3±13.4	41.7±17.0
PCS ^b	51.0±7.2	35.0±10.8
MCS ^b	53.2±11.4	45.9±10.7
Functional Assessment of Chronic Illness Therapy-Fatigue (FACIT-F) ^c	43.5±10.6	30.5±12.2
DLQI ^a	2.1±5.4	6.9±6.8

¹ Minimum clinically important differences (MCID): ^a≥5, ^b≥2.5; ^c≥4

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P047

Multiple Imputation Methodology Is Reflective of Secukinumab Efficacy in Real Clinical Practice: Data From the FIXTURE and ERASURE Studies in Moderate to Severe Plaque Psoriasis

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Introduction: Missing efficacy data are inevitable in long-term clinical trials, and an array of different statistical methodologies is available to deal with this problem. However, the methodology selected affects the interpretation of results.

Objective: To assess the effect that different data imputation methods have on the analysis of efficacy in two 52 Wk phase 3 trials (ERASURE and FIXTURE).

Methods: Per study protocols, secukinumab 300 mg, 150 mg and etanercept 50 mg (FIXTURE only) were evaluated in moderate to severe plaque psoriasis, and missing efficacy data were imputed using non-responder imputation (NRI), whereby all missing data are classified as non-response. Subjects with $\geq 90\%$ improvement in baseline PASI 90 score were reanalyzed using other imputation methods: observed data (only subjects with observed data at endpoints are included), last observation carried forward (LOCF; imputation with last available response for a subject), and multiple imputation (MI; missing data is replaced with multiple values representing an overall distribution of possible data).

Results: The observed data method resulted in the highest estimates of PASI 90 responders at Wk 52 (Tables 1 and 2). PASI 90 rates were similar using LOCF and MI. The proportion of PASI 90 responders using NRI was consistently numerically lower compared with the other methodologies.

Conclusions: Different data imputation methodologies produced divergent estimates of secukinumab efficacy, with per protocol NRI consistently yielding the lowest estimates. Stringent assumption of non-response for all missing data is not reflective of real clinical practice and is likely less accurate than MI for estimating the true response rate.

Table 1. PASI 90 Responders (%) at Wk 52 (ERASURE)

	NRI	Observed	LOCF	MI
Secukinumab 300 mg	60.0	68.7	66.9	65.4
Secukinumab 150 mg	36.2	44.2	43.6	42.2

Table 2. PASI 90 Responders (%) at Wk 52 (FIXTURE)

	NRI	Observed	LOCF	MI
Secukinumab 300 mg	65.0	74.2	71.2	70.6
Secukinumab 150 mg	45.0	54.2	49.8	49.3
Etanercept	33.4	42.5	39.0	39.0

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P048

Efficacy and safety of itolizumab in severe refractory plaque type psoriasis

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Background: Itolizumab, a humanized monoclonal antibody to CD6, is a novel therapeutic agent recently reported to be useful in treatment of moderate to severe chronic plaque psoriasis.

Objective: To evaluate the long-term efficacy and safety of itolizumab (1.6 mg/kg) in psoriasis patients having severe refractory plaque type disease.

Methods: Eleven patients with severe refractory plaque type psoriasis were treated with itolizumab 1.6 mg/kg IV every 2 weeks for 12 weeks, followed by once a month infusion for next 3 months and thereafter once in 3 months for up to 12 months. The primary endpoint was the proportion of patients with at least 75% improvement in PASI at week 12 (PASI75). Those with partial response (PASI ≥ 50 but <75) at week 28 were maintained on 6 weekly infusion till they achieved PASI 75. Response to treatment was evaluated by PASI scoring and adverse effects during infusions and thereafter was recorded.

Results: At week 12, 54.5% (6 out of 11) patients met PASI75 whereas remaining 5 patients had partial response (PASI>50). At the end of 28th week, 8 patients had achieved PASI75. Of these, 3 patients had achieved PASI 90 at 28 week. A further improvement was observed in patients receiving the itolizumab maintenance infusions resulting in PASI100 in 1 patient. Three patients who could not achieve PASI 75 at 28 week were continued on 6 weekly infusions. Two of these 3 patients met PASI 75 at 12 months. Infusion related reactions after first dose (12.6% of patients) were the most frequent adverse events, reduced sharply thereafter. No serious adverse effect was observed during 12 months treatment period. Main limitation of this study was absence of placebo or control group.

Conclusions: Itolizumab is an effective and well-tolerated new biological therapy for patients with severe refractory plaque psoriasis.

References: 1. Krupashankar DS, Dogra S, Kura M, Saraswat A, Budamakuntla L, Sumathy TK, et al. Efficacy and safety of itolizumab, a novel anti-CD6 monoclonal antibody, in patients with moderate to severe chronic plaque psoriasis: Results of a double-

blind, randomized, placebo-controlled, phase-III study. *J Am Acad Dermatol.* 2014; 7:484-492.

Disclosure of Interest: None to declare

P049

Secukinumab Administration by Pre-filled Syringe Maintains Efficacy in Moderate to Severe Plaque Psoriasis over 52 Weeks: results of the FEATURE trial

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Introduction: Sustaining treatment benefits is important in plaque psoriasis. Secukinumab, a fully human anti-IL-17A monoclonal antibody, has been demonstrated to be highly efficacious in the treatment of moderate to severe psoriasis, starting at early time points, with a sustained effect and a favorable safety profile.

Objectives: The Phase 3 FEATURE study examined secukinumab efficacy and safety when self-administered using a pre-filled syringe (PFS).

Methods: Subjects were randomized 1:1:1 to secukinumab 300 mg, 150 mg or PBO. Treatments were self-administered using a PFS at Baseline, 1, 2, 3 and 4, then every 4 Wks until Wk 12 (PBO) or secukinumab extension phase end (Wk 208). Co-primary endpoints were secukinumab PASI 75 and IGA mod 2011 0/1 response rates at Wk 12 compared to placebo. Secondary endpoints included PASI 90, PASI 100 and PFS acceptability, rated using the Self-Injection Assessment Questionnaire (SIAQ). Wk 52 efficacy analyses were performed using multiple imputation on data from 58 subjects receiving 300 mg secukinumab and 59 subjects receiving 150 mg secukinumab.

Results: Secukinumab was superior to PBO at Wk 12 as reported previously.² Peak efficacy was observed from Wk 16 in both groups (PASI 75 achieved in 90.4% and PASI 90 in 78.7% of subjects receiving 300 mg). At Wk 52, PASI 75 response for 83.5% of subjects with secukinumab 300 mg and 63.5% receiving secukinumab 150 mg. IGA mod 2011 0/1 rates were 71.5% and 43.6% for secukinumab 300 mg and 150 mg. 68% and 50.3% of subjects had PASI 90 with secukinumab 300 mg and 150 mg, respectively. PASI 100 was recorded for 47.5% of subjects with secukinumab 300 mg and 31.1% with 150 mg secukinumab at Wk 52. No new or unexpected safety signals were observed to Week 52. SIAQ-rated user satisfaction with the PFS remained high over this period.

Conclusions: Long-term administration of secukinumab by PFS is effective in maintaining reductions in PASI score up to 52 wks, including substantial PASI 90 and PASI 100 responses.

References: 1. Langley et al., 2014. *N Engl J Med.* 371:326-38
2. Blauvelt et al., 2015. *Br J Dermatol.* 172:484-93

Disclosure of Interest: J. C. Prinz Consultant of: Biogen-Idec (formerly Biogen), Novartis, Wyeth, Pfizer, Merck-Serono (formerly Serono), Essex pharma, MSD, Galderma, Centocor, Abbott, Janssen-Cilag/ Janssen-Ortho, A. Blauvelt Consultant of: AbbVie, Amgen, Boehringer Ingelheim, Celgene, Janssen, Lilly, Merck, Novartis, Pfizer, and Sandoz, A. Gottlieb Grant/Research support from: (Paid to Tufts Medical Center) Centocor (Janssen), Amgen, Abbott (Abbvie), Novartis, Celgene, Pfizer, Lilly, Coronado and Levia, Consultant of: Amgen Inc., Astellas, Centocor (Janssen), Inc., Celgene Corp., Bristol Myers Squibb Co., Beiersdorf, Inc., Abbott Labs. (Abbvie), TEVA, Actelion, UCB, Novo Nordisk, Novartis, Dermipor Ltd., Incyte, Pfizer, Canfit, Lilly, Coronado, Vertex, Karyopharm, CSL Behring Biotherapies for Life and Glaxo Smith Kline, R. You Shareholder of: Novartis, Employee of: Novartis, T. Fox Employee of: Novartis

P050

Secukinumab Administration by Autoinjector Maintains Efficacy in Moderate to Severe Plaque Psoriasis over 52 Weeks: results of the JUNCTURE trial

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Introduction: Sustained, long-term benefit is important in plaque psoriasis treatment. Secukinumab, a fully human anti-IL-17A monoclonal antibody, has been demonstrated to be highly efficacious in the treatment of moderate to severe psoriasis, starting at early time points, with a sustained effect and a favorable safety profile.¹

Objectives: Secukinumab efficacy and safety when self-administered using an autoinjector were examined in the Phase 3 JUNCTURE study.

Methods: Subjects were randomized 1:1:1 to secukinumab 300 mg, 150 mg or PBO. Treatments were self-administered using an autoinjector at Baseline, 1, 2, 3 and 4, then every 4 wks until Wk 12 (PBO) or secukinumab extension phase end (Wk 208). Co-primary endpoints were secukinumab efficacy compared to PBO for PASI 75 and IGA mod 2011 0/1 response rates at Wk 12. Secondary endpoints included PASI 90, PASI 100 and autoinjector acceptability, rated using the Self-Injection Assessment Questionnaire (SIAQ). Wk 52 data from 60 subjects in each secukinumab dose group were analysed using multiple imputation.

Results: Secukinumab was superior to PBO at Wk 12 as reported previously.² Peak efficacy was observed from Wk 16 (PASI 75 achieved in 93.3% and PASI 90 in 79.8% of subjects receiving 300 mg). At Wk 52, PASI 75 response was 81.4% for subjects treated with secukinumab 300 mg and 75.2% for secukinumab 150 mg. PASI 90 was achieved at Wk 52 by 64.1% and 57.4% of subjects receiving secukinumab 300 mg and 150 mg, respectively. PASI 100 was reported for 38.8% of subjects with 300 mg secukinumab and 33.1% of subjects with 150 mg at Wk 52. In subjects receiving secukinumab 300 mg and 150 mg, Wk 52 IGA mod 2011 0/1 was reported at 69.6% and 60.2%, respectively. No new or unexpected safety signals were observed to Wk 52. Satisfaction with the autoinjector (SIAQ-rated) remained high over this period.

Conclusions: Long-term reductions in PASI score up to 52 wks were achieved with secukinumab self-administration with an autoinjector, with substantial PASI 90 and PASI 100 response rates.

References: 1. Langley et al., 2014. *N Engl J Med.* 371:326-38
2. Paul C et al., 2014 *J Eur Acad Dermatol Venereol.* 2014 Sep 22 [Epub]

Disclosure of Interest: C. Paul Consultant of: AbbVie Pharmaceuticals, Amgen, Celgene Corporation, Eli Lilly and Company, Janssen Pharmaceuticals, LEO Pharma, Pfizer Inc, Pierre Fabre, J.-P. Lacour Grant/Research support from: Novartis, R. You Employee of: Novartis, T. Fox Employee of: Novartis

P051

Secukinumab demonstrates an acceptable safety profile in moderate to severe plaque psoriasis: Pooled analysis of 10 phase 2/3 studies

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Abstracts

Introduction: Secukinumab, a fully human anti-IL-17A mAb, has shown strong and sustained efficacy in psoriasis.

Objectives: We conducted a pooled safety analysis of 3993 psoriasis subjects from 10 phase 2/3 secukinumab studies.

Methods: All subjects received s.c. secukinumab 300 mg, 150 mg, placebo (PBO), other doses (not listed in abstract), or etanercept (ETN) 50 mg in one study. Adverse events (AEs), and AEs of Interest (infections, candidiasis, neutropenia, Crohn's disease [CD], ulcerative colitis, [UC], malignancy, major adverse cardiovascular events [MACE]) were analyzed at Wk 12 and Wk 52.

Results: AE rates with secukinumab 300 mg (54.2%) and 150 mg (56.3%) at Wk 12 were numerically higher vs PBO (50.4%) and comparable to ETN (57.6%). The slight imbalance vs PBO was mainly due to non-serious infections. At Wk 52, exposure-adjusted incidence rates (IR per 100 subject-years) of AEs with secukinumab 300 mg (236.1; n=1410) and 150 mg (239.9; n=1395) were lower vs PBO (351.8; n=793) and comparable to ETN (243.4; n=323). IR of infections showed a similar trend, while IRs of serious AEs and serious infections were comparable across all treatments (Table 1). The IR of non-serious, mild/moderate, localized skin/mucosal candidiasis was higher with secukinumab 300 mg (Table 1). There was one death (hemorrhagic stroke [150 mg]), unrelated to treatment as judged by the investigator. Neutropenia was infrequent (Grade 3, n=18 for any secukinumab dose; no Grade 4 cases), mild, transient, not associated with serious infections and did not lead to discontinuations. No clinically meaningful difference was found in IRs of MACE, CD, UC and malignancy (Table 2).

Conclusions: This analysis of pooled safety data from 10 secukinumab studies supports a favorable safety profile of secukinumab over 52 wks in subjects with moderate to severe psoriasis, although more data are needed to make definitive conclusions for MACE, CD, UC and malignancy.

Table 1 – IR Wk 52	300 mg	150 mg	PBO	ETN
Infections	91.1	85.3	101.9	93.7
Serious AEs	7.4	6.8	7.5	7.0
Serious infections	1.4	1.1	1.0	1.4
Candidiasis	3.6	1.9	1.0	1.4

Table 2 – IR Wk 52	300 mg	150 mg	PBO	ETN
Malignancy	0.8	1.0	1.5	0.7
CD	0.0	0.2	0.0	0.0
UC	0.2	0.2	0.0	0.3
MACE	0.4	0.4	0.5	0.3

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Novartis, Pfizer, and Sandoz, N. Mehta Employee of: United States government, T.-F. Tsai Consultant of: Abbvie, Celgene, Janssen-Cilag, Leo, Lilly, Galderma, Novartis, Pfizer, Speakers bureau of: Abbvie, Celgene, Janssen-Cilag, Leo, Lilly, Galderma, Novartis, Pfizer, Y. Gong Employee of: Novartis Pharma AG, J. Huang Employee of: Novartis Pharma AG, T. Fox Employee of: Novartis Pharma AG

P052

Secukinumab, a Novel Anti-IL-17A Antibody, Exhibits Low Immunogenicity During Long-Term Treatment in Subjects With Moderate to Severe Plaque Psoriasis

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Introduction: The proinflammatory cytokine interleukin (IL)-17A is pivotal in psoriasis pathogenesis. Secukinumab, a fully human monoclonal antibody (mAb), selectively targets IL-17A and has been demonstrated to be highly efficacious in the treatment of moderate to severe psoriasis, starting at early time points, with a sustained effect and a favorable safety profile. mAb therapies can induce anti-drug antibodies (ADA) that may affect pharmacokinetics, diminish response or cause hypersensitivity.

Objectives: This study evaluates the immunogenicity of secukinumab across phase 3 trials.

Methods: Blood samples were analyzed at Baseline, Wks 12, 24, and 52 from 2842 plaque psoriasis subjects exposed to secukinumab (most receiving 150 or 300 mg) in six phase 3 studies. Treatment-emergent ADA (TE-ADA) were defined as a positive ADA signal in post-treatment samples from subjects negative at Baseline. Confirmed TE-ADA samples were analyzed for neutralizing potential. The ADA assay can detect 4 ng/mL of a positive control antibody (PCA [secukinumab absent]), or at least 250 ng/mL PCA (<53.8 µg/mL secukinumab present).

Results: TE-ADA were detected in 10 subjects from 3 studies with 52-wk exposure with none detected in the remaining studies. TE-ADA rates during secukinumab treatment (300 and 150 mg) were 3/1410 (0.2%) and 7/1395 (0.5%), respectively. No correlations between TE-ADA and secukinumab dose, frequency, or mode of administration were observed. Among 10 subjects with TE-ADA, 5 (50%) later reverted to a seronegative state during therapy. Steady-state secukinumab serum concentrations were <53.8 µg/mL in nearly all Wk 24 and Wk 52 samples. Of the 96 (5%) secukinumab-exposed subjects who had serum sample drug levels >53.8 µg/mL at Wk 52, 97% achieved at least PASI 75, suggesting that ADA, if undetectable due to high serum secukinumab, did not reduce efficacy. Three of 10 subjects with TE-ADA tested positive for neutralizing antibodies; two maintained clinical response up to Wk 52 and one regained response after retreatment.

Conclusions: The TE-ADA rate was low and development of TE-ADA or neutralizing antibodies were not associated with loss of secukinumab efficacy.

Disclosure of Interest: K. Reich Consultant of: AbbVie, Amgen, Biogen-Idec, Celgene, Centocor, Covagen, Forward Pharma, GlaxoSmithKline, Janssen-Cilag, Leo, Lilly, Medac, MSD, Novartis, Pfizer, Takeda, and Vertex, A. Blauvelt Consultant of: AbbVie, Amgen, Boehringer Ingelheim, Celgene, Janssen, Lilly, Merck, Novartis, Pfizer, and Sandoz., A. Armstrong Grant/Research support from: Lilly, Consultant of: AbbVie, Amgen, Janssen, Merck, Lilly and Pfizer, T. Fox Employee of: Novartis, J. Huang Employee of: Novartis, G. Bruin Employee of: Novartis

P053

Characterization of Residual Psoriasis in Adalimumab-Treated PASI90 Responders: Post Hoc Analysis of REVEAL

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Introduction: Response to psoriasis (PS) treatment may vary by body region.

Objective: To evaluate the location and extent of residual PS plaques among patients who achieved an overall $\geq 90\%$ improvement in Psoriasis Area and Severity Index score (PASI90) after treatment with adalimumab (ADA) for 16 weeks. And to better define what constitutes a PASI90 responder to ADA.

Methods: Data were obtained from initial 16-week, double-blind, placebo-controlled treatment period of phase 3 REVEAL study (NCT00237887). A total of 1212 patients with moderate to severe PS were randomized 2:1 to receive 40-mg ADA (after initial 80-mg dose) or placebo every other week. PASI response rates were calculated overall and by the 4 body regions that comprise the PASI (head and neck, trunk, upper extremities, lower extremities). This post hoc analysis examined regional PASI responses in patients treated with ADA who achieved an overall PASI90 response at week 16.

Results: Of 814 patients randomized to ADA, 366 (45.0%) achieved an overall PASI90 response at week 16. Of those PASI90 responders, 163 (44.5%) achieved an overall PASI100 response (ie, no residual body surface area [BSA] involvement in any of the 4 anatomic regions). The percentage of PASI90 responders with no residual BSA involvement by anatomic region was as follows: 86.9% for head and neck, 87.2% for trunk, 72.4% for upper extremities, 65.8% for lower extremities. Percentage of overall PASI90 responders with $>0\%$ and $\leq 10\%$ residual BSA involvement by body region was 10.4% for head and neck, 11.7% for trunk, 26.2% for upper extremities, 31.7% for lower extremities. A total of 6.8% of overall PASI90 responders had more than 10% BSA involvement in any of the 4 body regions examined.

Conclusions: Approximately half of ADA-treated PASI90 responders had no residual involvement in any body region. Anatomic regions least likely to have residual BSA involvement among PASI90 responders were the head and neck and the trunk, while the lower extremities were least likely to achieve full clearance by week 16. The vast majority of PASI90 responders (93.2%) did not have $\geq 10\%$ body surface involvement in any of the 4 separate anatomic regions

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P054

Efficacy and Safety of Adalimumab versus Methotrexate Treatment in Pediatric Patients with Severe Chronic Plaque Psoriasis: Results from the 16-Week Randomized, Double-Blind Period of a Phase 3 Study

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Introduction: This study (NCT01251614) evaluated safety and efficacy of adalimumab (ADA) v methotrexate (MTX) treatment (Tx) in pediatric patients (pts) with chronic plaque psoriasis.

Objective: Report results from the initial 16-week, double-blind Period (Pd) A of this 4-Pd multi-site international study.

Methods: In PdA, pts were randomized 1:1:1 to initial 0.8mpk ADA up to 40mg, then every-other-week (eow) from Wk1; initial 0.4mpk ADA up to 20mg, then eow from Wk1; or 0.1-0.4mpk MTX weekly up to 25mg/wk. Eligibility included pts aged 4-18 yrs, Physician's Global Assessment (PGA) ≥ 4 or; body surface area involved $>20\%$; or PASI >20 ; or PASI >10 plus at least 1 of: active psoriatic arthritis unresponsive to NSAIDs, clinically relevant facial, genital, or hand/foot involvement, or Children's Dermatology Life Quality Index >10 . Primary efficacy endpoints, \geq PASI75 response and PGA clear/minimal (0/1) at Week 16 (ADA- 0.8mpk v MTX), were evaluated for intent-to-treat population; non-responder imputation was applied. Safety was evaluated for pts who received at least 1 dose of study drug (Table).

Results: Of 114 enrolled (MTX n=37, ADA-0.4mpk n=39, ADA-0.8mpk n=38), 57% were female; 90% were white. Mean age was 13.0 yrs (SD 3.76, range 5-18). BMI distribution by age- and sex-adjusted percentiles was 4.4% (<5 th, underweight), 59.6% (5th- <85 th, normal weight), 14.9% (85th- <95 th, overweight), 21.1% (≥ 95 th, obese). Significantly higher proportion of ADA-0.8 mpk pts achieved PASI75 response at Week 16 (57.9%) v MTX (32.4% [95% CI: -47.2, -3.7] p=.027). Approximately 20% more ADA-0.8mpk pts achieved PGA 0/1 response at Week 16 (60.5%) v MTX (40.5%; [95% CI: -42.2, 2.2] p=.083).

Treatment emergent adverse events (TEAEs) PdA				
	MTX N=37 n (%)	ADA- 0.4mpk N=39 n (%)	ADA- 0.8mpk N=38 n (%)	ALL N=114 n (%)
Any TEAE	28 (75.7)	30 (76.9)	26 (68.4)	84 (73.7)
Infection	20 (54.1)	22 (56.4)	18 (47.4)	60 (52.6)
Serious	0	3 (7.7)	0	3 (2.6)

Conclusion: After 16 weeks, adalimumab 0.8mpk eow demonstrated significant and clinically meaningful efficacy outcomes over MTX in this population of pediatric patients with chronic plaque psoriasis. ADA Tx had a similar safety profile to MTX; no new safety risks were identified.

Disclosure of Interest: K. Papp Grant/Research support from: AbbVie, Amgen, Boehringer-Ingelheim, Celgene, Eli Lilly, Janssen, Kyowa, Leo Pharma, Merck (MSD), Novartis, Pfizer, Consultant of: AbbVie, Amgen, Boehringer-Ingelheim, Celgene, Eli Lilly, Janssen, Kyowa, Leo Pharma, Merck (MSD), Novartis, Pfizer, D. Thaci Grant/Research support from: AbbVie, Leo and Pfizer, Consultant of: AbbVie, Amgen, Biogen-Idec, Celgen, Janssen, Leo, Novartis and Pfizer, Speakers bureau of: AbbVie, Amgen, Biogen-Idec, Celgen, Janssen, Leo, Novartis and Pfizer, D. Marcoux Grant/Research support from: AbbVie, Johnson & Johnson, Pierre Fabre and Galderma, Consultant of: AbbVie, Johnson & Johnson, Pierre Fabre and Galderma, Speakers bureau of: AbbVie, Johnson & Johnson, Pierre Fabre and Galderma, L. Weibel Grant/Research support from: AbbVie, Consultant of: Pierre Fabre, Meda, and Pfizer, Speakers bureau of: Pierre Fabre, Meda, and Pfizer, K. Unnebrink Shareholder of: AbbVie, Employee of: AbbVie, D. A. Williams Shareholder of: AbbVie, Employee of: AbbVie

P055

Efficacy, Safety of Adalimumab vs Methotrexate in Pediatric Patients with Severe Chronic Plaque Psoriasis: Results from the Treatment Withdrawal and Double-Blind Retreatment Periods of a Phase 3 Study

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Introduction: This study (NCT01251614) evaluated safety and efficacy of adalimumab (ADA) v methotrexate (MTX) treatment (Tx) in pediatric patients (pts) with chronic plaque psoriasis.

Objective: Report results from the Tx-withdrawal and double-blind (DB) retreatment (rTx) periods.

Methods: This multi-site international study included 4 Pds. PdA: 16-week DB Tx; 1:1:1 randomization to initial 0.8 mpk ADA up to 40 mg, then every-other-week (eow) from Wk1; initial 0.4mpk ADA up to 20 mg, then eow from Wk1; or 0.1-0.4mpk MTX weekly up to 25mg/wk. Responders (\geq PASI75 and Physician's Global Assessment [PGA] clear/minimal [0/1]) at end of PdA proceeded to PdB (non-responders proceeded to 52-week follow-up PdD). PdB: Tx withdrawal for PdA responders until loss of disease control (\geq 2 grade worsening of PGA v Wk16 PdA) up to 36 wks. PdC: pts with loss of disease-control in PdB had 16 weeks of rTx (blinded); ADA-0.8mpk for pts receiving ADA-0.8mpk or MTX in PdA; ADA-0.4mpk for pts receiving ADA-0.4mpk in PdA. Safety was evaluated for pts who received at least 1 dose of study drug (Table). Missing efficacy data in PdC (PGA 0/1) were imputed as non-responders.

Results: Of 114 enrolled pts (MTX n=37, ADA-0.4mpk n=39, ADA-0.8mpk n=38), 57% were female; 90% were white. Mean age was 13.0 yrs (SD 3.76, range 5-18). 54/114 (47.4%) were PdA responders and entered PdB (35.1%, 13/37 MTX, 46.1%, 18/39 ADA-0.4mpk, 60.5%, 23/38 ADA-0.8mpk). 70.4% (38/54) lost disease control in PdB and entered PdC; 75.0% (27/36), MTX and ADA-0.8mpk were rTx with ADA-0.8mpk; 61.1% (11/18) rTx with ADA-0.4mpk. In PdC, no pts had PGA 0/1 at Wk 0. After 16 wks, 55.6% (15/27) rTx with ADA-0.8mpk and 273% (3/11) rTx with ADA-0.4mpk had re-achieved PGA 0/1.

Treatment emergent adverse events (TEAEs) PdC			
	rTx ADA-0.4mpk N=11 n (%)	rTx ADA-0.8mpk N=27 n (%)	All N=38 n (%)
Any TEAE	5 (45.5)	20 (74.1)	25 (65.8)
Infection	2 (18.2)	12 (44.4)	14 (36.8)
Serious	0	0	0

Conclusion: In PdC, a high percentage of pts regained PGA 0/1 response following rTx with ADA. RTx with ADA-0.8mpk had a similar safety profile to rTx with ADA-0.4mpk; no new safety risks were identified.

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P056

Pregnancy outcomes in women with moderate to severe psoriasis: The PSOLAR experience

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Introduction/Objective: We report pregnancy outcomes observed in PSOLAR, an international, longitudinal, observational study evaluating safety outcomes in psoriasis (PsO) pts eligible to receive treatment for PsO with biologics and/or conventional systemic agents.

Methods: Pregnancies and outcomes are reported by investigators and evaluated on a real-time basis by a medical monitor. Clarifying information may be requested, however routine verification of the outcome by an obstetrician is not required.

Results: As of Aug 23, 2014, PSOLAR is fully enrolled with 12,093 pts. There have been 172 pregnancies, of which 129(75%) resulted in live birth, 31(18%) ended in spontaneous abortion, 11(6.4%) were electively terminated, and 1(0.6%) did not have an outcome provided. The spontaneous abortion rate is comparable with the expected range of 15-20% in the general U.S. population. Among the 129 live born infants, 115(89.1%) were full-term and 14(10.9%) were born premature (<37 wks gestation). No congenital anomalies were reported. One stillbirth (0.8%) was reported in a 33 year-old pt with a history of previous spontaneous abortion and exposure to multiple="multiple" anti-TNF biologics on registry. Nine infants had a neonatal problem, including 1 ABO mismatch, respiratory issues(3 total: 2 related to prematurity, 1 related to aspiration pneumonia), 2 hospitalizations due to early delivery related to pre-eclampsia, 1 hyperemesis, 1 had opioid withdrawal, and 1 needed additional monitoring for hypoglycemia. 139 pregnancies occurred in women who with biologic exposure at some time prior to or during pregnancy; 33 occurred in women who were never exposed to a biologic.

Conclusions: In women enrolled in PSOLAR with moderate to severe PsO, there have been 172 pregnancies among 5457 women (3.2%, not adjusted for age or child bearing status). The live birth rate was 75% and the spontaneous abortion rate was 18%, comparable with expected reported rates. No birth defects have been reported thus far. As data continue to accumulate, future work will focus on outcomes as they relate to specific PsO treatments, duration and timing.

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P057

Maintenance of Efficacy Results from UNCOVER-1: A Phase 3 Trial of Ixekizumab for Moderate-to-Severe Plaque Psoriasis

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Introduction: IL-17A plays a key role in the pathogenesis of psoriasis.

Objective: The objective of this study was to evaluate the safety and optimal dosing interval for ixekizumab, an anti-IL-17A monoclonal antibody, in the maintenance of response during an additional 48 weeks of blinded treatment among patients who achieved an sPGA 0/1 following 12 weeks of induction therapy.

Methods: In this trial, 1296 patients were randomized to receive subcutaneous placebo (N=431), or a single injection of 80 mg ixekizumab every 2 (IXE Q2W; N=433) or 4 weeks (IXE Q4W; N=432) following a 160 mg starting dose at Week 0. At Week 12, ixekizumab-treated patients who achieved sPGA 0/1 were re-randomized to receive placebo (n=226), 80 mg ixekizumab every 4 (IXE Q4W; n=229) or 12 weeks (IXE Q12W; n=227). Patients in any treatment arm, who did not achieve sPGA 0/1 at Week 12, received IXE Q4W through Week 60. Comparisons were done using logistic regression analysis. For response analyses, missing data was imputed using non-responder imputation method.

Results: At Week 60, sPGA 0/1 was maintained in 72.9%, 37.4% and 75% of patients in the IXE Q4W, Q12W, and placebo groups, respectively (p < 0.001 for each comparison vs. placebo). Complete resolution of psoriasis (PASI 100) was achieved at Week 60 by 52.0%, 20.3%, and 2.7% of patients in the IXE Q4W, Q12W, and placebo groups, respectively (p < 0.001 for each comparison vs. placebo). Exposure-adjusted, serious adverse event (SAE) rates (per 100 person-years) in the re-randomized population were 8.0, 5.8, and 6.8 in the IXE Q4W, Q12W, and placebo groups, respectively. By comparison, SAE rates at Week 12 were 6.0, 12.2, and 5.2, for IXE Q2W, Q4W, and placebo groups, respectively.

Conclusions: IXE Q4W was effective at maintaining sPGA 0/1 over 60 weeks and over 50% of patients achieved complete resolution of their psoriasis by Week 60. These results provide further evidence for the long-term effectiveness of ixekizumab. The exposure-adjusted SAE rates in patients re-randomized to the Q4W dose were comparable in the maintenance period through Week 60 relative to the 12 week induction period.

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P058

A Phase 3 Trial Comparing Ixekizumab with Placebo and Etanercept for Moderate-to-Severe Plaque Psoriasis: Results from the 12 Week Induction Period of UNCOVER-2

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Introduction: IL-17A plays a key role in the immunopathogenesis of psoriasis.

Objectives: To evaluate the efficacy and safety of an anti-IL-17A monoclonal antibody, ixekizumab, for the treatment of psoriasis.

Methods: In this double-blind trial, 1224 patients were randomized to receive subcutaneous placebo (N=168), etanercept (50 mg twice weekly; N=358), or a single injection of 80 mg ixekizumab every 2 (IXE Q2W; N=351) or 4 weeks (IXE Q4W; N=347) following a 160 mg starting dose. The co-primary efficacy endpoints were proportions of patients who achieved 1) ansPGA 0/1, and 2) PASI 75 by Week 12. Treatment groups were compared using the Cochran-Mantel-Haenszel test. For response analyses, missing data were imputed using non-responder imputation.

Results: At Week 12, PASI 75 response rates were 89.7% in IXE Q2W, 77.5% in IXE Q4W, 2.4% in placebo, and 41.3% in etanercept groups, and sPGA 0/1 was achieved by 83.2% in the IXE Q2W, 72.9% in IXE Q4W, 2.4% in placebo, and 36.0% in etanercept groups (p<0.001 each ixekizumab vs. placebo or etanercept). Differences were seen as early as Week 1 for IXE Q2W and IXE Q4W compared to the etanercept group (p<0.05). Complete resolution (PASI 100) was achieved 40.5% in IXE Q2W, 30.8% in IXE Q4W, 0.6% in placebo, and 5.3% in etanercept groups (p<0.001 each ixekizumab vs. placebo or etanercept). Treatment-emergent adverse events reported in ≥5% of ixekizumab-treated patients and at higher percentages than in placebo-treated patients included injection-site reaction and headache, most of which were mild to moderate in severity. The percentages of these events in ixekizumab-treated patients were similar to those in etanercept-treated patients. Serious adverse events were reported in 1.4% of IXE Q2W, 1.7% of IXE Q4W, 1.2% of placebo, and 1.7% of etanercept patients.

Conclusions: Both ixekizumab dosing regimens were highly effective and superior to placebo and etanercept with onset of efficacy as early as Week 1 and a safety profile comparable to etanercept in this induction period. Over 75% of ixekizumab-treated patients achieved PASI 75, and over 30% achieved complete resolution of psoriasis.

References: Griffiths et al. Lancet. 2015. In press.

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P059

A Phase 3 Trial Comparing Ixekizumab with Placebo and Etanercept for Moderate-to-Severe Plaque Psoriasis: Results from the 12 Week Induction Period of UNCOVER 3

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Introduction: IL-17A plays an important role in the immunopathogenesis of psoriasis.

Objectives: To assess the efficacy and safety of an anti-IL-17A monoclonal antibody, ixekizumab, for the treatment of psoriasis.

Methods: In this double-blind trial, 1346 patients were randomized to receive subcutaneous placebo (N=193), etanercept (50 mg twice weekly; N=382), or a single injection of 80 mg ixekizumab every 2 (IXE Q2W; N=385) or 4 weeks (IXE Q4W; N=386) following a 160 mg starting dose. The co-primary efficacy endpoints were proportions of patients who achieved 1) an sPGA 0/1, and 2) PASI 75 at Week 12. Treatment groups were compared using the Cochran-Mantel-Haenszel test. For response analyses, missing data were imputed using non-responder imputation (NRI).

Results: At Week 12, PASI 75 response rates were 87.3% in IXE Q2W, 84.2% in IXE Q4W, 73% in the placebo, and 53.4% in etanercept groups, and sPGA 0/1 was achieved by 80.5% in IXE Q2W, 75.4% in IXE Q4W, 6.7% in placebo, and 41.6% in etanercept groups (p<0.001 each ixekizumab vs. placebo or etanercept). Differences were seen as early as Week 1 for IXE Q2W and IXE Q4W compared to the etanercept group (p<0.05). Complete resolution (PASI 100) was achieved by 37.7% in IXE Q2W, 35.0% in IXE Q4W, 0 in placebo, and 73% in etanercept groups (p<0.001 each ixekizumab vs. placebo or etanercept). Treatment-emergent adverse events reported in ≥5% of all ixekizumab patients and at higher percentages than in placebo patients included injection-site reaction and nasopharyngitis. Most of these events were mild to moderate in severity. The percentages of these events in ixekizumab patients were similar to those in etanercept patients. Serious adverse events were reported in 2.3% of IXE Q2W, 1.6% of IXE Q4W, 2.6% of placebo, and 1.3% of etanercept patients.

Conclusions: Both ixekizumab dosing regimens were highly effective and superior to placebo and etanercept with onset of efficacy as early as Week 1 and a safety profile comparable to etanercept in this induction period. Over 80% of ixekizumab-treated patients achieved PASI 75, and over 35% achieved complete resolution of psoriasis.

References: Griffiths et al. Lancet. 2015. In press.

Disclosure of Interest: C. E. Griffiths Grant/Research support from: AbbVie, Janssen, Celgene, Eli Lilly, MSD, Bristol Meyers Squibb, Novartis, Sandoz, LEO, Trident, Regeneron, , Consultant of: Abbvie, Actelion, Janssen, Amgen, Eli Lilly, Celgene, Pfizer, Sandoz,UCB Pharma, , GSK-Stiefel, LEO, K. Reich Consultant of: AbbVie, Amgen, Biogen-Idec, Celgene, Centocor, Covagen, Eli Lilly, Forward Pharma, GlaxoSmithKline, Janssen-Cilag, LEO Pharma, Medac, MSD, Novartis, Ocean Pharma, Pfizer, Regeneron, Takeda, UCB, Vertex, Xenoport., Speakers bureau of: AbbVie, Amgen, Biogen-Idec, Celgene, Centocor, Covagen, Eli Lilly, Forward Pharma, GlaxoSmithKline, Janssen-Cilag, LEO Pharma, Medac, MSD, Novartis, Ocean Pharma, Pfizer, Regeneron, Takeda, UCB, Vertex, Xenoport., M. Lebwohl Grant/Research support from: AbGenomics, Amgen, Anacor, Canfit Biopharma, Celgene, Clinuvel, Coronado Biosciences, Ferndale,, Consultant of: Dermipso, P. Van de Kerkhof Consultant of: Celgene, Centocor, Allmiral, Amgen, Psizer, Phillips, Abbott, Eli Lilly, Galderma, Novartis, Janssen, Cilag, Leo Pharma, Mitsubishi, Sandoz , C. Paul Grant/Research support from: Pierre Fabre, Consultant of: Pfizer, Abbvie, Amgen, Celgene, Janssen, Eli Lilly, Leo, Novartis, GSK, A. Menter Grant/Research support from: AbbVie, Allergan, Amgen, APoPharma, Boehringer Ingelheim, Cengene, Convoy Therapeutics, Eli Lilly, Genentech, Janssen Biotech, Leo Pharma, Merck, Novartis, Pfizer, Symbio, Syntrix, Wyeth, Xenoport, Consultant of: AbbVie, Allergan, Amgen, Convoy Therapeutics, Eli Lilly and Company, Janssen Biotech, Novartis, Pfizer, Syntrix, Wyeth, Xenoport, Speakers bureau of: AbbVie, Amgen, Janssen Biotech, Leo Pharma, Wyeth, H. Carlier-PRESENTER ONLY Shareholder of: Eli Lilly and Company, Employee of: Eli Lilly and Company, G. Cameron Shareholder of: Eli Lilly and Company, Employee of: Eli Lilly and Company, J. Erickson Shareholder of: Eli Lilly and Company, Employee of: Eli Lilly and Company, L. Zhang Shareholder of: Eli Lilly and Company, Employee of: Eli Lilly and Company, R. Secrest Shareholder of: Eli Lilly and

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P060

Complete resolution of psoriasis is associated with greater improvements in itch and health-related quality of life: an analysis from UNCOVER-2, a phase 3 clinical trial of ixekizumab

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Introduction: Psoriasis has serious impacts on health related quality of life (HRQoL), and itch is an important symptom for many patients. Currently, PASI 75 is considered a good treatment goal for psoriasis patients; however, individuals not achieving complete resolution of psoriatic lesions (i.e. PASI 100) may have continued impairment in HRQoL.

Objective: To evaluate differences in patient reported outcomes (PROs) among individuals who achieve PASI 100 compared to those with lower treatment responses in patients with psoriasis participating in a trial of ixekizumab, an anti-IL-17A monoclonal antibody.

Methods: In this trial, 1224 patients were randomized to receive subcutaneous placebo, etanercept (50 mg twice weekly), or a single injection of 80 mg ixekizumab every 2 or 4 weeks following a 160 mg starting dose. Treatment groups were combined for the analyses. PROs included the Itch Numeric Rating Scale (Itch NRS), which ranges from 0 to 10 (no itch to severe itch), and the DLQI (scores of 0-1 are interpreted as disease having no effect at all on a patient's life). Improvements in PROs at week 12 were compared pairwise between groups of patients achieving < 50% improvement in PASI (PASI <50 [N=354]), 50% < 75% improvement in PASI (PASI 50-<75 [N=134]), 75% < 90% improvement in PASI (PASI 75-<90 [N=213]), 90% < 100% improvement in PASI (PASI 90-<100 [N=254]), and 100% improvement in PASI (PASI 100 [N=269]).

Results: Greater improvements in DLQI and Itch NRS were associated with greater improvements in psoriasis with maximum improvements in the PASI 100 group (p<0.01 for all pairwise comparisons between subgroups). In the PASI 100 group, there were significantly greater reductions in Itch NRS (-5.9 vs -4.6, respectively; p<0.01) and more patients with a DLQI score of 0 or 1 (78% vs 53%, respectively; p<0.01) compared to the PASI 75-<90 group.

Conclusions: Maximum reductions in itching and the highest percentage of patients reporting no impact of psoriasis on HRQoL were observed among those who achieved complete resolution of psoriasis compared to those achieving lower levels of response suggesting that clear skin is a desirable treatment goal for patients.

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P061

Comparison attainment of minimal disease activity and state of ultrasound remission after one year of treatment-to-target strategy in early psoriatic arthritis

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Background: Minimal disease activity (MDA) predicts less radiographic damage in peripheral joints in psoriatic arthritis (PsA). The relationship between MDA and ultrasound (US) findings in early PsA (EPsA) has not been studied yet.

Objective: to evaluate the association between MDA and US remission during one year of T2T strategy in EpsA.

Methods: 25 (M/F – 9/16) DMARD-naïve patients (pts) with active EPsA, according to the CASPAR criteria, mean age 38.6±10.3 years, PsA duration 12 [5; 24] months (mo), psoriasis duration 36 [12; 84] mo., DAS 3.9 [3.1; 4.7], CRP 15 [9.7; 25.1]mg/l were included to REMARCA [Russian investigation of Methotrexate and biologics in early active inflammatory Arthritis] study. The dose of Methotrexate (MTX) subcutaneous was 20-25 mg/wk. If pts do not achieve MDA after 3 mo. of MTX-mono therapy than Adalimumab 40 mg every two wks was added. At baseline and at 12 mo. of therapy all pts underwent clinical examination, CRP and US assessment of the wrist, 2-3 metacarpophalangeal, 2-3 proximal interphalangeal, 2-5 metatarsophalangeal joints by LOGIQ-9. US active synovial inflammation/US remission (US-ReM) were defined as the presence or absence of vascularization – Power Doppler (PD) ≥ 1/PD=0 accordingly. At 12 mo. of therapy the proportion of pts who achieved MDA and US-ReM were calculated. M±SD, Me [Q75; Q50], (%), Fisher's exact, Spearman correlations coefficient (R) was calculated. All p<0.05 were considered to indicate statistical significance.

Results: At baseline PD≥1 was detected in 12 (48%) out of 25 pts. Significant positive correlations were found between PD≥1 and CRP (R=0.45, p=0.023), DAS (R=0.54, p=0.006). By 12 mo. of therapy DAS/CRP significantly decreased to 1.5 [1.0; 2.2]/2.3 [1.5; 3.3] respectively (Fisher's exact p<0.001). Significant negative correlations were found between PD≥1 and MDA (R=-0.48, p=0.016). By 12 mo. of therapy MDA was seen in 17 (68%) pts. Among those who achieved MDA, US-ReM was seen in 16 (94.1%) pts.

Conclusion: Vascularization by US is strongly associated with EPsA activity and MDA. It can be useful for monitoring of the treatment and the attainment of MDA during one year of T2T strategy.

Disclosure of Interest: None to declare

P062

Anti CD 6 molecule toilizumab shows promising result in von Zumbusch GPP

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Introduction : Generalized pustular psoriasis (von Zumbusch) is characterized by fever ,chills, polyarthralgia, and malaise for several days followed by development of sterile pustules 2-3 mm in diameter, disseminated over trunk and extremities. It can be a life threatening condition and requires a potent and rapid onset treatment regimen. (1,2)

Objectives: Aim of this study was to find quick response, long term remission and to establish safety & efficacy of anti CD6 molecule Itolizumab. Itolizumab is a novel anti CD-6 humanized monoclonal anti body which works upstream by inhibiting the co-stimulation of T cells, lowering release of signature cytokines of Th1 & Th 17 cells.

Methods : A female patient was included in the study,was on oral corticosteroids for more than 8 months which was stopped abruptly. She developed erythroderma, polyarthralgia, fever and malaise followed by pustules, was admitted and investigated , TLC was raised. Informed consent was taken for itolizumab infusion. . A dose of 1.6mg/kg body weight was given by intra venous route for 10 infusions, 6 infusions at 15 days intervals and rest 4 at monthly intervals to maintain the desired serum level of C min >10ugm/ml. The patient were intolerant to conventional immunosuppressant/immunomodulator.

Results : All constitutional symptoms were reduced within 24 hours of 1st infusion. A statically significant improvement in PASI at baseline to PASI at the 10th infusion was achieved and similar results were obtained in DLQI & , PGA. PASI – 53 DLQI-27 before Itolizumab. After 28 weeks PASI – 0.8 DLQI-3.

Conclusion : Itolizumab a novel anti CD-6 is safe and efficacious in the management of von Zumbusch psoriasis.This is probably the 1st case report showing rapid response of biologics in von Zumbusch GPP.

References: References : 1. Shelly WB. Consultations in Dermatology. Philadelphia: WB Saunders;1972.p.210

2. Braverman JM et al. Metabolic and ultrastructural studies in a patient with pustular psoriasis. Arch Dermatol.1972;105:189.

Disclosure of Interest: None to declare

P063

Successful treatment with Ustekinumab in 3 patients with palmoplantar psoriasis

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Introduction: Palmoplantar psoriasis (PPP) is rare and incapacitating. Conventional treatments are partially effective, even anti-TNF.

Objective: Present successful response to Ustekinumab treatment in patients with PPP.

Method: The files of three patients with PPP were reviewed, to describe the evolution and response to Ustekinumab treatment.

Results:

Case 1. 58 year-old female, had moderated PPP. Conventional treatments achieved partial remission. Life quality index (DLQI) was 15. She developed severe depression due to public rejection, so she retired. She got worse with Anti-TNF (Adalimumab) treatment.

Ustekinumab 45mg every 3 moths was started, 70% improvement two weeks after the second dose.

Case 2. 54 year-old female, with diabetes and hypertension, had moderate PPP. DLQI was 20. She had partial remission with methotrexate. She got worse with Anti-TNF (Etanercept). Ustekinumab 45mg every 3 months was started. By the third dose all the lesions was gone.

Case 3. 35 year-old female, had severe scalp and PPP with alopecia where the patches were more severe. DLQI was 14. No response to conventional treatments and all anti-TNF inhibitors. Isotretinoin 1mg/kg/day was started with 50% improvement. She had urinary tract infection, with relapse to initial lesions. Ustekinumab 45mg every 3 months treatment was started. She had total improvement in scalp and palms, 80% in soles.

Conclusions: PPP treatment is a therapeutic challenge. No agreement in the treatment of this PPP, neither a standardized strategy. These cases are excluded from the clinical and pharmacological studies. PPP treatment with Ustekinumab was successful in these patients. We think that Ustekinumab can be use as a first line therapy in PPP.

References: 1. Morales-Muenra C, et al. Efficacy of Ustekinumab in refractory palmoplantar pustular psoriasis. Br. J Dermatol 2013;168:820-824

2. Pinto T, et al. Treatment of palmoplantar pustulosis with Ustekinumab: the importance of interfering with IL23/Th17 pathway. Eur J Dermatol 2013 doi:10.1684/ejd.2013.2196

3. Au S, et al. Open-label trial of Ustekinumab for the treatment of moderate to severe palmoplantar psoriasis. J of Dermatol Treat. 2013;24:179.187

Disclosure of Interest: None to declare

P064

Retrospective analysis of the use of the European Treatment Goal Consensus criteria in a psoriasis-specialized center prior to their introduction

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Psoriasis is a chronic, inflammatory disease that requires long-term control particularly in patients with moderate-to-severe involvement. For these patients systemic therapy is indicated according to international guidelines.

In 2011 a European Consensus on treatment goals for moderate-to-severe psoriasis was published and is now widely used or already implemented into national guidelines. The aim of this consensus is to secure an effective therapy during induction and maintenance phase of systemic therapy. In the consensus not achieving a PASI50 was defined as treatment failure and achieving a PASI75 as treatment success.

In the present study we aimed to answer the question, if treatment at a center specialized in psoriasis already followed these criteria before they were implemented. For this purpose a retrospective chart review was done and 1014 psoriasis analysed that were registered in the database of the Psoriasis-Center at the Dept. of Dermatology, University Medical Center Schleswig-Holstein, Campus Kiel, Germany. Of these 1014 patients 199 could be selected for further analysis between 2006 and 2012.

The best therapeutic effect was seen with ustekinumab followed by adalimumab and infliximab. Among the conventional drugs fumarates were superior to methotrexate that was the favored drug for combination therapy.

In the patient cohort 86 changes of treatment were noted, mostly in the induction phase of treatment. In most cases inadequate response was the reason to change. However, there was no stringent switch to another therapy in case of inadequate response (defined as not

achieving PASI50) during this period of time with no treatment goals established.

The data substantiate the need for treatment goals in routine psoriasis management to secure effective treatment particularly during maintenance therapy.

Disclosure of Interest: None to declare

P065

Itolizumab- A new biologic for management of Psoriasis and psoriatic arthritis

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Introduction: The use of biologicals is expanding in the treatment of extensive forms of unstable psoriasis and chronic plaque type of psoriasis. Most of the biologics act by inhibiting TNF alpha receptors by competitively binding to it.

A new molecule Itolizumab developed and used in India, is a humanized recombinant anti- CD6 monoclonal antibody of IgG1 isotype that binds to domain 1 of anti-CD6 thereby it immunomodulates human lymphocytes without interfering with the binding of CD6 to ALCAM

Objectives: Itolizumab was used with the aim of rapid reduction and control of complicated and extensive psoriasis.

Methods: Observational study. Five patients who had undergone prolonged cycles of methotrexate and cyclosporine therapy with poor response were treated with Itolizumab. Out of five patients four patients had chronic plaque psoriasis and one patient had psoriatic erythroderma along with psoriatic arthropathy. The regimen was bimonthly cycles administered intravenously in 0.9% normal saline at the dose of 1.6mg/kg for three months followed by maintenance with monthly cycles for three months.

Results: Patients showed significant improvement after completion of the infusion. All five patients had achieved >PASI 95. Recalcitrant plaques of psoriasis resolved completely leaving behind areas of hyperpigmentation. Psoriatic arthropathy also improved significantly. The infusion was well tolerated by all the patients with no infusion reactions or infections during the treatment period.

Conclusion: Itolizumab is a novel therapy for the management of extensive psoriasis offering hope for those affected. It is also much more affordable than currently available other monoclonal antibodies with comparable efficacy.

References: Krupashankar DS, Dogra S, Kura M et al. Efficacy and safety of itolizumab, a novel anti-CD6 monoclonal antibody, in patients with moderate to severe chronic plaque psoriasis: results of a double-blind, randomized, placebo-controlled, phase-III study. *J Am Acad Dermatol* 2014; 71: 484–92.

Disclosure of Interest: None to declare

P066

Ixekizumab impact on itch severity compared to etanercept and placebo: Results from UNCOVER-2, a phase 3 trial in patients with moderate-to-severe plaque psoriasis

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Introduction: Itch is a significant and persistent symptom affecting many psoriasis patients and is associated with markedly decreased quality of life.

Objectives: To evaluate the effect of ixekizumab treatment on itching severity in patients with psoriasis compared to etanercept and placebo.

Methods: In this trial, 1224 patients with psoriasis were randomized to receive subcutaneous placebo (N=168), etanercept (50 mg twice weekly; N=358), or a single 80 mg injection of ixekizumab once every 2 (IXE Q2W; N=351) or 4 weeks (IXE Q4W; N=347) following a 160 mg initial dose at week 0. Itching severity was assessed using the Itch Numeric Rating Scale (Itch NRS), a patient-reported, single-item, 11-point scale where 0 represents “no itch” and 10 represents “worst itch imaginable” in the past 24 hours. Improvement in itch and the percentage of patients with a prespecified response (≥ 4 -point score reduction from baseline) or with Itch NRS=0 at week 12 were compared between treatment groups using mixed effects model for continuous variables and the Fisher exact test or a logistic model for categorical variables after imputing the missing values using non-responder imputation (NRI).

Results: Average baseline Itch NRS score across groups was 6.6. Significant improvements in itching severity were observed compared to placebo and etanercept ($p < 0.001$) as early as week 1. By week 12, changes in Itch NRS scores in the IXE Q2W (-5.2) and IXE Q4W (-4.9) treatment groups remained significantly larger compared to placebo (-0.4; $p < 0.001$) and etanercept (-3.6; $p < 0.001$). Among patients with baseline Itch NRS of ≥ 4 points, the proportions of patients who had a ≥ 4 -point reduction in Itch NRS scores were significantly greater in the IXE Q2W (84.8%) and IXE Q4W (76.8%) groups versus placebo (14.1%; $p < 0.001$) and etanercept (57.2%; $p < 0.001$). More patients had Itch NRS=0 at week 12 in the IXE Q2W (40.7%) and IXE Q4W (40.6%) groups compared to placebo (2.4%; $p < 0.001$) and etanercept (17.3%; $p < 0.001$).

Conclusions: Ixekizumab-treated patients reported significantly greater and more rapid improvements in itching severity as measured by the Itch NRS compared to placebo and etanercept over 12 weeks.

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P067

Experience with ustekinumab for the treatment of moderate-to-severe cutaneous psoriasis in our clinical practice setting

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Introduction: Ustekinumab is a human monoclonal antibody that reduces the expression of interleukin-12 and interleukin-23, key inflammatory cytokines involved in the pathogenic mechanisms of psoriasis. Current data from clinical trials indicate ustekinumab is safe and efficacious.

Objectives: The aim of the study is to evaluate the performance of ustekinumab in a routine care setting, evaluating patterns of use, treatment response, drug survival and safety, as well as possible factors involved in ustekinumab clinical response.

Methods: We have evaluated retrospectively all the moderate-to-severe cutaneous psoriasis treated for at least 6 months with ustekinumab since 2009, in our clinical practice settings. Data regarding psoriasis history, clinical characteristics, HLA-Cw6 status, previous and concomitant treatments, ustekinumab dosage, clinical response and adverse events was recorded, among others.

Abstracts

Results: 36 patients were included in the study (21 men and 15 women) with an average age of 49 years old, and an average history of psoriasis around 22 years. The most frequent clinical presentation was chronic big plaque psoriasis, and in 16% of cases, concomitant psoriatic arthritis was present. All the patients had previously received at least one classic systemic treatment, and 38% were naive to biologicals. 72% of patients achieved PASI75 at week 16, increasing to 77% at week 24. In 30% of patients, ustekinumab was combined with another systemic treatment, mainly methotrexate, in order to maintain or regain efficacy, followed by systemic transition or psoriatic arthritis control. 30% of the patients discontinued ustekinumab treatment, due to primary or secondary failure, followed by loss of follow-up, adverse events, efficacy and pregnancy desire. A serious adverse event was described in two patients, one of which required ustekinumab discontinuation.

Conclusions: In our patients, ustekinumab is an effective treatment for moderate-to-severe psoriasis, with elevated survival rates, and results comparable to clinical trials.

Disclosure of Interest: None to declare

P068

Sustained remission achieved with itolizumab in patients with chronic plaque psoriasis- Real world experience

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Introduction: Itolizumab is a humanized recombinant anti-CD6 monoclonal antibody which is currently approved in India for treatment of active moderate to severe chronic psoriasis in patients eligible for systemic therapy. Itolizumab exerts an immunomodulatory action on T cells which in turn leads to prolonged control of psoriasis symptoms and lesser incidence of infections. Phase 3 results of itolizumab showed it to be a promising biologic. Here we present the real world experience of Itolizumab in patients with chronic plaque psoriasis.

Objectives: To assess the remission period, efficacy and safety of itolizumab in real world scenario

Methods: Observational study in 10 patients with chronic plaque psoriasis. Itolizumab was administered as per manufacturer recommendations i.e. once every fortnight for 3 months followed by once every month for next 3 months. PASI scores were assessed at every infusion visit. Remission period was considered to be duration for which the patients maintained response of PASI 50 after completion of 10 infusions. Adverse events during the treatment period were recorded.

Results: All patients achieved PASI 50 response. PASI 75 was achieved by 6 patients out of 10. Average duration of remission achieved was 6 months following 10 infusions. Mild infusion reactions were observed. No serious adverse events were observed in the patients studied.

Conclusion: The results obtained are comparable to results obtained in Phase 3 Itolizumab study. Even though PASI 50 was maintained, maintenance dose of itolizumab on monthly or once in three months would be required to maintain higher than PASI 50 response.

References: Krupashankar DS, Dogra S, Kura M et al. Efficacy and safety of itolizumab, a novel anti-CD6 monoclonal antibody, in patients with moderate to severe chronic plaque psoriasis: results of a double-blind, randomized, placebo-controlled, phase-III study. *J Am Acad Dermatol* 2014; 71: 484-92.

Disclosure of Interest: None to declare

P069

PsoBest: Drug safety in systemic treatments for Psoriasis and Psoriatic Arthritis

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Introduction: The German National Psoriasis registry PsoBest aims to investigate the long-term outcomes and safety of systemic treatments for moderate to severe psoriasis since 2008.

Objectives: Safety analysis of antipsoriatic drugs with special focus on serious adverse events (SAE) and psoriatic arthritis (PsA)

Methods: Data is used from PsoBest, a nationwide non-interventional patient treatment registry. Standardized event rates per 100 patient years (PY) were calculated and classified by treatment.

Results: Until June 2014 3,322 patients were registered (40.5% female, 47 years, 19% PsA). In total 2,704 PY with biologic treatment have been observed, 3,787 PY on conventional systemic treatment. There were no significant differences in rates regarding sex. Patients receiving biologic treatment show a higher risk for general disorders and surgical procedures (1.61 vs. 0.03 pat/100PY and 2.4 vs. 1.11 pat/100PY, $p \leq 0.05$), since risk for endocrine disorders is decreased (0.04 vs. 1.5 pat/100PY, $p \leq 0.05$). Rates for SAE are not different for patients in conventional systemic treatment in respect of presence of PsA. Patients with PsA show higher rates for surgical procedures and gastrointestinal disorders when they receive a biologic treatment (3.29 vs. 1.53 pat/100PY and 0.75 vs. 0.0 pat/100PY, $p \leq 0.05$). Other rates, e.g. immune system or vascular disorders are similar for the groups. Neoplasms were observed with 0.86 pat/100PY in biologic and 0.7 pat/100PY in conventional systemic treatment ($p > 0.05$), all cause death almost identically with 0.48 vs. 0.51 pat/100PY.

Conclusions: In total, with respect to safety signals, there have not been observed any indications for elevated risks of using systemic or biologic drugs in patients with PsA. Low-level differences found indicate a satisfying safety of the systemic and biological drugs used in Germany for psoriasis, which are in line with results of recent publications of psoriasis registries from different countries [1].

References: 1 Carretero G et al. Risk of adverse events in psoriasis patients receiving classic systemic drugs and biologics in a 5-year observational study of clinical practice: 2008-2013 results of the Biobadaderm

Disclosure of Interest: None to declare

P070

PASI Scores by Body Region With Adalimumab in Patients With Suboptimal Response to Prior Therapy

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Introduction: Psoriasis (Ps) severity and treatment response vary by body region. Overall Psoriasis Area and Severity Index (PASI) represents a composite that does not indicate disease activity in individual body regions.

Objectives: Evaluate the efficacy of adalimumab (ADA) by body region in patients (pts) with a suboptimal response to prior Ps therapy

Methods: In the 16-wk, open-label, phase 3b PROGRESS trial, 152 pts with moderate to severe plaque Ps and prior suboptimal response to methotrexate (M), etanercept (E), or UVB phototherapy (P) received an initial 80-mg dose of ADA and then 40 mg every other wk from

wk 1. PASI (range, 0–72) was calculated overall and by body region; missing data were imputed (last observation carried forward). Safety was assessed using adverse events (AEs).

Results: Screening characteristics were similar among the 3 groups, except for a low rate of psoriatic arthritis in P (Table). Overall PASI mean improvements at wk 16 were 60.3%, 53.5%, and 63.1% for pts who switched from M, E, and P, respectively. Regional PASI mean improvements at wk 16 for pts who switched from M, E and P, respectively, were greatest for the trunk (85.0%, 65.9%, 69.2%) and head (71.1%, 65.1%, 79.9%), followed by the upper (64.1%, 51.5%, 69.8%) and lower (56.1%, 51.6%, 56.8%) extremities. The percentage of pts achieving PASI 0 or 1 (clear or almost clear) after switching from M, E, and P, respectively, was 31.7%, 12.2%, and 20.7% (overall score), 78.0%, 57.3%, and 65.5% (trunk), 75.6%, 72.0%, and 75.9% (head), 58.5%, 35.4%, and 37.9% (upper extremities), and 56.1%, 24.4%, and 31.0% (lower extremities). Most pts across arms (93.9%–97.6%) had no AEs or only mild to moderate AEs; AE incidence was 44.8%–61.0% among arms.

Conclusions: PASI improved in all body regions, particularly the head and trunk, in pts switched to ADA after failure of prior therapies.

	M n=41	E n=82	P n=29
Age, y, mean (SD)	47.4 (13.1)	48.3 (13.7)	45.7 (14.6)
Male, n (%)	28 (68.3)	47 (57.3)	16 (55.2)
Ps duration, y, mean (SD)	19.8 (13.5)	17.2 (12.0)	23.0 (14.1)
Psoriatic arthritis, n (%)	17 (41.5)	47 (57.3)	7 (24.1)

References: 1. Strober BE, et al. J Am Acad Dermatol. 2011;64(4):671–681.

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P071

Treatment of palmoplantar pustulosis and psoriasis with ustekinumab

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Introduction: Palmoplantar pustulosis (PPP) und palmoplantar psoriasis still remain difficult to treat. As palms and soles are affected patients can be severely disabled in their daily activities and do carry a significant burden of disease. Therefore efficient therapies are clearly warranted.

Objectives: To evaluate the efficacy of ustekinumab in the treatment of palmoplantar psoriasis and PPP.

Methods: Nine patients with PPP (eight females and one man, aged 26–57 years, mean age 45.4 years) and 4 males with palmoplantar psoriasis (aged 32–51 years, mean age 44.3 years) were treated with ustekinumab. Patients <100 kg received 45 mg, patients > 100 kg 90 mg ustekinumab subcutaneously according to label. PPASI was evaluated at baseline, week 16 as well as week 28.

Results: At week 16 PPASI 50 was achieved by 5 patients (55.6%) with PPP, PPASI 75 and PPASI 90 was achieved by one patient each of PPP patients (11.1%). No patient suffering from PPP displayed PPASI 100. Seventy-five percent of the patients (3 patients) with palmoplantar psoriasis showed a PPASI 75 at week 16 and one patient reached PPASI 100.

Results at week 28 were as follows: 33.3 % (3 patients) of PPP patients achieved PPASI 50, 55.6 % (five patients) a PPASI 75, and one PPASI 90, respectively. All four patients with palmoplantar psoriasis achieved PPASI 100 at week 28. Serious adverse events were noted in one patient (erysipelas).

Conclusions: Ustekinumab has been shown to be efficient in the treatment of PPP and palmoplantar psoriasis. However response to ustekinumab treatment in patients with PPP tends to take longer than in patients with palmoplantar psoriasis.

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Epidemiology

P072

Serum Ferritin Levels as an Indicator of Anemia in Moderate to Severe Psoriasis Patients Compared to the General Public

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Introduction: Psoriasis (PsO) is a chronic auto-immune disorder that affects apx. 2% of the population. It is considered to exhibit a systemic chronic inflammatory state and may contribute to multiple co-morbidities including psoriatic arthritis, cardiovascular disease and cutaneous T-cell lymphoma (Xu et al., 2012). Iron deficiency, effecting apx. 2–5% of men and post-menopausal women in the developed world (Fardy, 2014) is believed to be associated with other inflammatory conditions such as Crohn's disease, however no literature could be found studying any possible relationships between PsO and iron deficiency. One of the most powerful tools for diagnosing iron deficiency is serum ferritin with an AUC of 0.95 (Guyatt, 1992).

Objectives: To review Serum Ferritin Levels as an Indicator of Anemia in Moderate to Severe PsO Patients as Compared to the General Public.

Methods: A retrospective cohort study will be conducted using data abstracted from medical records of confirmed cases of moderate to severe plaque PsO as per a dermatologist. A chart audit will be conducted on approximately 200 cases which will then be matched to 600 controls. Most of these patients will be on a biologic (organically derived) therapy which may confound inflammation levels therefore data will be extracted pre- biologic therapy. Other potential confounding variables will be collected and used in a multivariate regression in order to test for a relationship between PsO and iron deficiency.

Results: Our preliminary study of 78 patients we have seen a significantly higher incidence of diagnosable iron deficiency in PsO patients (39%) as compared to the general population (2%). It is important to note that serum ferritin levels are an excellent indicator of iron deficiency in the absence of inflammation. Since individuals with PsO are more likely to show chronic inflammation, the analysis will have to account for this potential confounding.

Conclusion: Low serum ferritin is diagnostic of iron deficiency: <12–15 µg/l can result in a diagnosis of iron deficiency, <50 µg/l when

Abstracts

there is an inflammatory disease such as PsO and $>100 \mu\text{g/l}$ indicates that iron deficiency is unlikely (Fardy, 2014).

Disclosure of Interest: None to declare

P073

An examination of biologic treatment groups of psoriasis patients in a cohort of the Newfoundland and Labrador population

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Introduction: Research regarding biologics treatment for psoriasis (PsO) is quite limited given that biologics treatments were introduced only within the past ten years. In this study, the distribution of PsO patients by biologic treatment type, demographic factors and prognostic factors was examined. Health service utilization (hospital and physician visits) and comorbidities among PsO patients by biologic treatment type was also described.

Objectives: Cross-sectional study will assist in understanding the different biologics treatments, associated factors and comorbidities among a sample of PsO patients in the NL population.

Methods: This study involved linking medical records of confirmed cases of PsO patients obtained from a private dermatology clinic in St. John's to administrative health databases to obtain patients' conditions.

Results: The majority of patients receiving biologics treatment had moderate/severe PsO. Signs and ill-defined conditions, skin/subcutaneous diseases, respiratory disease, nervous system/sense organs disease and musculoskeletal/connective tissue diseases were some of the most common comorbidities found across all biologic classes. Among biologics patients, 63.7% had at least one unique hospital separation, and 96.3% had at least one physician visit. The Charlson Comorbidity Index (CCI) which predicts one year mortality for patients with many comorbid conditions was significantly higher in female patients (2.37) as compared to male patients (1.93) $p < 0.05$ on biologics. Of the biologics patients whose PsO Area and Severity Index (PASI) scores were available, 86.1% saw improvements after biologics treatment.

Conclusion: In this cohort of 284 patients female patients had significantly greater number of comorbidities (9.53 vs. 8.20) $P < 0.05$. Findings suggest the majority of patients receiving biologics had multiple associated comorbidities, and that females had significantly greater number of comorbidities (9.53 vs 8.20, $P < 0.05$). Also the Charlson Comorbidity Index which predicts one year mortality for patients with many comorbid conditions was significantly higher in females (2.37) as compared to male patients (1.93) $P < 0.05$ on biologics.

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P074

Analysis of psoriasis patients visiting Korean Medical Clinics

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Introduction: This paper examines clinical features of psoriasis patients who visit Korean Medical Clinic.

Objectives: Analyze patients' visits showing features and when psoriasis appears. Help doctors in clinical practice.

Methods: From 2007-2014, gave questionnaire survey to 1,738 patients (men : 826, women : 912) at specialized psoriasis clinics. Welch's T, Chi-square, and proportion tests used for statistical analysis.

Results: 1. Patients average age, 37-29 yrs old. Patients in 20s- more women. Patients in 30s and 40s- more men. No significant differences in remaining ages. Patients of onset age less than 20 - women more than men. Patients of onset age from 20s to 30s - men more common. Patients of onset age over 40 - no difference.

2. No family history difference between sexes. Onset age before 30-yrs-old - 1.5 times higher family history. Patients under age 15 - family history 2 times higher than patients who appeared at 30-yrs-old or more.

3. Average term of psoriasis: 115 months-men, 108 months-women.

4. Average term of corticosteroid use: 64 months-men, 69-women. No major differences for men/women. Most appeared region was leg for men/women. First appearing type - psoriasis nummularis for men, guttate psoriasis for women. Mixed type - psoriasis nummularis + guttate psoriasis.

5. Symptoms with psoriasis were itching most, next scaling.

6. 60% of patients didn't know why psoriasis appeared. Family history accounted for about 30%

Conclusion: Women in 20s and men in 30s and 40s were shown much more. 20s to 40s account for majority - 75.8%. If any family history, many cases occurred 30 yrs ago. Until visiting clinics, 9 years 2 months was average term of psoriasis. Average term of corticosteroid use was 5 years 5 months. Most appeared region: leg. Most cases not able to know cause of onset, thus, more research needed.

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Disclosure of Interest: None to declare

P075

Prevalence of Musculoskeletal Complaints and Psoriatic Arthritis in Primary Care Patients with Psoriasis

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Background: Over 25% of the new consultations in primary care is due to musculoskeletal complaints (MSC). In patient with psoriasis, the underlying diagnosis could be psoriatic arthritis (PsA). Prevalence figures of PsA in psoriasis patients vary widely (6-42%) and data in primary care is scarce.

Objective: To estimate the prevalence of MSC and PsA in primary care patients with psoriasis.

Methods: We conducted a cross-sectional study in adult primary care patients with psoriasis. Patients were identified from GP records by ICD-10 code S91 for psoriasis. Responding patients reporting pain in joints, entheses or the lower back were checked on eligibility by a telephone interview and invited for clinical evaluation. Ultrasonography (US) of the enthesis was performed if a patient had at least one tender enthesis (LEI/MASES) by an independent trained examiner. Patients were referred to a rheumatologist if clinical evaluation suggested the presence of arthritis or axial disease or

ultrasonography of the enthesis showed positive Power Doppler(PD) signal. A PsA case was defined by opinion of the rheumatologist or fulfilling the CASPAR criteria with PD signal in an enthesis on US.

Results: 2564 psoriasis (PsO) patients from 97 GPs were invited. Of the 1673 responders (65.2%), 841 (50.3%) were willing to participate. 823 (32.1%) patients reported suffering from MSC of which eventually 524 were eligible and clinically evaluated. We identified 81 cases of PsA, of which 17 (21%) were newly diagnosed, leading to a prevalence of 3.2% (95%CI 2.5%>3.9%) among primary care psoriasis patients, assuming no additional cases of PsA among the non-responders. Besides these cases, we also identified 36 patients with enthesitis confirmed by ultrasound, which would increase the prevalence of PsA towards 4.6% (95% CI 3.8%>5.4%).

Conclusion: Among psoriasis patients in primary care the prevalence of PsA is estimated to be 3.2%, which would increase towards 4.6% if you take the enthesitis cases into account. We hereby assumed that no additional cases would be observed in the non-responders. The prevalence of MSC is estimated to be 32.1%, which is comparable with the prevalence in general population.

Disclosure of Interest: None to declare

P076

Perception of drugs used in Psoriasis management among dermatologists in India – Results of questionnaire based study

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Introduction: Psoriasis management is constantly evolving due to better understanding of the pathophysiology of psoriasis. Drugs used in psoriasis management range from topical therapy to systemic agents such as methotrexate, acitretin and cyclosporine up to biologic therapy such as Infliximab, Etanercept and Itolizumab in India.

Aim: To understand the treatment options which dermatologists prefer for psoriasis management

Methods: A cross sectional survey of random sample of 70 dermatologists in India using a multiple choice questionnaire was performed. Results obtained were analysed.

Results: Methotrexate is still preferred as the first drug of choice by majority (85%) of dermatologists. Majority (53%) considered Biologic therapy only when conventional systemic therapy fail to give desired response. Route of administration was considered to play an important role in deciding treatment options for patients with moderate to severe psoriasis. Combination therapy was preferred due to decreased chances of side effects. Greater interest towards newly available biologics was observed among dermatologists.

Conclusion: Variation in perceptions of the effectiveness and safety of systemic treatments was clearly observed. While methotrexate is still preferred, biologic therapy has begun to gain acceptance from dermatologists

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Disclosure of Interest: N. Sashidharan Employee of: Biocon Ltd, S. Kumar Employee of: Biocon Ltd, M. Saraswat Employee of: Biocon Ltd, M. Parikh Employee of: Biocon Ltd, D. Paul Employee of: Biocon Ltd

Genetics

P077

Polymorphism of IL-6 encoding gene in patients with psoriatic arthritis

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Introduction: IL-6 is a proinflammatory cytokine involved in the development of psoriatic arthritis (PsA).

Objectives: The present study aimed to determine the possible association between the IL-6 gene polymorphism and PsA susceptibility, progression of the disease and response to therapy with TNF- α inhibitors.

Methods: For this purpose 71 patients and 126 healthy individuals were investigated and genotyped for the IL-6 (C-174G) alleles by real-time PCR amplifications with the use of LightSNiP assays. In addition, in 52 patients IL-6 and CRP (IL-6 read out protein) serum levels were assessed and analyzed in relation to clinical data and IL-6 allelic variants.

Results: Analysis of the distributions of the IL-6 genotypes showed a significant prevalence of the IL-6 heterozygosity when compared to the GG homozygous genotype carriers (OR=2.05, p=0.052). Polyarthritis was less frequent among the GG homozygous patients than those with the C allele (p=0.083).

The IL-6 polymorphism correlated with the IL-6 and CRP serum levels. The higher serum levels were observed for patients with the IL-6 G allele (p=0.026 and p=0.032 for IL-6 and CRP levels, respectively). Majority of patients carrying this IL-6 G allele were worse responders to methotrexate therapy and were subjected to the anti-TNF- α treatment (p=0.046). Moreover, only IL-6 heterozygous individuals belonged to patients that had to change one anti-TNF- α inhibitor (ineffective) to another one (p=0.008).

Conclusions: These results imply, that the IL-6 polymorphism is associated with PsA susceptibility and progression of PsA as well as IL-6 and CRP serum levels in patients with this disease.

Disclosure of Interest: None to declare

P078

Genetic variations within genes coding IL-12, IL-17 and IL-33 and their serum levels in patients with psoriatic arthritis – preliminary results

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Introduction: Interleukin (IL) – 12, IL-17A, IL-17F and IL-33 belong to the family of cytokines involved in systemic inflammation playing a key role in pathogenesis of psoriasis (PSO) and psoriatic arthritis (PsA).

Objectives: The present study aimed to assess the associations between polymorphisms within respective genes, serum levels of these cytokines and predisposition to PsA, activity of the disease and response to therapy with TNF- blocking agents.

Abstracts

Methods: Seventy-one PsA patients (diagnosed by the criteria recommended by CASPAR group) and 126 healthy individuals were typed for the IL-12B (rs3212227, rs6887695), IL-17A (rs2275913), IL-17F (rs763780) and IL-33 (rs7044343) polymorphisms. Cytokine serum levels were assessed in 52 patients by ELISA. Disease Activity Score was measured (swollen and tender joints, ESR, CRP) in addition to BASDAI, BASFI, VAS, and PASI scores.

Results: The GG homozygosity within the IL-17A and IL-12B (rs6887695) genes strongly tended to be correlated with susceptibility to PsA (OR=1.768, p=0.092 and OR=1.955, p=0.056, respectively). Patients with the AA homozygous genotype of the IL-12B (rs3212227) more frequently presented with polyarthritis than patients lacking this genotype (p=0.070). No other relationship was observed between polymorphisms and disease activity. In addition, IL-33 serum levels were higher in patients with the IL-33 C allele (p=0.087). None of the polymorphic variants was found to affect the response to anti-TNF treatment.

Conclusions: In conclusions, the results of the present study suggest that IL-17F and IL-12B polymorphisms may be of prognostic value in patients with PsA.

Disclosure of Interest: None to declare

P079

HLA-Cw6 polymorphisms may help predict response to biologic therapy in patients with chronic plaque psoriasis

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Introduction: To-date response to biologics has been based on clinical observation and no genetics markers have been found to predict response to treatment. In 1993 our research suggested that HLA-Cw6 was a susceptibility gene for psoriasis. Our data also suggested that HLA-Cw6 was linked to both the age of onset of psoriasis as well as the need for patients to require photo or systemic therapy for psoriasis treatment. With the introduction of biologic therapy we now have the tools we need to treat this severe and relentless disease. Biologics offer us not only improved therapeutic benefit but a much more favorable safety profile. As there is variability in the response of patients to biologics single-nucleotide polymorphisms (SNP) that may identify responders and non-responders would be of benefit. Polymorphisms of the macrophage migratory and inhibitory factor gene (173 G/C) are associated with response to glucocorticoids in JIA asthma and nephrotic syndrome. (Leila E. D'Urbano et al, ARC 2006) Recent polymorphism in the tumor necrosis factor- α gene (308 A/G polymorphism) may predict treatment response to etanercept in patients with rheumatoid arthritis. Patients with RA ad 308 G/G TNF- α genotype tend to respond better to etanercept therapy. In the Newfoundland and Labrador founder population not only is HLA-Cw6 a susceptibility gene but preliminary data suggest it may be able to predict response to biologics.

Objective: To study HLA Cw6 and its association do biological therapy response.

Methods: Using the Newfoundland and Labrador founder population we have genotyped 91 patients who have been treated with biologics and then classified the patients into 2 groups (patients with a clinical response to biologics and patients that have not had a clinical response to biologics and have discontinued treatment).

Results: Preliminary results suggested that patients who are positive for HLA-Cw6 respond to biologics and those patients negative for HLA-Cw6 may fail treatment.

Conclusions: This study demonstrates that the use of the Newfoundland and Labrador founder population and HLA-Cw6 status may be helpful in predicting response to certain biologics.

Disclosure of Interest: None to declare

P080

Serum level of IL-23 and IL-23R polymorphisms in patients with psoriatic arthritis

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Introduction: Interleukin (IL) - 23 is one of the of cytokines involved in systemic inflammation. Interaction between this cytokine and its receptor (IL-23R) that plays an important role in pathogenesis of psoriatic arthritis (PsA).

Objectives: The present study aimed to assess the associations between polymorphisms within gene coding IL-23R, IL-23 serum levels and disease activity in patients with PsA.

Methods: Fifty-two PsA patients (diagnosed by the criteria recommended by CASPAR group) were genotyped for the IL-23R (rs11209026 and rs7530511) polymorphisms. The nuclear factor kappa (NF- κ B1 (rs28362491; ins/del)) polymorphism (associated with the promoter activity of this gene and cytokine gene expressions, including IL-23) was also analyzed in PsA patients group. IL-23 serum levels were assessed by ELISA in patients with PsA, and for comparison, 10 healthy individuals. These laboratory data were further related with clinical characteristics of the patients. Disease Activity Score was measured (swollen and tender joints, ESR, CRP) in addition to BASDAI, BASFI, VAS, and PASI scores.

Results: Significantly (p<0.05) elevated levels of IL-23 cytokine were observed in PsA patients (126.5 pg/ml) when compared to control group (24.9 pg/ml). Moreover, IL-23 serum levels were associated with the IL-23R rs7530511 polymorphism. Patients carrying the IL-23R T allele characterized with higher concentrations of IL-23 in serum (299.1 vs 86.8, p<0.05). Interestingly, patients with the IL-23R T allele were also more frequently carrying the ins/ins homozygous NF- κ B1 genotype (associated with a better promoter activity and higher expression of cytokines) (7/17 vs 4/34, distribution of the T allele among ins/ins vs del allele positive patients, p=0.03). No association was found between for IL-23 levels or IL-23R polymorphisms and disease activity.

Conclusions: Patients with PsA characterize with higher serum levels of IL-23 than patients with RA and healthy individuals. IL-23 concentrations in serum of PsA patients are associated with the polymorphism (rs7530511) of IL-23 receptor encoding gene.

Disclosure of Interest: None to declare

P081

Increased frequency in the HLA DR*04 alleles in Mexican patients with psoriasis

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Introduction: There is a genetic predisposition that allows the development of psoriasis, which is associated with several genes, specially Cw6. This explains its clinical variability, however, the association with HLA DR has not been plainly studied. HLA-DR alleles are related to the development of inflammatory chronic illnesses in Mexican patients.

Objective: The aim of this study is to know the frequency of HLA DR haplotypes in Mexican patients with psoriasis, and compare with healthy Mexican controls.

Method: With the information and authorization by the Hospital Ethics and Research Comitee and the previous knowledge and signed authorization of the psoriasis patients, we took 5ml of blood to 22 patients in order to extract DNA genomic. Then we identified the polymorphisms of the locus HLA DR by PCR thecnic using a TEPNEL LUMINEX SSO kit. The results of the genetic frequencies were compared with the data of 198 healthy subjects.

Results: The results were analized with square chi. A significant statistically increment of the HLA-DR*04 in patients with psoriasis compared with the controls. The values obtained are P=0.003, OR 2.6, IC 95% of 1.2-5.5

Conclusions: HLA DR*04 haplotype is increased in Mexican patients with psoriasis. This haplotype could be related with the susceptibility of Mexican to acquire psoriasis, as it has been demonstrated for other inflammatory diseases.

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Health Economics and Health Policies

P082

Treatment patterns and healthcare resource utilisation (HCRU) among patients with psoriatic disease in a large national claims database

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Background: Despite advances in psoriatic arthritis (PsA) and psoriasis (PsO) treatment (tx) guidelines, many pts remain untreated or under-treated.

Objectives: To describe tx patterns and HCRU in US pts with PsA only or PsA and PsO (PsA/PsO).

Methods: Adult pts had ≥2 outpatient/1 inpatient visit for psoriatic disease (ICD 9: 696.1/696.0) in the Truven MarketScan® Claims Database (2009–2014) with continuous enrolment ≥6 months before and ≥12 months after diagnosis (index: Day 0). Initial (≤30 days post-index) tx was classified as monotherapy (monotx) or combination;

combination tx was defined hierarchically as biologics+other (B), conventional systemic+non-biologic (CS), phototherapy/topical+non-biologic/non-conventional systemic (PT). Unadjusted PsA- and PsA/PsO-related HCRU and costs were assessed 1-year post-index.

Results: Of 7512 PsA pts, 46.7% were initially treated. Initial monotx (32.3%) was 9.4% biologic, 9.3% conventional systemic, 2.6% topical and 11.1% NSAIDs. Initial combination tx was 38.9% B and 21.6% CS. Of 10226 PsA/PsO pts, 46.0% were initially treated. Initial monotx (25.6%) was 5.1% biologic, 3.8% conventional systemic, 9.4% topical, 0.9% phototherapy and 6.4% NSAIDs. Initial combination tx was 38.3% B, 22.4% CS and 0.7% PT. Of pts who did not receive initial tx, 63% (PsA) and 59% (PsA/PsO) remained untreated 181–365 days post-index. Total mean disease-related costs for PsA and PsA/PsO were \$34678 and \$40808 (based on pts with available cost data). Pharmacy prescriptions and outpatient office visits (table) and costs were higher in pts with initial tx vs no initial tx (p<0.0001) in both groups.

Conclusion: Over half of pts did not receive initial tx; initial tx was associated with increased HCRU vs no initial tx.

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HCRU Mean # of events (SD) (***p<0.0001 vs initial tx)	PsA Initial tx (N=3510)	PsA No initial tx (N=4002)	PsA/PsO Initial tx (N=4705)	PsA/PsO No initial tx (N=5521)
Pharmacy pre- scriptions	10.6 (6.6)	5.4 (4.4)***	10.1 (6.8)	5.9 (4.6)***
Inpatient visits	1.1 (0.2)	1.1 (0.4)	1.1 (0.3)	1.1 (0.4)
Outpatient office visits	3.8 (2.3)	3.3 (2.2)***	4.9 (3.5)	4.4 (3.0)***
Emergency room visits	2.3 (0.6)	2 (0.0)	2.8 (1.5)	2.3 (0.5)

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P083

Incremental costs per patient for psoriasis and psoriatic arthritis in a population-based referent cohort: Are there clear links to psoriasis morbidity?

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Introduction: There is need for more data on resource use and costs for patients with psoriasis alone (PSO) and psoriasis patients with psoriatic arthritis (PsA) from a population-based perspective, especially after the introduction of biological treatment for these groups.

Objectives: To study incremental societal costs for PSO/PsA patients versus referents free from PSO/PsA, and to estimate costs attributable to specific PSO/PsA problems.

Abstracts

Methods: Patients were identified by ICD-10 codes related to PSO/PsA using data from 1998 to 2007 in a regional healthcare register covering all healthcare use for approximately 1.2 million people. For each PSO/PsA patient, three population-based referents were selected. Data on primary care, secondary outpatient care, inpatient care, drugs and work loss were analyzed for years 2008–2011. The mean annual cost per patient was adjusted for cases and referents exiting the study. The human capital method was used to value work loss. We used a societal perspective and expressed costs in Euros (2011 price level).

Results: We identified 15,283 patients who fulfilled the inclusion criteria for PSO (n=12,562, 50% women, mean age (SD) 52 (20)) or PsA (n=2721, 56% women, mean age 54 (16)) and included 45,849 referents. Mean annual societal cost for patients with PSO/PsA exceeded the cost for referents by 56%, €11,146 vs. €7132 (p<0.0001). The cost was 84% higher for PsA compared to PSO, €17,853 vs. €9693 (p<0.0001). Costs due to work loss represented the largest share of total costs in all groups. Almost 25% of the total costs were attributable to inpatient care for PSO patients and 12% for PsA patients. Costs for biological DMARDs represented 10% of the total costs for PsA and 1.5% for PSO. In PsA, drug costs accounted for 44%, and physician costs accounted for 11% of the costs attributable to specific PSO/PsA problems. These figures were less for PSO.

Conclusion: The costs were highest for PsA, mainly due to work loss and biological treatment. A small fraction of the costs were directly attributable to PSO/PsA problems, indicating an increased morbidity in these patients that needs to be further studied.

Disclosure of Interest: None to declare

Interesting Clinical Cases

P084

Psoriatic arthritis with MALT lymphoma – a case report

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Case Report: A 60-year-old with a history of psoriasis and gout developed flu-like symptoms and generalized arthralgias prompting an ER visit. Blood work revealed pancytopenia, transaminitis, and acute renal injury. Peripheral blood smear, imaging studies, and microbiological evaluation were unrevealing, and he was referred to our center. Psoriatic arthritis was confirmed by typical joint involvement with classic dermatological findings. Repeat rheumatologic, infectious, and paraneoplastic work-up was unrevealing. His symptomatology persisted over the ensuing months, when he developed a diffuse, right-sided parotid gland swelling. Biopsy revealed malignant cells consistent with a low-grade extra nodal marginal zone (MALT) lymphoma. The patient received therapy with rituximab with favorable response.

Discussion: Associations between autoimmune conditions and lymphoproliferative disorders have been the focus of multiple studies and reports. Anderson et al demonstrated an association between Non-Hodgkin lymphoma and autoimmune conditions like rheumatoid arthritis, Sjogrens syndrome (SS), and systemic lupus erythematosus (SLE).¹ MALT lymphoma has also been linked with SLE and SS.² In patients with psoriasis, it has been hypothesized that chronic inflammation, deficient immune surveillance, genetic

susceptibility, and treatment effects may lead to lymphoproliferative disorders, primarily T-cell lymphomas.³ To our knowledge, this is the first reported case of MALT lymphoma developing in a patient with psoriatic arthritis. Rituximab, a monoclonal antibody directed against B-cell specific antigen CD20, is effective for B-cell lymphomas, including MALT lymphoma.

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Disclosure of Interest: None to declare

P085

Cardiac tamponade as a complication of anti-TNF therapy in psoriatic arthritis

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Introduction: Patients with psoriatic arthritis respond well to therapy with anti-TNF. Auto-antibody formation and autoimmune disease have been described in patients treated with anti-TNF.

Objective: To describe a case of psoriatic arthritis that developed cardiac tamponade along with lupus serology while on therapy with Infliximab.

Methods: 42 year-old male with history of psoriasis and psoriatic arthritis was well controlled on Infliximab initiated 4 months prior to this presentation. Over a course of 4 days he developed dyspnea with minimal exertion along with significant lower extremities edema. He had evidence of large pericardial effusion with tamponade physiology on subsequent ECHO that required a pericardial window. A 650 cc pericardial fluid was removed. Infectious etiology was ruled out. Further work up was remarkable for positive ANA at a titer 1:640 (prior testing was negative by same method of ANA detection) and his anti-dsDNA was also positive at a titer 125 by Crithidia luciliae assay. His symptoms responded to withdrawal of Infliximab and addition of steroids and Plaquenil.

Subsequently his psoriatic arthritis was poorly controlled and he was initiated on Humira with excellent clinical response and no recurrence of his serositis at 2 years of follow up.

Results: Pericardial involvement is common in SLE patients and it was described in drug induced lupus including lupus-like syndrome induced by anti-TNF. Pericardial tamponade is a very rare manifestation in SLE and it has not been described in the literature as a manifestation of lupus-like syndrome induced by anti-TNF.

Conclusions: Cardiac tamponade can be a manifestation of anti-TNF induced lupus-like syndrome in psoriatic arthritis patients treated with anti-TNF.

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P086

Psoriasis and vitiligo in same patient: an unique concurrence

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Psoriasis and vitiligo in same patient: an unique concurrence

Background: Although association between psoriasis and vitiligo is well known, the pathogenetic association between the two is still elusive. Autoimmunity, common neuropeptides and koebners phenomenon have been implicated to explain the pathological link. Very few case series have been reported so far dealing with appearance of vitiligo and psoriasis in the same patient.

Objective: To study the prevalence of psoriasis and vitiligo co-localization in the same patient.

Methods: Retrospective analyses of psoriasis patients records seen between January 2011 and December 2014 for the concurrent presence of vitiligo.

Results: Overall 900 psoriasis patients were analysed, of which only 5 patients had concurrent vitiligo; 4 females and 1 male. The mean age of study cohort was 32±8.5 years (9-80 years), mean age of psoriasis onset was 25±2.6 years and of vitiligo 10.3±3.5 years. Three patients had vitiligo vulgaris, acrofacial and focal vitiligo was noted in 1 patient each. Four patients had psoriasis vulgaris and 1 guttate psoriasis. Psoriasis lesions confined to lesions of vitiligo were found in only 2 patients (1 patient each with psoriasis vulgaris and guttate psoriasis) while remaining had lesions distributed widely independent of vitiligo. Onset of vitiligo preceded psoriasis in 4 patients.

Conclusions: Our results emphasizes that psoriasis need not selectively involve vitiliginous lesions. More molecular studies are required to unfold the enigmatic pathogenesis involved in the concomitant appearance of both these disorders.

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P088

A case of CIN 1 with guttate psoriasis

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Introduction: Psoriasis is universal in occurrence, its prevalence in different population group varies from 0.1% to 11.8% (1). The root cause is unknown. An interesting case report of small plaque psoriasis associated with CIN type 1 is described here.

Objectives: The case report was an incidental finding of clearance of small plaque psoriasis lesions following treatment of CIN type 1.

Method: A healthy 48 year old female patient reported with seborrhoea scalp and lichenified lesions on various parts of body including palms & soles. All investigations were within normal limits, including VDRL in serial dilution, viral markers, liver & kidney functions, lipid profile, complete haemogram, & RA factor. Histopathology was conclusive with Psoriasis. BSA was > 30%, patient was intolerant to oral & injectable methotrexate and to oral Cyclosporine. Injectable Etanercept 50 mg twice a week was planned along with topical emollients. She was sent for routine health check up where on PAP smear & following histopathology confirmed CIN type 1. The patient was treated surgically for CIN type 1. Biologic therapy was deferred till her treatment for CIN type 1 was over.

Result: Within 4 weeks of hysterectomy all lesions of small plaque psoriasis cleared without any active treatment for skin lesions except emollients. After 03 years of regular follow up the patient has not yet developed any lesion suggestive of relapse of psoriasis. Her gynaecological condition is also stable.

Conclusion: This is probably the 1st case reported of development of small plaque psoriasis in a middle aged female patient following CIN and its self clearance after hysterectomy & complete treatment for CIN.

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Disclosure of Interest: None to declare

Pathophysiology and immunobiology

P089

IL-1 and IL-36 are the dominant cytokines in generalized pustular psoriasis

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Introduction: Generalized pustular psoriasis (GPP) is a rare debilitating and often life-threatening, inflammatory disease characterized by episodic infiltration of neutrophils into the skin, pustule development, and systemic inflammation. This condition can manifest in the presence or absence of chronic plaque psoriasis (CPP). Current treatments are unsatisfactory and a better understanding the pathogenesis of GPP may yield new therapeutic approaches.

Objectives: To assess the pathophysiological differences between GPP and CPP.

Methods: We analyzed archived formalin-fixed paraffin-embedded biopsies of confirmed GPP (n=20) and CPP (n=12) cases and healthy control (n=12) skin using Affymetrix Human Gene ST 2.1 arrays, confirmed findings using qRT-PCR and immunohistochemistry.

Results: Gene expression analysis revealed that compared with healthy skin, GPP and CPP lesions yielded 861 and 779 differentially expressed genes (DEGs, >2-fold change, p<0.05) respectively, with 269 of the upregulated transcripts common to both diseases. Examining the DEGs, qRT-PCR showed significantly higher expression of IL36A (3-fold, p=0.015) and IL36G (4-fold, p=0.05) in GPP compared with CPP; however expression of the receptor antagonist (IL36RN) was equivalent in the 2 diseases. Likewise, IL1B was 11 times more abundant in GPP than CPP (p=0.005), with equivalent expression of IL1RN. This was accompanied by increases in neutrophil chemokines CXCL1, CXCL2 and IL8 (15-, 3-, and 20-fold greater mRNA expression in GPP than CPP respectively, p<0.05, all). IHC confirmed higher IL-36 α , IL-36 γ , IL-1 β and neutrophil abundance in GPP lesions compared with CPP. Suggesting a departure from typical Th1/Th17 pathophysiology, IL23A, IL17A, IFNG, CXCL9, CXCL10 and MX1 expression were found to be significantly lower in GPP compared to CPP (p<0.01 all).

Abstracts

Conclusions: Our findings indicate sustained activation of the IL-36 and IL-1 systems in GPP, which drive neutrophil infiltration. These data may have major therapeutic implications as they suggest that the IL-1 and IL-36 are the main drivers of disease pathology in GPP, and question the contribution of IL-17 and/or IFN- γ in GPP pathogenesis.

Disclosure of Interest: None to declare

P090

Regulation of IL-10 Production, an Anti-inflammatory Feed-back of Human Defensin-2 in Psoriasis?

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Introduction: Human defensin-2 (hBD2) belongs to the family of antimicrobial peptides that are believed to be important immune activators. It has been demonstrated to be expressed at high levels in psoriatic lesions. Besides its known pro-inflammatory role in autoimmune, whether hBD2 has any anti-inflammatory effects has not been established.

Objectives: To investigate the impacts of hBD2 on the expression of IL-10, an anti-inflammatory cytokine, in psoriasis.

Methods: Fifteen psoriatic patients were enrolled and their peripheral blood mononuclear cells (PBMCs) were isolated. PBMCs were stimulated with hBD2 or IL-10 of different concentrations. The cytokines were measured with ELISA kits.

Results: We found that hBD2 increased IL-2, IL-10 expressions in PBMCs. These effects were more obvious for hBD2 of higher concentrations. On the other hand, IL-10 downregulated the expression of hBD2.

Conclusions: The results of this small pilot study suggested the dual-directional regulation of hBD2 in psoriasis. hBD2 of high concentration induced anti-inflammatory IL-10, which showed a feed-back suppression on the overexpression of hBD2.

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Disclosure of Interest: None to declare

P091

Regulation of FOXP3+ Regulatory T cells by Leptin in Psoriasis

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Introduction: Leptin is a peptide hormone involved in the regulation of energy intake and obesity. It has been recently shown to induce proinflammatory cytokines. More recently, leptin has been suggested to be an important regulator of Th1-cell dependent autoimmune diseases, including ankylosing spondylitis and multiple sclerosis. There is a close relationship between psoriasis and obesity, hypermetabolism. In psoriasis, serum leptin levels have been identified to be significantly higher in patients with severe ones than patients with mild-moderate ones and controls. It has been suggested as a severity marker and chronicity cofactor in psoriasis. However, the mechanism by which leptin regulates the immune network in psoriasis has not been identified.

Objectives: To investigate the effects of leptin on FOXP3+ Regulatory T cells in psoriasis.

Methods: Fifteen psoriatic patients and 5 healthy controls were included into this study. The methods used in this study included immunohistochemistry, mouse models of starvation and high-fat diets, Western blot, and flow cytometry.

Results: We found that, besides the epidermis, there were intense leptin expressions in the infiltrated inflammatory cells in psoriatic dermis by immunohistochemistry. There was a direct correlation between leptin levels and FOXP3+ Regulatory T cells. We confirmed their relationship in mouse models by starvation and high-fat diets. We also confirmed the expression of leptin receptors on FOXP3+ Regulatory T cells. Next, we found that neutralization of leptin antibody could rescue the attenuation of FOXP3+ Regulatory T cells by leptin. We identified STAT3 pathway was the main pathway which mediated the effects of leptin on FOXP3+ Regulatory T cells in psoriasis. The inhibitor of this pathway could rescue the attenuation of FOXP3+ Regulatory T cells by leptin.

Conclusions: Our study supported the view that leptin might be a new therapeutic target in psoriasis. Further studies by mouse model of psoriasis are warranted to clarify this possibility.

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Disclosure of Interest: None to declare

P092

Evaluation of Th17 cells and associated cytokines in patients with psoriasis

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Background: T helper cells 17 (Th17) cells have recently emerged as important player in the pathogenesis of psoriasis. The Th17 immune effector pathway is mediator of inflammation in patients with psoriasis, both in peripheral circulation and in skin lesions.

Objective: To determine the frequency of Th17 cells in peripheral blood of patients with psoriasis and to analyze its relation with disease severity.

Methods: This was a prospective study comprising 34 patients with psoriasis vulgaris and 24 healthy controls. Using 3-color flow cytometry, circulating Th17 and Th1 cells were quantified in untreated patients with psoriasis and healthy controls. In the serum collected from patients with psoriasis and healthy controls, the concentrations of IL17A and IL23 were examined by ELISA methods. Severity of psoriasis was assessed by means of PASI score.

Results: Increased frequencies of CD4+ve IL17A+ve T cells were seen in peripheral blood of patients with psoriasis vulgaris ($P < 0.002$) but it did not correlate with age at onset, disease severity as well as duration of the disease. Serum IL17A and IL23 concentrations were elevated in patients with psoriasis as compared to controls but the figures were not statistically significant.

Conclusions: Increased serum levels of circulating inflammatory Th17 cells may contribute to cutaneous pathologies as well as inflammatory process that is hallmark of patients suffering from psoriasis vulgaris.

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Disclosure of Interest: None to declare

P093

A study of the number of circulating CD4+CD25+Foxp3+ regulatory T cells and CD4+CD25-Foxp3+ T cells in psoriasis

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a. Regulatory T cells (Treg) are able to inhibit the immunological response and to maintain the cutaneous immunological homeostasis, thus preventing autoimmunity against itself. In several studies, the importance of CD4+CD25+Foxp3+ Treg in psoriasis has been examined in the peripheral blood of patients. But, limited studies on Treg are available and give conflicting results. Recently, CD4+CD25-Foxp3+ T cells have been intriguing as peripheral reservoir of CD4+CD25+Foxp3+ Treg. **b.** To investigate differences in the CD4+CD25+Foxp3+ Treg and CD4+CD25-Foxp3+ T cells count between patients with psoriasis and normal controls. **c.** For phenotypic analysis, proportions and absolute cell numbers of CD4+CD25+Foxp3+ Treg and CD4+CD25-Foxp3+ T cells in peripheral blood were examined by flow cytometry. The correlation between CD4+CD25+Foxp3+ Treg count and the other parameters, such as age of onset, disease duration, BSA, PASI score and clinical stage was also analyzed. **d.** Although CD4+CD25+Foxp3+ Treg count was increased slightly and the number of CD4+CD25-Foxp3+ T cells was slightly decreased in psoriasis patients compared with controls, there were not statistically significant (5.27 ± 2.60 vs. 4.70 ± 1.35 , $p > 0.05$, 1.56 ± 1.07 vs. 1.93 ± 1.08 , $p > 0.05$). CD4+CD25+Foxp3+ Treg count was not correlated with any parameter except clinical stage of psoriasis. Mean \pm numbers of CD4+CD25+Foxp3+ Treg in stable phase was higher than in progressive phase (726 ± 2.58 vs. 435 ± 2.10 , $p < 0.05$). CD4+CD25-Foxp3+ T cell count did not show any significant correlation with all parameters ($p > 0.05$). **e.** These findings suggest that only CD4+CD25+Foxp3+ Treg count is insufficient to explain the pathogenesis and severity of psoriasis. But a decrease of circulating CD4+CD25+Foxp3+ Treg is likely to be correlated with aggravation of psoriasis.

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P095

MiR-146a, a microRNA overexpressed in psoriasis, is a potent regulator of IL-1 β -induced inflammatory responses in keratinocytes

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Introduction: MicroRNAs are short, endogenous non-coding RNAs that regulate gene expression at the post-transcriptional level. We and others have previously shown that a set of microRNAs is deregulated in psoriasis skin lesions.

Objectives: The aim of this study was to investigate the expression and function of microRNA-146a (miR-146a) in psoriasis.

Methods: MiR-146a expression was analyzed by qPCR and in situ hybridization. MiR-146a levels were modulated in primary human keratinocytes by transfection of synthetic miR-146a precursor, or specific miR-146a inhibitor. Neutrophil migration was assessed by chemotaxis assay. Transcripts regulated by miR-146a were identified by transcriptomic profiling.

Results: We found that miR-146a is up-regulated in lesional, but not

in non-lesional skin of psoriasis patients. Both epidermal keratinocytes and dermal infiltrating cells contribute to the overexpression of miR-146a in psoriasis, as evidenced by in situ hybridization. We identified IL-1 β , a cytokine overexpressed in psoriasis skin, as an inducer of miR-146a in keratinocytes. A single stimulation with IL-1 β resulted in long-lasting up-regulation of miR-146a, contrasting to the rapid and transient expression of inflammatory mediators (e.g. IL-8, CCL20, TNF- α) in keratinocytes. Overexpression of miR-146a suppressed the baseline and IL-1 β -induced production of IL-8, CCL20 and TNF- α . Moreover, overexpression of miR-146a in keratinocytes resulted in decreased chemotactic attraction of neutrophils. By contrast, inhibition of endogenous miR-146a enhanced the baseline and IL1 β -induced production of inflammatory mediators. Transcriptomic profiling revealed that miR-146a suppressed the expression of a large number of immune-related genes in keratinocytes, including cytokines, chemokines and components of immune-related signal transduction pathways.

Conclusions: Altogether, our results identify miR-146a as a negative regulator of the IL-1 β -induced inflammatory response of keratinocytes. Its overexpression in keratinocytes of psoriasis lesions may serve as a negative feedback to control inflammation.

Disclosure of Interest: None to declare

P096

Psoriasis (S100A7) regulates markers of epidermal differentiation

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Introduction: Psoriasis is characterized by epidermal hyperproliferation and a disturbed differentiation process. The maturation pathway of keratinocytes in psoriatic lesions differs from that of the normal epidermis and an altered sequence of expression of differentiation markers has been described in psoriasis. Psoriasis is highly expressed in psoriatic keratinocytes and in several other conditions that display abnormal cell differentiation.

Objective: The aim of this study was to investigate the involvement of psoriasis in keratinocyte differentiation.

Methods: The expression of psoriasis in psoriatic skin was determined using immunohistochemistry. The effect of keratinocyte differentiation on psoriasis expression was investigated by culturing human epidermal keratinocytes (HEKn) under differentiation-inducing conditions and the involved signalling pathways were studied by treating the cells with specific inhibitors. To determine the role of psoriasis in inducing differentiation, psoriasis expression was downregulated using siRNA.

Results: We found a marked psoriasis expression in the psoriatic epidermis. The expression formed a gradient, ranging from a weak staining in the basal layer to an intense staining in the more differentiated suprabasal layers. The induction of differentiation using CaCl₂, PMA, suspension culture and confluence culture gave rise to morphological changes, an upregulation of the differentiation marker involucrin and an increased production of psoriasis. Inhibition of the PKC pathway reduced the expression of both psoriasis and involucrin. Treatment with CaCl₂ also triggered the induction of the differentiation markers filaggrin, desmoglein 1, desmocollin 1, transglutaminase 1 and CD24. Downregulation of psoriasis using siRNA resulted in a decreased expression of involucrin, desmoglein 1, transglutaminase 1 and CD24, suggesting that psoriasis may be involved in the regulation of these markers.

Conclusion: These data suggest that psoriasis upon upregulation in response to differentiation-inducing stimuli in turn may regulate the expression of several differentiation markers and may influence the keratinocyte differentiation process.

Disclosure of Interest: None to declare

P097

IL-17C, TNF α and IL-36 compensate for loss of IL-6 and identify novel signals facilitating the transition between uninvolved and involved psoriasis skin.

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Introduction: IL-17C is proinflammatory and highly expressed in lesional psoriasis skin. Mice overexpressing IL-17C in keratinocytes (KC; K5-IL-17C) develop a skin disease phenocopying human psoriasis, including well-demarcated uninvolved (PN) and involved (PP) skin. PN skin from K5-IL-17C mice has increased IL-6 and TNF α protein (~2.5-fold; P<0.05) vs. controls and these increase ~10-fold in PP skin (P<0.05) suggesting a role for these molecules in the PN-PP transition.

Objectives: Demonstrate that IL-6-TNF α -IL-17C synergy contributes to the PN-PP transition and disease severity.

Methods: K5-IL-17C and IL-6KO mice were mated and skin inflammation examined. Primary human KCs were stimulated with IL-17C, IL-6 and TNF α and key psoriasis signature genes measured.

Results: Less severe skin inflammation developed in K5-IL-17C-IL-6KO mice vs. K5-IL-17C mice between 10-12 wks of age evidenced by less body surface area involvement (P<0.05; n=8/grp); this difference was eliminated by 14 wks of age suggesting that cellular and molecular events within the skin compensate for IL-6 absence and promote the PN-PP transition. PN skin of 10 and 14 wk old K5-IL-17C-IL-6KO and K5-IL-17C mice was compared and decreases in acanthosis, angiogenesis, skin CD4+, CD8+ and F4/80+ cells were found at 10 wks (all P<0.04) and were abrogated by 14 wks. Serum TNF α and cutaneous IL-17C, IL-36 β and IL-36 γ were also reduced (~2-5-fold; P<0.05) at 10 wks yet increased significantly at 14 wks, as did skin-TNF α (3-fold; P=0.003) perhaps compensating for the lack of IL-6. To examine the importance of IL-6, primary adult human KCs were stimulated with IL-6 and significant increases in TNF α , IL-17C, IL-36 β and IL-36 γ (n=6; P<0.05) were observed and increased further when co-stimulated with IL-17C \pm TNF α . Finally, PN skin of K5-IL-17C-IL-6KO mice reconstituted with intradermal IL-6 every other day between 8-10 wks of age had their skin phenotype return to levels similar to K5-IL-17C mice.

Conclusions: These data suggest that IL-17C, TNF α and IL-36 can compensate for loss of IL-6 and identify novel signals facilitating the PN-PP transition in psoriasis skin.

Disclosure of Interest: None to declare

P098

Antibodies towards high density lipoproteins components in patients with psoriasis

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Introduction: Psoriasis is a chronic inflammatory immune disorder targeting mostly the skin. Amongst other complications and comorbidities, these patients have an increased burden of subclinical atherosclerosis and endothelial dysfunction and their relative risk for cardiovascular events is increased by 25%. Despite the recognition of the presence of multiple mechanisms, this increased risk is not fully understood. High-density lipoproteins (HDL) play an important role in the prevention of atherosclerosis. Our group has identified the

presence of anti-HDL (aHDL) antibodies in patients with autoimmune diseases, and associated them with modifications in the anti-oxidant and anti-inflammatory functions of HDL.

Objectives: This study was undertaken to determine the presence of antibodies directed against different components of the HDL complex and to establish a possible relationship between these antibodies and disease severity in patients with psoriasis.

Methods: Sixty patients were compared with an age and sex-matched control group. Epidemiologic and clinical data were recorded. IgG aHDL and aApo A-I antibodies were assessed by ELISA. Plasma lipid profile was determined by standard enzymatic techniques. Apolipoprotein A-I and E were measured by immunoturbidimetric immunoassay.

Results: Patients with psoriasis had higher titres of aHDL (p<0.0001) and aApo A-I antibodies (p<0.0001), lower HDLc (p=0.01) and increased levels of ApoE (p=0.002). aHDL levels directly correlated with aApo A-I (r=0.46, p=0.0003). The titres of aHDL antibodies were associated with an increase in Psoriasis Area and Severity Index (PASI) but not with disease duration.

Conclusions: This is the first report showing the presence of aHDL and aApo A-I antibodies in patients with psoriasis. These antibodies were associated with an increased disease severity and may contribute to the pathogenesis of atherosclerosis in this context.

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P099

Skin-homing and systemic T-cell subsets show higher activation in atopic dermatitis versus psoriasis

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Introduction: Atopic dermatitis (AD) and psoriasis are characterized by T-cell infiltration in lesions, but their comparable systemic T-cell activation is unclear. Objectives: To compare T-cell activation and cytokine polarizations in blood of adult AD and psoriasis patients using flow-cytometry. Methods: We measured cytokines, Tregs, and T-cell activation markers in central and effector memory (Tcm and Tem) skin homing/cutaneous lymphocyte antigen (CLA+) and CLA- subsets from 24 psoriasis patients, 35 AD patients and 13 controls. Early (CD69), mid (ICOS), and late (HLA-DR) activation markers were quantified in Tcm (CCR7+CD45RO+) and Tem (CCR7-CD45RO+) populations.

Results: AD showed higher frequency of CLA+ "polar" T-cell subsets (p<0.0001). In both diseases, CLA+ T-cells were significantly more activated compared to respective CLA- subsets (p<0.01), suggesting their prominent role in inflammatory skin diseases. AD demonstrated higher levels of ICOS/HLA-DR activation in circulating CLA+ and CLA- memory subsets (p<0.01). CD69 was the only activation marker that was higher in psoriasis (p=0.001), whereas ICOS expression was significantly higher in AD (p<0.0001), compatible with their respective roles in Th17 and Th2 responses. Significant correlations with SCORAD were observed in AD, particularly striking for ICOS (r=0.5, p<0.01). Higher CD25+CD127-CCR4+CLA+ Tregs were found in AD, correlating with SCORAD and IgE. Conclusions: Compared with psoriasis, AD is characterized by increased polar differentiation of Tcm/Tem subsets, with higher, persistent activation particularly within skin homing T-cells. Higher systemic activation in AD might reflect the abnormalities seen in non-lesional skin in AD compared to psoriasis, emphasizing the large need for systemic treatment approaches for severe AD patients.

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Disclosure of Interest: None to declare

Psoriasis and Psoriatic Arthritis relationship

P100

Concordance of the pase questionnaire (psoriatic arthritis screening evaluation) for the screening and assessment of clinical practice in psoriatic arthritis

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Objectives: to assess the concordance of the PASE questionnaire in the screening of psoriatic arthritis (PsA) in psoriasis (PSO) patients in clinical practice and its relationship with the PsA activity measures.

Methods: During the 2014 the Dermatology Department has referred all patients with PSO, consecutively, to the Rheumatology Department to evaluate the utility of screening questionnaires PASE for the diagnosis of PsA and to detect articular activity. A score >47 in questionnaire PASS has been shown as a good 'cut-off' for the suspicion of PsA. Dermatology performed the cutaneous assessment and the PASE. Rheumatology performed the articular assessment, CASPAR criteria completion, PsA diagnosis, DAS28 and BASDAI. We recorded sociodemographics (age, gender) and serological markers.

Results: 75 patients with PSO were referred, 49 / 45.3% women, mean age 48.9 years. Three patients presented PsA (4%), all peripheral disease (2 oligoarticular and 1 monoarticular) and all of them met the CASPAR criteria. Average ESR 9.42 mmHg, average CRP 1.85 mg/L. Seventeen patients (22.6%) had score pass > 47, average 55.4 (47-75). A patient (33.3%) with PsA showed PASE<47. Three patients were diagnosed by a rheumatologist of having PsA (sensitivity 17.6%) from those having PASE > 47. DAS28 and ANKYLOSING scores: mean DAS28 2.36 (1.6-3.6), mean ANKYLOSING 2.64 (0.08-10). Of these, 7 patients showed DAS28 > 2.6, and 7 patients an ANKYLOSING > 4 (41.1%). The 3 patients with diagnosis of PsA had BASDAI > 4. 75 patients with PSO were referred, 49 / 45.3% women, mean age 48.9 years.

Conclusions: The PASE questionnaire, pending of expanding the study with a larger number of included patients, did not show as a useful tool particularly in detectin PsA, showing a lower sensitivity than published. The presence of a high PASE, the realization of measures of activity until there be a diagnostic confirmation of APSO by a rheumatologist is not recommended. CASPAR criteria were met in all

patients with PsA. As limitation for our findings we might point out: the low prevalence of PsA shown by patients (may be due to the low number of patients included yet) and the clinical practice setting.

Disclosure of Interest: None to declare

P101

Scalp Psoriasis as a Surrogate Marker for Psoriatic Arthritis Severity and Treatment Response

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Objectives: The objective of this analysis was to determine if baseline scalp PsO is associated with baseline severity of PsA and if it is predictive of treatment response to etanercept (ETN).

Methods: Patients with PsA plus PsO from the PRESTA study (clinicaltrials.gov NCT00245960) who received ETN 50 mg once weekly (QW) for 24 wks (n=373) were analysed by their scalp PsO status (scalp+ versus scalp-). Baseline characteristics, and improvements at Week 12 and 24 in CRP levels, skin and joint measures, and patient-reported outcomes (PROs) were investigated in scalp+ vs scalp- patients. The % of patients achieving dactylitis ≤1, enthesitis ≤1, and HAQ ≤0.5 at Wks 12 and 24 were also calculated.

Results: In the ETN QW cohort, 273/373 (73.2%) patients had scalp PsO. Spondyloarthropathy was the only PsA subtype shown to be significantly higher in scalp+ vs scalp- patients: 43/49 (87.8%) vs. 521/702 (74.2%; P=0.03). Scalp- patients were older (49.4 years vs 46.0; P=0.010) and more were female (52% vs 33%; P=0.001). At baseline, scalp- patients had a significantly higher number of painful joints (28-joint count) but a lower PtGA of PsO than scalp+ patients. Improvements in CRP levels and skin measures were similar in both scalp PsO groups. Scalp+ patients showed significantly greater improvements from baseline at Wks 12 and 24 for both the fatigue and patient assessment of joint pain measures. Improvement in the number of painful joints (28-joint count) was significantly greater for the scalp- group with similar final Wk 12 and 24 results for scalp+ and scalp- patients. Significantly more patients in the scalp- group had dactylitis ≤1 at Wk 24 and enthesitis ≤1 at Wk 12, but significantly more scalp+ patients had HAQ ≤0.5 at Wk 12.

Conclusion: Significant differences were observed in joint involvement and PROs in patients with scalp+ vs scalp- at baseline and after 12 and 24 wks of ETN treatment, indicating a relationship between joint involvement and scalp PsO status and between quality of life and scalp PsO status.

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P102

Ixekizumab in Patients with Psoriasis and Psoriatic Arthritis: Pooled Analysis of Three Phase 3 Studies in Moderate-to-Severe Psoriasis

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Introduction: Psoriasis (Ps) and psoriatic arthritis (PsA) are chronic inflammatory conditions in which interleukin (IL)-17A plays a central role in the immune pathogenic process. Ixekizumab is an anti-IL-17A monoclonal antibody currently under investigation for treatment of Ps and PsA.

Objective: To examine the effect of ixekizumab on joint pain, quality of life (QoL), and psoriatic skin symptoms in a subset of patients with self-reported PsA from an integrated database of patients with moderate-to-severe Ps.

Methods: In three 12-week, double-blind, phase 3 trials, patients were randomized to receive subcutaneous placebo (N=792) or a single injection of 80 mg ixekizumab every 2 weeks (IXE Q2W; N=1169) or 4 weeks (IXE Q4W; N=1165), following a 160 mg starting dose at Week 0. Of the 3126 enrolled patients, 752 (24.1%) had self-reported PsA. Joint pain was assessed by Joint Pain Visual Analog Scale (VAS; 0=no pain to 100=worst pain), QoL by Dermatology Life Quality Index (DLQI) and SF-36 Mental Component Score (MCS) and Physical Component Score (PCS), and skin symptoms by PASI.

Results: Across patients with self-reported PsA, baseline Joint Pain VAS was 49.6, baseline PASI score was 21.6, and baseline DLQI was 14.2. At Week 12, significantly greater improvements in Joint Pain VAS were observed in the IXE Q2W (26.8±1.5) and IXE Q4W (25.2±1.5) groups compared to placebo (1.1±1.8; p<0.001). Patients receiving IXE Q2W and IXE Q4W achieved significantly greater improvements in DLQI (11.8±0.3 and 10.5±0.3, respectively) compared to placebo (0.8±0.4) and had significantly greater improvements in MCS (5.2±0.5 and 4.2±0.5, respectively) and PCS (5.4±0.5 and 5.1±0.5, respectively) compared to placebo (MCS: 0.8±0.6; PCS: 1.1±0.6), (p<0.001, for all three measures). PASI 75 was achieved by 89.8% and 81.1% of patients receiving IXE Q2W and IXE Q4W, respectively, compared to 2.9% in patients receiving placebo (p<0.001).

Conclusions: In patients with Ps and co-morbid PsA, ixekizumab demonstrated significant improvements in joint pain, QoL, and skin symptoms compared with placebo. These data strongly support the continued evaluation of ixekizumab in patients with PsA.

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P103

Baseline characteristics of patients with moderate to severe plaque psoriasis: post-hoc analysis of response to etanercept

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Introduction: Baseline (BL) characteristics play an important role in patients' (pts) response to treatment. Objectives: An exploratory post-hoc analysis of pooled data from pts with moderate to severe plaque psoriasis (PsO) in PRISTINE (1) and CRYSTEL (2) to compare the BL characteristics of responders vs non-responders to etanercept (ETN) after 24 wks. Methods: BL characteristics of pts were analysed for change in Psoriasis Area Severity Index (PASI) and categorised as good (≥75%), partial (50%≤PASI<75%) or failed (PASI<50%) response at Wk 24. Results: Pts who achieved a good PASI response had lower mean body weight (82.8 kg) vs partial or failed responders (87.1 kg and 86.0 kg, respectively). BL PASI was higher in pts who achieved a good PASI response (23.3) vs partial or failed responders (22.1 and 19.3, respectively) (Table). Pts who were good PASI responders were less likely to be on disease-modifying antirheumatic drugs at BL (26.7% vs partial or failed responders (43.7% and 50.8%, respectively). This trend was also noted in pts on topical steroids at BL (Table). Conclusion: Several baseline characteristics were statistically different between pts with good, partial and failed PASI responses to ETN at Wk 24.

BL characteristics

BL characteristic	Good response (≥75%) (n=490)	Partial response (50%<PASI<75%) (n=245)	Failed response (PASI<50%) (n=246)
Weight, kg	82.8 (18.8)	87.1 (17.1)	86.0 (19.6)**
BSA, m ²	2.0 (0.3)	2.1 (0.2)	2.0 (0.3)**
PhysGA	3.6 (0.7)	3.6 (0.7)	3.5 (0.7)*
PASI	23.3 (10.1)	22.1 (10.7)	19.3 (8.8)***
Any DMARDs excluding MTX, n (%)	131 (26.7)	107 (43.7)	125 (50.8)***
Topical steroids, n (%)	138 (29.0)	85 (35.3)	95 (38.9)*
Prior systemic therapy, n (%)a	336 (70.6)	200 (83.0)	216 (88.5)***
PhysGA of BSA	14.6 (18.2)	9.3 (14.7)	8.4 (15.2)***

PhysGA, physician's global assessment

Data are mean (SD) or n (%); LOCF

*p<0.05; **p<0.01; ***p<0.001 (Statistically significant across 3 response categories); aScreening to BL.

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P104

Asymptomatic psoriatic arthritis: An ultrasonography study

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Objective: Psoriasis is a chronic inflammatory disease of skin and joints. In our study we aimed to investigate joint and entheses regions of psoriasis patients without inflammatory joint symptoms by ultrasonography (US) to detect subclinical PsA and to determine if there are associations between detected findings and signs of skin and nail psoriasis.

Material and methods: Fifty psoriasis and 30 healthy control subjects without joint complaint are included in the study. Patients with history of trauma, medications or illnesses that may affect joints were excluded. Disease type, duration, PASI value and nail findings of psoriasis patients were recorded. Bilateral shoulders, elbows, flexor and extensor tendons of hands, knees, Achilles tendons and plantar fascias of each of the two groups were examined by US.

Results: Psoriatic patients' pathological US findings (30%) were higher than control group's (13.3%). However, this elevation was not statistically significant. The age, gender, psoriasis duration, PASI and nail involvement of psoriasis patients with pathological US findings were not different from the group without pathological US findings. The most common pathological findings were observed on the knee joint in psoriasis patients. In the psoriasis group millimetric calcifications on entheses region (22%), bone surface irregularity (8%) and enthesal thickening (2%) were observed. In the control group the only manifestation was millimetric calcifications on entheses (13.3%). Although millimetric calcification rate was significantly higher in the psoriasis group, the rate was not statistically significant between the control and psoriasis groups.

Conclusion: In our study various joints were investigated with US. There are very few publications in the literature, contrary to our study few joints are investigated in these publications. Our results are not statistically significant but pathologic US findings in psoriatic patients were more than twice higher than control group. Therefore we believe that psoriatic patients without joint complaints should also be monitored for psoriatic arthritis development.

Disclosure of Interest: None to declare

P105

A Clinical Survey of Nail Findings of Psoriasis and Review of the Literature

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Background: There are still scarce data about the incidence rates of detailed findings of nail psoriasis.

Objective: Herein this study, it was intended to investigate the frequency of the different types of nail involvement in psoriasis, and review the data of nail involvement.

Methods: 176 consecutive patients with psoriasis were included to the study. Each nail finding of groups constituted according to the involvement or non-involvement of nails with psoriasis, was assessed for pitting, onycholysis, discoloration, hyperkeratosis, oil spot and other nail changes. The same assessments were made for fingernail and toenail involvement, and for great toenail and other toenail involvements. The nail findings of each group were compared with each other according to age, gender of patients, duration and family history of psoriasis, PASI scores.

Results: There were 85 patients with psoriatic nail involvement and 91 patients with non-involvement. The nail involvement was more frequent in male psoriatic patients and in the patients who had a relative with psoriasis. The median duration of psoriasis was longer and PASI scores were higher in nail involved patients. The fingernails proved to be affected much frequently than toenails as found in our study. The incidence rates were pitting, discoloration of the nail plate, distal onycholysis, subungual hyperkeratosis, other findings and oil spot respectively. The fingernails were more frequently involved in psoriasis than the toe nails.

Conclusion: Contrary to other publications nail involvement is more observed in male psoriasis cases, in cases which have psoriasis in family, in cases which have psoriasis for a long period of time and in cases which have a high PASI value in our study.

Disclosure of Interest: None to declare

P106

Bone density and metabolism with disease condition in psoriatic arthritis after treatment with Adalimumab for 52 weeks

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Introduction: Adalimumab (ADA) has shown significant efficacy in the treatment of arthritis, spondylitis, and skin lesions in psoriatic arthritis (PsA) patients. Although therapeutic benefits have been published, little information has been reported regarding bone mineral density (BMD) and metabolism during treatment.

Objectives: We investigated whether ADA treatment modifies BMD and metabolism in PsA patients in clinical practice.

Methods: From March 2010 to December 2012, twenty-three patients were eligible for the study (male 19, female 4), and the average age and affected period (psoriasis/PsA) were 46.5±9.6 years old and 16.2±10.1 / 5.7±6.0 years, respectively. Patients were segmented into Spondylitis (SP) group (18/23) according Moll and Wright Criteria were extracted and compared with the others (peripheral (PE) group: 5/23). BMD (%YAM) of lumbar vertebrae (LV) and left side of the femoral neck (FN) / total proximal femur (PF) on DXA were measured at baseline and 52 weeks after treatment. TRACP-5b, BAP, serum Calcium, ucOC were measured at baseline and 24, 52 weeks after treatment. Wilcoxon signed rank test was used and significance level was set at 0.05.

Results: In this study, there were two osteoporosis and two osteopenia.

The mean %YAM in LV increased significantly from 95.1 ± 9.6 % to 96.7±10.0% (p=0.0238). The SP group increased significantly from 93.8±10.3 % to 95.8±11.2 % (p=0.0181) in the mean value of %YAM in LV.

The SP group increased significantly from 90.9±11.6 % to 92.7±11.7% (p=0.0173) in the mean value of %YAM in FN. In the mean value of %YAM in PF, the SP group increased significantly from 96.8±11.4% to 97.9±10.9 % (p=0.0457). The mean ucOC increased significantly from 3.3 ± 2.0 / 3.43 ± 2.21 at baseline to 4.6 ± 2.8 / 4.90 ± 3.01 at week 52 (p=0.0333/0.0364) in all patients and the SP group. The mean TRACP-5b of the SP group decreased from 302.2 ± 61.7 at baseline to 246.8 ± 95.3 at week 52.

Conclusions: BMD in lumbar vertebrae, left side of the femoral neck and total proximal femur in the spondylitis (SP) group of PsA patients significantly increased during ADA treatment.

Disclosure of Interest: None to declare

P107

Psoriasis and Psoriatic Arthritis relationship

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Objective: Psoriasis is a chronic inflammatory disease of skin and joints. In our study we aimed to investigate joint and entheses regions of psoriasis patients without inflammatory joint symptoms by ultrasonography (US) to detect subclinical PsA and to determine if there are associations between detected findings and signs of skin and nail psoriasis.

Material and methods: Fifty psoriasis and 30 healthy control subjects without joint complaint are included in the study. Patients with history of trauma, medications or illnesses that may affect joints were excluded. Disease type, duration, PASI value and nail findings of psoriasis patients were recorded. Bilateral shoulders, elbows, flexor and extensor tendons of hands, knees, Achilles tendons and plantar fascias of each of the two groups were examined by US.

Results: Psoriatic patients' pathological US findings (30%) were higher than control group's (13.3%). However, this elevation was not statistically significant. The age, gender, psoriasis duration, PASI and nail involvement of psoriasis patients with pathological US findings were not different from the group without pathological US findings. The most common pathological findings were observed on the knee joint in psoriasis patients. In the psoriasis group millimetric calcifications on entheses region (22%), bone surface irregularity (8%) and enthesal thickening (2%) were observed. In the control group the only manifestation was millimetric calcifications on entheses (%13,3). Although millimetric calcification rate was significantly higher in the psoriasis group, the rate was not statistically significant between the control and psoriasis groups.

Conclusion: In our study various joints were investigated with US. There are very few publications in the literature, contrary to our study few joints are investigated in these publications. Our results are not statistically significant but pathologic US findings in psoriatic patients were more than twice higher than control group. Therefore we believe that psoriatic patients without joint complaints should also be monitored for psoriatic arthritis development.

Disclosure of Interest: None to declare

P108

Prevalence of psoriatic arthritis among patients with psoriasis in Greece: A large observational study

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Introduction: The exact prevalence of psoriatic arthritis (PsA) among psoriasis patients is still not conclusive. Literature data vary between 5.9-23.9% with limited data in south&eastern Europe and no data in Greece.

Objectives: Our study's aim was to evaluate PsA prevalence&characteristics in psoriasis patients examined in a specialized clinic of a University Hospital.

Methods: An observational study was conducted in Attikon Hospital, Greece. Between 09-02/2013, 278 consecutive psoriasis patients were evaluated by a rheumatologist for PsA using Wright & Moll's criteria. Laboratory&radiological tests were performed. Demographic&clinical data were collected.

Results: The study included 278 patients, median age 51.41, median psoriasis presenting age 34.52. Referring to psoriasis type 86% presented with plaque, 5% guttate, 2% palms and soles, 2% inverse, 1% pustular and 4% of more than one type. Nail disease appeared in 121 and scalp disease in 175. Among them 31% had PsA whereas 51% of PsA patients had nail disease. Referring to PsA type, 51% patients had polyarthritis, 12% oligoarthritis, 8% axial arthritis. The rest 31% had PsA of more than one type or did not fulfill the tests. Comorbidities were more frequent in PsA compared to non PsA patients; hypertension presented in 41% vs 17% (p=0.001), diabetes in 20% vs 8% (p=0.021) and hypercholesterolemia in 41% vs 19% (p=0.004), respectively.

Conclusion: PsA prevalence among psoriasis patients was relatively high compared with other ethnic based studies. Comorbidities relating with life expectancy appear to be higher. We believe that there is a high percentage of undiagnosed cases with active arthritis among psoriasis patients and dermatologists should be aware of PsA clinical signs in order to promote earlier recognition and successful treatment.

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P110

Screening of Psoriatic Arthritis in Korean Psoriasis Patients Using PASE

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Introduction: Early recognition of PsA in patients with psoriasis is important for preventing physical disability and deformity. Objective: The aim of this study was to validate the Psoriatic Arthritis Screening Evaluation (PASE) questionnaire for the detection of PsA in Korean patients with psoriasis.Methods: The PASE questionnaire was prospectively administered to 148 patients with a diagnosis of psoriasis. All patients underwent radiologic and laboratory examinations, and a subsequent clinical evaluation by a rheumatologist.Results: Eighteen psoriasis patients (12.7%) were diagnosed as having PsA meeting the Classification Criteria for Psoriatic Arthritis (CASPAR). PASE questionnaire scores of patients with PsA were significantly different from the scores of those without PsA. Receiver operator curves showed an area under the curve of 0.82 (95% CI 0.72, 0.92) for PASE score. A PASE score cut-off value of 37 points had a sensitivity of 77.8% and specificity of 82.3% for the diagnosis of PsA.Conclusions: The PASE questionnaire is a simple and convenient screening tool for detecting PsA in Korean dermatologic clinics.

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Disclosure of Interest: None to declare

P111

Similarities in Coronary Function and Myocardial Deformation Between Psoriasis and Coronary Artery Disease: The Role of Oxidative Stress and Inflammation

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Psoriasis has been associated with increased risk for coronary artery disease (CAD). We investigated the presence of vascular and subclinical left ventricular (LV) dysfunction in patients with psoriasis compared with patients with CAD.

Methods: We compared 59 patients with psoriasis without evidence of CAD (psoriasis area and severity index [PASI], 11.5 ± 8) with 59 patients with angiographically documented CAD and 40 controls. We measured (1) the carotid-femoral pulse wave velocity (PWVc) and central augmentation index (CAI), (2) coronary flow reserve (CFR) by Doppler echocardiography, (3) flow-mediated dilation (FMD) of the brachial artery and carotid intima media thickness (IMT), (4) LV global longitudinal strain (GLS) and GLS rate (GLSR) using speckle tracking echocardiography, and (5) malondialdehyde (MDA) and interleukin-6 (IL-6) levels.

Results: Patients with psoriasis had higher PWVc, CAI, IMT, MDA, and IL-6 levels and lower FMD, CFR, GLS, and GLSR than did controls (P < 0.05), but they had values of these markers that were similar to those of patients with CAD (P > 0.05) after adjustment for atherosclerotic risk factors: (PWVc [m/s], 10.4 ± 1.8 vs 8.6 ± 1.5 vs 10.3 ± 2, respectively; CAI (%), 27 ± 17 vs. 17 ± 11 vs. 31 ± 15 respectively, IMT (mm), 0.8 ± 0.2 vs. 0.66 ± 0.2 vs. 0.87 ± 0.2, respectively, CFR, 2.4 ± 0.1 vs 3.4 ± 0.6 vs 2.6 ± 0.6, respectively;FMD(%),6±4vs.9±2vs.5,1±2respectively, GLS [%], -16.2 ± 4 vs -21.9 ± 1.6 vs -16.6 ± 4.5, respectively; GLSR [L/sec], -0.85 ± 0.2 vs -1.2 ± 0.12 vs -0.9 ± 0.4, respectively; MDA [nM/L], 1.68 vs 1.01 vs 1.76, respectively; IL-6 [pg/mL], 2.26 vs 1.7 vs 2.2, respectively; P < 0.05 for all comparisons). PASI was related to IMT (r = 0.67; P < 0.01). Decreased GLS was associated with increased MDA, IL-6, PWVc, CAI, and reduced CFR (P < 0.05).

Conclusions: Psoriasis and CAD present similar vascular and LV myocardial dysfunction, possibly because of similar underlying inflammatory and oxidative stress processes. Vascular dysfunction in psoriasis is linked to abnormal LV myocardial deformation.

Disclosure of Interest: None to declare

P112

Screening for PsA in Primary Care Psoriasis Patients with Musculoskeletal Complaints with PEST, PASE & EARP

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Background: Several screening tools have been developed to enhance early recognition of psoriatic arthritis (PsA). However, most were developed in secondary care, while early recognition should ideally take place in primary care.

Objective: To evaluate the screening performance of the PEST, PASE and EARP to identify psoriatic arthritis among primary care psoriasis patients with recurrent spells of musculoskeletal complaints(MSC).

Methods: A cross-sectional study was set up. Adult primary care patients were selected by ICPC code S91 for psoriasis, the presence of recurrent spells of MSC(joints, entheses or low back pain) was determined by telephone interview. Patients completed the PEST, PASE & EARP questionnaires before clinical evaluation by a trained research nurse. When patients reported a painful entheses on LEI/ MASES, an ultrasound of the entheses was performed. A PsA

case fulfilled the CASPAR criteria. Sensitivity and specificity were determined for the PEST and EARP cut off ≥ 3 and PASE cut off ≥ 44 as well as ≥ 47 .

Results: 473 psoriasis patients participated with a mean \pm SD age of 55.7 \pm 13.9 years and 50.9% being male. Median PASI score was 2.3(IQR 1–4) and 71 patients(15.0%) had nail abnormalities related to psoriasis. We found 17 new cases of PsA(3.6%) as diagnosed by a rheumatologist. Moreover, we found 36 cases of enthesitis, confirmed by ultrasound. The majority of these refrained from further evaluation by a rheumatologist, however most of them would classify as PsA according to the CASPAR criteria. Looking into all cases, including enthesitis, the EARP had a sensitivity of 87% and a specificity of 33%, for the PEST this was 68% and 71%. The PASE had a sensitivity of 66% and a specificity of 55% at the cut off of ≥ 44 and 59% and 64% at the cut off of ≥ 47 . Similar figures were observed if only axial manifestations and arthritis were taken into account.

Conclusion: Modest sensitivity was observed for the PEST and PASE with an acceptable specificity for the PEST, while the EARP had high sensitivity and low specificity, which is undesirable for screening. The performance of all screening tools was lower than previously reported in secondary care settings.

Disclosure of Interest: None to declare

P113

Secukinumab Improves Active Psoriatic Arthritis and Inhibits Radiographic Progression: Results of a Phase 3 Randomized, Multicenter, Double-Blind, Placebo-Controlled Study

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Introduction: Significant efficacy has been demonstrated with secukinumab in psoriasis.

Objective: To report the efficacy and safety of secukinumab in patients (pts) with psoriatic arthritis (PsA) (FUTURE 1; NCT01392326).1

Methods: 606 pts were randomized to placebo (PBO) or secukinumab 10 mg/kg i.v. at baseline (BL), Weeks (Wks) 2 and 4, then 150 mg s.c. (10 IV \rightarrow 150 SC) or 75 mg s.c. (10 IV \rightarrow 75 SC) every 4 wks from Wk 8. At Wk 16 or 24, PBO pts were switched to secukinumab based on response. The primary endpoint was ACR20 response at Wk 24. Secondary endpoints included PASI 75/90, DAS28-CRP, SF-36 PCS, HAQ-DI, ACR50, mTSS, dactylitis and enthesitis.

Results: Baseline characteristics were balanced between groups. Secukinumab significantly improved ACR20 responses vs PBO at Wk 24 (Table). All pre-specified secondary endpoints were also significantly improved at Wk 24 and improvements sustained through Wk 52. At Wk 52, observed ACR20/50 responses were 69.5%/50.0% for 10 IV \rightarrow 150 SC and 66.9%/38.4% for 10 IV \rightarrow 75 SC. During safety reporting period (mean secukinumab exposure 438.5 days; mean placebo exposure 128.5 days), exposure-adjusted incidence rates of AEs/serious AEs were 229.0/11.5, 183.2/7.4, and 324.9/16.0 cases/100 pt-years for secukinumab 150 mg, 75 mg and PBO, respectively.

Conclusions: Secukinumab provided rapid, significant and sustained improvements in signs and symptoms of PsA and inhibited radiographic disease progression. Secukinumab was well tolerated through Wk 52.

Table: Selected 24-wk results

	Secukinumab 10 mg/kg IV \rightarrow 150 mg SC n=202	Secukinumab 10 mg/kg IV \rightarrow 75 mg SC n=202	PBO n=202
ACR20/50 (% responders)	50.0*/34.7*	50.5*/30.7*	17.3/7.4
PASI75/90 (% responders) ^a	61.1*/45.4*	64.8*/49.1*	8.3/3.7
DAS28-CRP (mean change from BL)	-1.62*	-1.67*	-0.77
SF-36 PCS (mean change from BL)	5.41*	5.91*	1.82
HAQ-DI (mean change from BL)	-0.41*	-0.40*	-0.17
mTSS	0.13‡	0.02‡	0.57
^a Dactylitis (resolution of, %) Overall (n=324)	48.1*	56.7*	15.5
^a Enthesitis (resolution of, %) Overall (n=372)	46.0*	48.8*	12.8

* $P < 0.0001$, ‡ $P < 0.05$ vs PBO

^a Pts with $\geq 3\%$ of body surface area with psoriasis; n=108, 108, and 109, respectively

References: 1. Mease P et al. Arthritis Rheumatol. 2014;66:S423–4.

Disclosure of Interest: P. Mease Grant/Research support from: AbbVie, Amgen, Biogen Idec, BMS, Celgene, Crescendo, Janssen, Lilly, Merck, Novartis, Pfizer, UCB, and Vertex, Consultant of: AbbVie, Amgen, Biogen Idec, BMS, Celgene, Covagen, Crescendo, Janssen, Lilly, Merck, Novartis, Pfizer, UCB, and Vertex, Speakers bureau of: AbbVie, Amgen, Biogen Idec, BMS, Crescendo, Janssen, Lilly, Pfizer, and UCB, I. B. McInnes Consultant of: Novartis, Amgen, Janssen, BMS, Pfizer, UCB, Abbvie, Celgene and Lilly, B. Kirkham Grant/Research support from: AbbVie and UCB, Consultant of: Novartis, AbbVie, BMS, Lilly, and MSD, Speakers bureau of: BMS, MSD, and UCB, A. Kavanaugh Consultant of: Novartis, P. Rahman Consultant of: Abbott, AbbVie, Amgen, BMS, Celgene, Janssen, Novartis, Pfizer and Roche, D. V. D. Heijde Grant/Research support from: AbbVie, Amgen, AstraZeneca, Augurex, BMS, Celgene, Centocor, Chugai, Covagen, Daiichi, Eli-Lilly, Galapagos, GSK, Janssen Biologics, Merck, Novartis, Novo-Nordisk, Otsuka, Pfizer, Roche, Sanofi-Aventis, Schering-Plough, UCB, Vertex, Consultant of: AbbVie, Amgen, AstraZeneca, Augurex, BMS, Celgene, Centocor, Chugai, Covagen, Daiichi, Eli-Lilly, Galapagos, GSK, Janssen Biologics, Merck, Novartis, Novo-Nordisk, Otsuka, Pfizer, Roche, Sanofi-Aventis, Schering-Plough, UCB, Vertex, Employee of: Imaging Rheumatology bv, R. Landewé Grant/Research support from: Abbott, Amgen, Centocor, Novartis, Pfizer, Roche, Schering-Plough, UCB, Wyeth, Consultant of: Abbott/AbbVie, Ablynx, Amgen, AstraZeneca, Bristol-Myers Squibb, Centocor, GlaxoSmithKline, Novartis, Merck, Pfizer, Roche, Schering-Plough, UCB, Wyeth, Employee of: Rheumatology Consultancy BV, Speakers bureau of: Abbott, Amgen, Bristol-Myers Squibb, Centocor, Merck, Pfizer, Roche, Schering-Plough, UCB, Wyeth, P. Nash Grant/Research support from: Novartis, Abbvie, Roche, Pfizer, BMS, Janssen, and Celgene, Speakers bureau of: Novartis, Abbvie, Roche, Pfizer, BMS, Janssen, and Celgene, L. Pricop Shareholder of: Novartis, Employee of: Novartis, J. Yuan Employee of: Novartis, H. Richards Employee of: Novartis, S. Mpofo Shareholder of: Novartis, Employee of: Novartis

P114

Secukinumab Improves Signs and Symptoms of Active Psoriatic Arthritis: Results From a Phase 3 Randomized, Multicenter, Double-Blind, Placebo-Controlled Study Using a Subcutaneous Dosing Regimen (FUTURE 2)

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Introduction: Secukinumab, a human anti-IL-17A monoclonal antibody, has shown efficacy with an i.v. loading and s.c. maintenance regimen in psoriatic arthritis (PsA) (FUTURE 1).

Objective: To evaluate the efficacy and safety of secukinumab s.c. loading and maintenance dosing in FUTURE 2 (NCT01752634) in patients (pts) with active PsA.

Methods: 397 adults with active PsA were randomized to s.c. secukinumab (300, 150 or 75 mg) or placebo (PBO) at baseline, Week (Wk) 1, 2, 3, 4 and then every 4 wks thereafter. The primary endpoint was ACR20 response at Wk 24. Secondary endpoints included PASI 75/90, Disease Activity Score 28 using C-reactive protein (DAS28-CRP), Short Form-36 Physical Component Summary (SF-36 PCS), Health Assessment Questionnaire-Disability Index (HAQ-DI), ACR50, dactylitis and enthesitis.

Results: At Wk 24, ACR20 responses were significantly greater with secukinumab 300, 150 and 75 mg vs PBO: 54.0%, 51.0% and 29.3% vs 15.3%, respectively ($P < 0.0001$ for secukinumab 300 and 150 mg; $P < 0.05$ for 75 mg vs PBO). Secukinumab 300 and 150 mg also significantly improved PASI 75/90 scores and DAS-28 CRP vs PBO (Table). Exposure-adjusted rates of AEs and SAEs were 222.2/309.3 per 100 pt-years and 78/8.8 amongst secukinumab- (pooled) and PBO-treated subjects, respectively.

Conclusions: Secukinumab 300 and 150 mg s.c. demonstrated clinically significant improvements in the signs and symptoms of active PsA. Secukinumab was well tolerated through 24 weeks.

Table: Summary of Selected 24-Week Efficacy Results

	Secukinumab 300 mg s.c.	Secukinumab 150 mg s.c.	Secukinumab 75 mg s.c.	PBO
ACR20/50 (% responders)	54.0*/35.0‡	51.0*/35.0	29.3‡/18.2	15.3/7.1
PASI 75/90 (% responders)	63.4*/48.8†	48.3‡/32.8‡	28.0/12.0	16.3 /9.3
DAS28-CRP, (mean change from baseline)	-1.61‡	-1.58‡	-1.12	-0.96
^a Dactylitis (% resolution)	56.5	50.0	30.3	14.8
^a Enthesitis (% resolution)	48.2	42.2	32.4	22.5

* $P < 0.0001$; † $P < 0.001$; ‡ $P < 0.01$; † $P < 0.05$ vs PBO; P -values adjusted for multiplicity.

^a Data from patients with dactylitis (n=138) and enthesitis (n=253) at baseline.

References: 1. McInnes IB, et al. at the ACR/ARHP Annual Meeting, Boston, MA, USA. November 14–19, 2014. Oral Presentation L1.

Disclosure of Interest: A. B. Gottlieb Grant/Research support from: Centocor (Janssen), Amgen, Abbott (Abbvie), Novartis, Celgene, Pfizer, Lilly, Coronado, Levia, Merck, Xenoport, Consultant of: Amgen Inc., Astellas, Akros, Centocor (Janssen), Inc. Celgene Corp., Bristol Myers Squibb Co., Beiersdorf, Inc., Abbott Labs. (Abbvie), DUSA, TEVA, Actelion, UCB, Novo Nordisk, Novartis, Dermiporsor Ltd., Incyte, Pfizer, Canfit, Lilly, Coronado, Vertex, Karyopharm, CSL Behring Biotherapies for Life, Glaxo SmithKline, Xenoport, Catabasis, Sanofi Aventis, I. B. McInnes Consultant of: Novartis, Amgen, Janssen, BMS, Pfizer, UCB, Abbvie, Celgene and Lilly, P. Mease Grant/Research support from: AbbVie, Amgen, Biogen Idec, BMS, Celgene, Crescendo, Janssen, Lilly, Merck, Novartis, Pfizer, UCB, and Vertex, Consultant of: AbbVie, Amgen, Biogen Idec, BMS, Celgene, Covagen, Crescendo, Janssen, Lilly, Merck, Novartis, Pfizer, UCB, and Vertex, Speakers bureau of: AbbVie, Amgen, Biogen Idec, BMS, Crescendo, Janssen, Lilly, Pfizer, and UCB, B. Kirkham Grant/Research support from: AbbVie and UCB, Consultant of: Novartis, AbbVie, BMS, Lilly, and MSD, Speakers bureau of: BMS, MSD, and UCB, A. Kavanaugh Consultant of: Novartis, G. Ligozio Shareholder of: Novartis, Employee of: Novartis, L. Pricop Shareholder of: Novartis, Employee of: Novartis, S. Mpfu Shareholder of: Novartis, Employee of: Novartis

P115

Secukinumab is Effective in Reducing Dactylitis and Enthesitis Using Multiple Measures in Patients with Psoriatic Arthritis: Results of a Phase 3 Randomized, Multicenter, Double-Blind, Placebo-Controlled Study (FUTURE 2)

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Introduction: Dactylitis and enthesitis are common disabling manifestations of psoriatic arthritis (PsA).

Objective: To evaluate the effects of subcutaneous (s.c.) secukinumab on dactylitis and enthesitis in the FUTURE 2 study (NCT01752634).¹

Methods: A total of 397 pts with active PsA were randomized to secukinumab (300, 150 or 75 mg) or placebo (PBO) at baseline (BL), Week (Wk) 1, 2, 3, 4 and then every 4 wks thereafter. The primary endpoint was ACR20 response at Wk 24. The proportions of pts with resolution of dactylitis and enthesitis at Wk 24 were secondary endpoints. Dactylitis counts, Leeds Dactylitis Index (LDI), and Leeds Enthesitis Index (LEI) were also assessed.

Results: At BL, 138 pts (35%) had dactylitis and 253 (64%) had enthesitis. At Wk 24, 56.5%, 50.0%, and 30.3% vs 14.8% of pts had complete resolution of dactylitis, and 48.2%, 42.2% and 32.4% vs 21.5% had complete resolution of enthesitis with secukinumab 300 mg, 150 mg and 75 mg vs PBO, respectively. Corresponding reductions in LDI, LEI and mean dactylitis counts were observed (Table).

Conclusions: Secukinumab 300 and 150 mg s.c. reduced the number of dactylitic digits and enthesitis sites in pts with PsA and was associated with a greater proportion of pts achieving complete resolution of dactylitis and enthesitis vs PBO.

Table. Dactylitis and enthesitis data

	Secukinumab 300 mg (n=100)	Secukinumab 150 mg (n=100)	Secukinumab 75 mg (n=99)	PBO (n=98)
Resolution of Dactylitis at Wk 24, n/N (%)	26/46 (56.5)§	16/32 (50.0)§	10/33 (30.3)	4/27 (14.8)
LDI at BL, mean (SD)	25.7 (86.5)	12.0 (56.5)	12.7 (39.6)	10.5 (29.3)
LDI at Wk 24 (LS mean change from BL)	-15.13	-11.70	-7.72	-10.19
Dactylitis count at BL, mean (SD)	3.6 (3.5)	4.5 (5.1)	3.0 (3.6)	2.7 (2.2)
Dactylitis count at Wk 24 (LS mean change from BL)	-2.3	-3.1	-1.0	-0.6
Resolution of Enthesitis at Wk 24, n/N (%)	27/56 (48.2)§	27/64 (42.2)‡	22/68 (32.4)	14/65 (21.5)
LEI at BL, mean (SD)	1.6 (1.9)	2.0 (2.0)	2.2 (2.0)	2.0 (2.0)
LEI at Wk 16 (mean change from BL)	-0.8	-1.0	-0.8	-0.4

§ $P < 0.01$; ‡ $P < 0.05$ for comparisons vs PBO

References: 1. McInnes IB et al.: ACR/ARHP Annual Meeting, Boston, MA, USA. November 14–19, 2014. Oral presentation L1.

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P116

Secukinumab Improves Physical Function, Quality of Life, Fatigue and Work Productivity in Patients with Active Psoriatic Arthritis: Results of a Randomized, Double-Blind, Placebo-Controlled Phase 3 Trial (FUTURE 2)

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Introduction: Secukinumab improved the signs and symptoms of psoriatic arthritis (PsA) in the FUTURE 2 study (NCT01752634).¹

Objectives: To investigate the effect of secukinumab through Week (Wk) 24 on patient-reported outcomes (PROs).

Methods: 397 pts with active PsA were randomized to subcutaneous secukinumab (300, 150 or 75 mg) or placebo (PBO) at baseline (BL), Wks 1, 2, 3 and 4, and every 4 wks thereafter. At Wk 16, PBO non-responders were switched to secukinumab 300 or 150 mg (1:1). PROs were assessed using: Short Form-36 (SF-36) Physical Component Summary (PCS) and Mental Component Summary (MCS); Health Assessment Questionnaire-Disability Index (HAQ-DI); Psoriatic Arthritis Quality of Life (PsAQoL); Functional Assessment of Chronic Illness Therapy – Fatigue (FACIT-F); Work Productivity and Activity Impairment Questionnaire (WPAI-GH) and Dermatology Life Quality Index (DLQI). SF-36 PCS and HAQ-DI were secondary endpoints and other PROs were exploratory endpoints.

Results: At BL, subjects had moderate-to-severe physical impairment and fatigue levels, and impaired HRQoL. At Wk 24, secukinumab 300 and 150 mg improved SF-36 PCS, HAQ-DI (300 mg only), FACIT-F, PsAQoL, DLQI scores (Table), and aspects of work productivity assessed by WPAI-GH vs PBO.

Conclusion: In pts with active PsA, secukinumab 300 and 150 mg improved various patient reported outcomes including physical function, fatigue, HRQoL by generic and disease-specific measures, and reduced the impact of disease on work productivity.

Table: LS mean change from BL to Week 24

PROs	Secukinumab 300 mg n=100		Secukinumab 150 mg n=100		Secukinumab 75 mg n=99		PBO n=98	
	BL	Change at Wk 24	BL	Change at Wk 24	BL	Change at Wk 24	BL	Change at Wk 24
SF-36 PCS	36.94	7.25§	36.15	6.39§	36.23	4.38	37.44	1.95
HAQ-DI	1.28	-0.56§	1.22	-0.48	1.16	-0.32	1.17	-0.31
SF-36 MCS	43.64	3.94	40.62	6.07	43.90	4.97	44.05	3.69
FACIT-F	28.60	5.97§	26.64	7.97*	28.69	6.20§	29.21	1.63
PsAQoL	10.19	-4.23‡	11.67	-4.51‡	10.29	-3.20	9.83	-1.99
DLQI	12.3	-8.48*	14.4	-8.77*	10.4	-7.43†	12.3	-2.13

* $P < 0.0001$; † $P < 0.001$; § $P < 0.01$, ‡ $P < 0.05$ vs PBO; BL, baseline; LS, least square.

References: 1. McInnes IB et al. Oral presentation L1: ACR/ARHP Annual Meeting, Boston, MA, USA. November 14–19, 2014.

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P117

Therapeutic Response in Adalimumab-Treated Patients with Psoriatic Arthritis in Relation to Weight

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Introduction: It is unknown if elevated CRP is predictive of clinical response to adalimumab (ADA); however, obesity is related to inflammation (measured by CRP) and psoriatic arthritis (PsA) patients (pts) tend to be obese.

Objective: To evaluate effect of weight (wt) on response in ADA treated PsA pts

Methods: Post hoc data analysis from Adept, a 24-wk DB, randomized, PBO-controlled trial in PsA pts. Wt was categorized by quartiles (Q). For each wt and CRP category, Wk12 endpoints were analyzed: Clinical Disease Activity Index (CDAI), Psoriatic Arthritis Response Criteria (PsARC), PASI75, and HAQ. Multivariate (MV) analysis was done accounting for wt and CRP in the model.

Results: 309/313 pts enrolled had data available. Mean wt was 85.8 kg. CRP was elevated in 78.3%. Wt was weakly correlated with CRP at baseline (BL) using non-parametric testing (Kendall Tau-b $r=0.131$, $P=0.006$). Mean wt was higher in elevated v normal CRP group (87.6 kg v 79.4 kg, $P=0.0012$). BL disease activity (tender/swollen joint count, physician and pt global assessment of disease activity, CDAI, PASI, HAQ) was slightly higher in elevated CRP group. For all outcome measures treatment effect was in favor of ADA; no significant difference was observed across wt Q. In pts with both normal ($n=67$) and elevated ($n=242$) CRP statistically significant response in favor of ADA was observed for PASI75, with numerically superior but statistically nonsignificant results for CDAI, PsARC, and HAQ in pts with nCRP. Wt Q and CRP were not significant in MV model. For CDAI, PsARC and HAQ treatment was statistically significant in favor of ADA regardless of wt/CRP. Sample sizes were too small to make meaningful conclusions for PASI.

Conclusions: The majority of PsA pts in ADEPT had elevated CRP indicating inflammation. Overall, ADA-treated pts had superior response rates compared to PBO-treated pts regardless of wt/CRP category. Limitations include using weight in place of BMI; pt height was not available.

Table. Wt and CRP categories

	Q1	Q2	Q3	Q4
Wt range (kg)	45.4-73.0	73.0-84.4	85.0-96.2	97.0-156.0
Elevated CRP (%)*	67.5	75.3	85.2	84.6
Mean Wt for pts with elevated CRP (kg)	64.6	78.7	90.7	109.7

* $p=0.021$

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P118

Apremilast, an Oral Phosphodiesterase 4 Inhibitor, in Patients With Nail, Scalp and Palmoplantar Psoriasis: 52-Week Results From the ESTEEM 2 Study

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Introduction: Nail, scalp and palmoplantar psoriasis are difficult to treat.

Objectives: Evaluate the efficacy and safety of apremilast (APR), an oral phosphodiesterase 4 inhibitor, for treatment of nail, scalp and palmoplantar psoriasis over 52wks.

Methods: Pts with moderate to severe plaque psoriasis (PASI ≥ 12 , BSA $\geq 10\%$, sPGA ≥ 3) were randomized 2:1 to APR 30 mg BID (APR) or placebo (PBO). At Wk16, PBO pts switched to APR (PBO/APR). At Wk32, APR pts achieving \geq PASI-50 response were re-randomized (1:1, blinded) to continue APR or receive PBO. Upon loss of 50% of PASI improvement obtained at Wk32, pts re-randomized to PBO resumed APR. Nail, scalp and palmoplantar psoriasis were assessed by NAPSI, ScPGA and PPPGA.

Results: The full analysis set included 411 pts (PBO $n=137$; APR $n=274$). At Wk16, improvements in nail, scalp and palmoplantar psoriasis were significantly greater with APR vs PBO (Table). At Wk32, mean percent change in NAPSI and NAPSI-50 response rates, respectively, were -60.0% and 55.4% (APR/APR) and -47.6% and 52.0% (PBO/APR). For re-randomized pts who continued APR to Wk52, mean percent change in NAPSI was -59.7% ($n=35$) and NAPSI-50 response rate was 63.2% (24/38). At Wk32, ScPGA 0 or 1 achievement was 32.4% (APR/APR) and 50.7% (PBO/APR); at Wk52 it was 54.1% (20/37, APR/APR/APR). At Wk32, PPPGA 0 or 1 achievement was 53.8% (APR/APR) and 69.2% (PBO/APR); at Wk52 it was 100.0% (4/4, APR/APR/APR). The most common AEs during the APR-exposure period (Wks0-52) were nausea, diarrhea, nasopharyngitis and URTI.

Conclusions: APR significantly improved nail, scalp and palmoplantar psoriasis at Wk16; improvements were sustained up to Wk52 for pts continuing APR from BL.

Abstracts

Week 16 Results

	PBO	APR
NAPSI ≥ 1 , n*	84	163
NAPSI, mean % change	-7.1	-29.0§
NAPSI-50, %	18.7	44.6‡
ScPGA ≥ 3 , n*	93	176
ScPGA 0 or 1, %	17.2	40.9‡
PPPGA ≥ 3 , n*	16	26
PPPGA 0 or 1, %	31.3	65.4 ^l

* Includes patients with nail psoriasis (NAPSI ≥ 1), or ScPGA ≥ 3 , or PPPGA ≥ 3 at baseline and ≥ 1 post-baseline value; Patients without a post-baseline value were counted as non-responders. § $P=0.0052$ based on ANCOVA; ‡ $P<0.0001$ and ^l $P=0.0315$ vs PBO, based on two-sided chi-square test.

References: Reference 1. Kragballe. 2009;38:160-171.

Disclosure of Interest: M. Gooderham Grant/Research support from: AbbVie, Allergan, Celgene, Eli Lilly, Galderma, Kythera, LEO Pharma, Merck, Novartis, and Pfizer, Speakers bureau of: AbbVie, Amgen, Astellas, Galderma, Janssen, LEO Pharma, Novartis, and Pfizer, J. Crowley Grant/Research support from: AbbVie, Amgen, AstraZeneca, Celgene, Janssen, Merck, Pfizer, and Regeneron, Consultant of: AbbVie, Amgen, and Celgene, Speakers bureau of: AbbVie, N. Wasel Grant/Research support from: Celgene, J. Weisman: None to declare, S. Tyring Grant/Research support from: Celgene, C. Hu Employee of: Celgene Corporation, R. Day Employee of: Celgene Corporation, C. Ferrandiz Consultant of: Celgene, Novartis, Janssen, and AbbVie

P119

Physician Perspectives in the Management of Psoriasis: Results From the Population-Based Multinational Assessment Of Psoriasis And Psoriatic Arthritis (MAPP) Survey

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Introduction: The Multinational Assessment of Psoriasis and Psoriatic Arthritis (MAPP) is the largest, multinational, survey of patients and physicians conducted in North America (Canada, United States) and Europe (France, Germany, Italy, Spain, United Kingdom).

Objective: Obtain real-world perspectives on the impact of psoriasis and psoriatic arthritis (PsA) and its treatment.

Methods: Dermatologists and rheumatologists identified through national databases were contacted through random sampling methods.

Results: 6,530 dermatologists and 5,445 rheumatologists were screened; 391 and 390, respectively, completed interviews. Dermatologists estimated 33.0% of their psoriasis patients complaining of joint pain had a PsA diagnosis. Most respondents (>75%) agreed PsA is likely underdiagnosed due to failure to connect skin and joint symptoms. An impact on daily activities or social/emotional well-being was recognized by most physicians; 92.1% agreed disease burden is frequently underestimated. Location/size of skin lesions was selected as the most important factor contributing to psoriasis

severity by 52.9% of dermatologists vs 17% of patients; 38% of patients selected itching as most important vs 7.4% of dermatologists. In patients with moderate/severe psoriasis, 74.9% were receiving topical therapy (alone or in combination with other therapies), 19.5% conventional oral therapy, and 19.6% biologics. In PsA patients, dermatologists and rheumatologists reported similar rates of biologic therapy ($\approx 30\%$); conventional oral therapy was more often prescribed by rheumatologists (63.4%) vs dermatologists (35.2%). Reasons for not initiating or maintaining systemic therapies included long-term safety/tolerability, patient contraindications, lack of response, and cost (biologics).

Conclusion: Physicians caring for psoriasis and PsA patients acknowledge unmet treatment needs, largely concerning long-term safety/tolerability and efficacy of available therapies. Evidence suggests underdetection of PsA and undertreatment of psoriasis among dermatologists, and a need to acknowledge the importance of pruritus to patients when assessing disease severity and treatment options.

A manuscript with these findings is currently in press: van de Kerkhof PCM, et al. J Eur Acad Dermatol Venereol. 2015. DOI: 10.1111/jdv.131

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P120

Apremilast, an oral phosphodiesterase 4 inhibitor, is associated with long-term (104-week) improvements in enthesitis and dactylitis in patients with psoriatic arthritis: Pooled results from three phase 3, randomized, controlled trials

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Introduction: Apremilast (APR) helps regulate immune responses in psoriatic arthritis (PsA). PALACE 1-3 compared APR efficacy

and safety with placebo (PBO) in patients with active PsA despite prior conventional DMARDs and/or biologics, including efficacy assessment across multiple disease aspects. Enthesitis and dactylitis, hallmarks of PsA, lead to pain and disability.

Objective: Evaluate the impact of APR on enthesitis and dactylitis over 104 weeks in a pooled analysis of PALACE 1-3.

Methods: Patients were randomized (1:1:1) to PBO, APR 20 mg BID (APR20), or APR 30 mg BID (APR30) stratified by baseline (BL) DMARD use (yes/no). The PBO-controlled phase went to Week 24. Double-blind APR treatment continued to Week 52; patients could continue APR for up to 4 additional years. Data pooled across PALACE 1-3 allowed analysis of robust numbers of patients with pre-existing enthesopathy and/or dactylitis. Enthesitis was evaluated based on Maastricht Ankylosing Spondylitis Enthesitis Scores (MASES; 0-13), indicating the number of painful entheses out of 13 sites of entheses. Dactylitis count (0-20) is the number of digits (hands/feet) with dactylitis (each digit rated as 0 [none] or 1 [present]).

Results: Long-term improvement in BL enthesitis and dactylitis severity was seen in patients receiving APR at 104 weeks, as shown by MASES and dactylitis count reductions. BL MASES were 4.3 (APR30) and 4.6 (APR20). MASES mean changes were -57.5%/-55.1% (APR30/APR20) at Week 104. A MASES score=0 (no pain at any assessed entheses) was achieved by 48.7%/51.5% (APR30/APR20) of patients. Dactylitis counts at BL were 3.4 (APR30) and 3.2 (APR20). Mean changes in dactylitis count were -80.0%/-75.8% (APR30/APR20) at Week 104; dactylitis counts decreased to 0 in 77.5%/72.9% (APR30/APR20) of patients. Over 104 weeks, most adverse events were mild/moderate; in general, no increase was seen in adverse event incidence/severity with longer term exposure.

Disclosure of Interest: D. Gladman Consultant of: AbbVie, Amgen, Bristol-Myers Squibb, Celgene Corporation, Janssen, Pfizer Inc, Novartis, and UCB, A. Kavanaugh Grant/Research support from: Abbott, Amgen, Astra-Zeneca, Bristol-Myers Squibb, Celgene Corporation, Centocor-Janssen, Pfizer Inc, Roche, and UCB, A. Adebajo: None to declare, J. Gomez-Reino Grant/Research support from: Roche and Schering-Plough, Consultant of: Bristol-Myers Squibb, Pfizer Inc, Roche, Schering-Plough, and UCB SA, Speakers bureau of: Bristol-Myers Squibb, Roche, Schering-Plough, and Wyeth, J. Wollenhaupt Grant/Research support from: Abbott, Bristol-Myers Squibb, MSD, Pfizer Inc, and UCB, M. Cutolo Grant/Research support from: Actelion, Bristol-Myers Squibb, and Sanofi-Aventis, G. Schett Grant/Research support from: Abbott, Celgene Corporation, Roche, and UCB, E. Lespessailles Grant/Research support from: Amgen, Eli Lilly, Novartis, and Servier, M. McIlraith Employee of: Celgene Corporation, C. Hu Employee of: Celgene Corporation, C. Edwards Grant/Research support from: Celgene Corporation, Pfizer Inc, Roche, and Samsung, Speakers bureau of: Abbott, Glaxo-SmithKline, Pfizer Inc, and Roche, C. Birbara Grant/Research support from: Amgen, Bristol-Myers Squibb, Incyte, Eli Lilly, Merck, and Pfizer Inc, P. Mease Grant/Research support from: Abbott, Amgen, Biogen Idec, Bristol-Myers Squibb, Genentech, Janssen, Eli Lilly, Pfizer Inc, and UCB, Consultant of: Celgene Corporation, Novartis, and Roche

P121

Formulation of Herbal Cream For Psoriasis Treatment and Its Symptoms Inhibition

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Psoriasis is a chronic and inflammatory multi-factorial disease which effects on elbow, knees, scalp etc. For psoriasis treatment, topical chemical agents are applied, in spite of inefficient effects

or less effectiveness. The aim of this research is the making of new herbal cream for treating psoriasis. In the mentioned cream, extracts of medicinal herbal were formulated with vitamins (E, D3, B5, C, F) to apply on damaged skin. Some of these extracts include: SantalumAlbum, ArctiumLappa, MatricariaChamomilla, Glycyrrhiza-Globra, LavandulaAngustifolia, AvenaSativa, AloeBarbadesis, PinusEldarica, CydoniaSeed-Mucus. Cream was prepared by mixing water-in-oil (W/O). So, each phases were heated (70 C). Then aqueous phase was added to oily and were completely stirred until converted to cream form. Product as treatment cream, was proposed to 5 patients who suffer from psoriasis. Results were remarkable. All 5 patients were satisfied from itching inhibition and skin inflammation in first week. After 2 weeks applying cream, fading skin redness and increasing skin flexibility and repair were noticeable. An important point in this cream is the combining herbal extracts and vitamins that have high effectiveness than each alone. In fact, S.Album and L.Angustifolia were caused softening of skin corneous layer. Flavonoids and tannins in G.Globra, A.Lappa, P.Eldarica and A.Sativa are effective for treating skin lesions like psoriasis. Polysaccharides in A.Barbadesis and mucilage in C.seed-Mucus not only are healing skin wounds but also their malicacid make peeling skin dead cells. Moreover, pectin and pro-vitamins (A) act as antioxidants and prevent damage of skin healthy cells. Herbal β -sitosterols are factor of fading skin redness and anti-itching, α -bisabolo (M.Chamomilla) as anti-inflammation; blocks cyclooxygenase enzymes and inhibits leukotriene formation to prevent redness. In fact, this treatment cream is effective for collagen-synthesis, wound-improvement, epidermal-moisture maintenance, inflammationrelief, boost immune-system and will inhibit psoriasis common symptoms in shortest time and no side effect. Keyword: psoriasis, plant oils, herbal-extract, natura cream.

Disclosure of Interest: None to declare

Quality of Life

P122

Factors affecting the quality of life of people with psoriasis

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Introduction: The quality of life of patients suffering from psoriasis, is determined not only clinical manifestations of dermatosis, frequency of exacerbations, decreased social activity, but mental condition of patients. Research on quality of life of patients with psoriasis were emphasized mainly on the role of individual manifestations of disease in the decline in the quality of life of patients, it was not possible to differentiate the treatment of the patient depending on the available factors in varying degrees on the quality of his life. In this regard, the objective was to investigate the factors influencing the quality of life of people with psoriasis and their effects.

Methods: It was surveyed, 1090 people with psoriasis. We conducted a statistical analysis.

Results: The strongest impact on the quality of life of patients with psoriasis has a frequency of exacerbations. In second place is gender and comorbidities. Psoriatic arthritis is ranked 4th. And the least influenced by the age and duration of disease.

Abstracts

Factors affecting quality of life (the degree of influence on the coefficient Cramer): frequency of exacerbations 0,41; gender 0,23; presence of concomitant diseases 0,2; psoriatic arthritis 0,19; age 0.08; the disease duration 0.07.

With the increase in the frequency of exacerbations quality of life in 48.7% and decreases and reaches its lowest level during the course of the disease with constant relapses. Women with satisfactory and low quality of life in 2,5 times more than men. Among patients with concomitant low and satisfactory quality of life was recorded almost in 2 times more often than those without comorbidity. Unsatisfactory quality of life in patients with psoriatic arthritis (179 %) occurs 4 times more often than patients without arthritis. Patient age 45 years and older is a real risk of reduced quality of life. After 20 years of illness number of people with a low quality of life increases up to a quarter.

Conclusions: In the formation of risk groups should consider the factors that worsen the quality of life of patients

Disclosure of Interest: None to declare

P123

Identifying Drivers of Distress in Psoriatic Arthritis

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Introduction: Around 30% of people with psoriasis develop psoriatic arthritis (PsA). PsA can substantially impact upon quality of life and for patients with psoriasis, significant distress and suicidal thoughts are well documented. People with PsA are also susceptible to distress from their condition but we know little about the additional burden of living with psoriasis and arthritis. Objective: Identify the factors including illness and treatment beliefs associated with the distress of living with PsA. Methods: Adults (n=23) diagnosed with PsA participated in an in-depth qualitative study. Questions were informed by an established psychological model, the Common-Sense-Self-Regulatory Model (CS-SRM, Leventhal et al. 1984) enabling exploration of core beliefs and emotions related to living with PsA. Audio-recorded data were transcribed verbatim. Framework Analysis was used to categorise beliefs and emotions consistent with the CS-SRM from the data. Results: Emergent themes include: 1. Consequences. Physical restrictions of PsA led to frustration and hopelessness. Patients feared their functioning would deteriorate progressively, jeopardising their independence. 2. The influence of others. Experiences of support varied and patients described that others (including health professionals) often don't take their condition seriously. 3. Put up and shut up. Patients actively hid their distress from those around them (again including health professionals). 4. Why me? Patients felt a deep sense of injustice, describing how PsA threatened their identity and often made negative comparisons with others. Conclusions: High levels of distress including suicidal ideation exist for PsA patients. Salient emotions (e.g. fear), beliefs (e.g. I should cope with PsA alone) and misunderstandings (e.g. my functioning will deteriorate exponentially) about PsA, should be addressed within consultations to optimise management approaches.

References: Leventhal H, Nerenz D, Steele D. Illness representations and coping with health threats. In: Baum A, Singer J, editors. A handbook of psychology and health: Hillsdale, NJ: Erlbaum; 1984. p. 219-52.

Disclosure of Interest: None to declare

P124

Effectiveness of Adalimumab in the Treatment of Scalp and Nail Affection in Patients with Moderate to Severe Plaque Psoriasis in Routine Clinical Practice

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Introduction: Efficacy and safety of adalimumab (ADA) treatment for moderate/severe plaque psoriasis (PSO) has been demonstrated by several clinical trials but there is a lack of data on effectiveness of ADA in treatment of nail and scalp psoriatic lesions in routine clinical practice.

Objectives: The primary objective of this prospective, multi-country, observational study was evaluation of scalp and nail psoriasis improvement with ADA treatment over a period of 12 months. Secondary objectives included the evaluation of general improvement of psoriasis, assessment of changes in the quality of life (QoL) and evaluation of the association between general and nail or scalp improvement while on ADA therapy, and evaluation of the association between general, nail or scalp improvement and QoL.

Methods: 501 patients were analysed in the study. Of these, 157 patients had nail involvement (nail PSO set; NPS) and 404 had scalp involvement (scalp PSO set; SPS); with an overlap of 119 patients. For the analysis of the study objectives the Nail Psoriasis Severity Index (NAPSI), the Psoriasis Scalp Severity Index (PSSI), the Psoriasis Area and Severity Index (PASI) and the Dermatology Life Quality Index (DLQI) were applied.

Results: 84.0% of patients in NPS and 93.8% in SPS achieved clinical response (improvement of NAPSI or PSSI of at least 50%) by treatment with ADA at the study end. 33.3% of the patients with nail and 66.7% of the patients with scalp involvement experienced complete clearing of local symptoms. 65.3% of all patients achieved at least PASI90. There was also a marked improvement in QoL with ADA treatment and a moderate to strong association between general, nail or scalp improvement and QoL. During the study course 9.6% of the patients had an adverse event (AE) and 6.0% an adverse drug reaction (ADR - AE with possible/probable causal relationship to the study drug).

Conclusion: ADA appears to be effective treatment of scalp and nail PSO in patients with moderate/severe plaque PSO, improving both objective clinical indexes and QoL of the patients. No new clinical concerns were established or new safety signals observed in the study.

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P125

Differences in Patient Reported Psoriasis Symptom Severity between Patients Rated as 'Clear' Versus 'Almost Clear' based on Physician Global Assessment

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Introduction: Physicians routinely assess psoriasis severity with the static Physician's Global Assessment [sPGA, 0 (clear of disease) to 5 (very severe disease)]. Response to treatment is typically defined as achieving sPGA 0 or 1 (almost clear). Patients' perception of the difference between sPGA 0 and 1 is not fully understood.

Objectives: To compare psoriasis symptom severity between sPGA 0 and sPGA 1 using the patient reported Psoriasis Symptom Inventory (PSI).

Methods: This cross-sectional, observational study enrolled adult patients with moderate to severe psoriasis receiving a biologic. Patients completed the 8-item PSI electronic daily diary on 7 consecutive days (Day 1-7; total score calculated as the average of ≥ 4 daily scores). Each item is scored on a 5 point scale from 0 (not at all severe) to 5 (very severe). Physician reported sPGA and Psoriasis Area and Severity Index (PASI) scores were collected at the entry (Day 1) and exit visits (Day 8-11). Patients with a change in sPGA status between these visits were excluded. Two-by-two cross-tabulations with Pearson chi-square were used to compare sPGA 0 and sPGA 1 based on PSI score thresholds [PSI=0 vs. PSI >0 and PSI responder (PSI \leq 8, no single item > 1) vs others].

Results: Of the 295 patients enrolled, 230 were included in the analysis (excluded: 62 for sPGA changes between entry and exit visits, 3 for incomplete PSI data). Mean age was 48 years; 46% of patients were female; 87% were white; 79 patients had sPGA 0 and 151 had sPGA 1 (mean PASI: 0.009 and 1.67, respectively). Compared with patients rated as 'almost clear' (sPGA 1), a significantly higher proportion of patients with skin clearance (sPGA 0) reported no psoriasis symptom severity (PSI 0), and achieved PSI responder status, i.e. reported all eight PSI signs and symptoms to be 0 or 1 (mild) (Table).

PSI summarized by sPGA

	sPGA 0 (n=79)	sPGA 1 (n=151)	p-value
PSI 0, %	60.8	5.3	< 0.001
PSI responder, %	94.9	54.3	< 0.001

Conclusions: When compared with patients rated as 'almost clear' based on physician assessments, significantly more patients rated as 'clear' reported either no severity or lower severity of psoriasis signs and symptoms.

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P126

Manifest for Psoriasis

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Introduction: Psoriasis is a chronic & systemic disease that affects 2-4% of world population & 300.000 people in Portugal. The impact in quality of live is very high; some authors consider that its burden is superior when compared with diseases like cancer & arthritis. The low knowledge about psoriasis is very high leading to discriminatory situations. Patients tend to hide, retrieving themselves from public exposure, professional & social life (depression and social isolation).

Objectives: Increase awareness about psoriasis by demystifying the disease: Demystify psoriatic disease; Activate to seek a physician; Awareness among GP's in order to early diagnose & referral process to dermatology. Elevate PSOPortugal (Portuguese patient association) in order to increase patient help & support.

Methods: Partnership between dermatologists & PSO, was developed a new disease awareness campaign based on the manifest of patients and physicians, together with 2 public figures. The main goal is to demystifying psoriasis under the claim "Psoriasis?! Other things bother me much more!!!" like discrimination, isolation, under treatment, difficult access to therapies and dermatologists. A multi-channel disease awareness campaign, targeting patients & general population was initiated. A new website (www.manifestopelapsoriase.pt) is the center of the campaign, compiling educational information based on 3 pillars: "To Know; To Accept; To Treat - "Psoriasis: The real prey isn't only the skin". Here patients, physicians, friends can write or upload videos with their Manifest & obtain all the information needed to better understand this disease. **Results:**

	06-11-2014	06-03-2015
FB Friends	2183	4854
Likes FB		12201
Comments FB Posts		925
Shares FB		2938
Rank FB Health Brands	116°	76°
Youtube		7356
site Views		19172
site Users		3491
TVtime		1h55m

Conclusions: Disease awareness and patient's empowerment are key to increase the nr of early diagnosis, increase correct referral between specialists, decrease discrimination & leverage disease knowledge.

References: Not applicable

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P127

Development of a patient-reported outcomes instrument for the measurement of treatment satisfaction in plaque psoriasis

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Introduction: While clinical assessments may assess disease severity in plaque psoriasis (Ps), many aspects of the Ps experience (eg, symptoms, quality of life impacts, treatment satisfaction) are best assessed by patients (pts).

Objective: To develop a new pt-centered instrument to evaluate treatment satisfaction in Ps.

Methods: A Medline® literature search identified symptoms of Ps and pt-reported treatment satisfaction questionnaires used to evaluate Ps. A 2nd search queried Embase™, PsycINFO®, ClinicalTrials.gov, and Patient-Reported Outcome and Quality of Life Instruments Database (PROQOLID). Both searches were limited to English-language studies in humans published within 10 years.

Concept elicitation (CE) interviews were then conducted with adult (≥18 years of age) Ps pts. Interview transcripts were analyzed to identify pt-reported concepts characterizing treatment satisfaction. Based on CE results, short- and long-form questionnaires were constructed and subjected to pt cognitive debriefing interviews (CIs), which resulted in questionnaire revisions.

Results: 15 articles were reviewed in Search 1 and 11 abstracts in Search 2. Search 1 yielded 12 relevant symptoms (plaques, pain, itching, flaking, scaling, cracking, dry skin, burning/stinging, bleeding, redness, nail changes, and fatigue). Search 2 identified 6 treatment satisfaction questionnaires; however, only 1 was Ps-specific (the Psoriasis Subject Satisfaction Questionnaire).

10 patients (CE interviews: n=5; CIs: n=5) participated in qualitative interviews. Draft versions of questionnaires contained 9 and 13 items, respectively, and addressed concepts related to symptoms (eg, flaking, scaling, itching), impacts (eg, appearance, overall skin clearance), and treatment administration (eg, frequency, side effects). Following CIs, revisions to item wording, ordering, instructions, and response options were made; all items were retained.

Conclusions: Content validity of these 2 new measures of treatment satisfaction in pts with Ps was supported. Future work will focus on quantitative evaluation of the instrument in this population.

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P128

Rasch analysis of the Health Assessment Questionnaire Disability Index in psoriatic arthritis

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Background: The cross-cultural validity of the Health Assessment

Questionnaire Disability Index (HAQ-DI) in psoriatic arthritis (PSA) has not been well studied.

Objectives: To assess the validity of the HAQ-DI in PSA and determine its invariance to different patient characteristics including culture.

Methods: We analysed HAQ-DI data from patients with PsA in 5 cultural regions (the UK, N. America, S. America, Europe and Asia) using Rasch analysis to determine the scale's construct validity, person separation index (PSI) reliability, unidimensionality, targeting and the invariance of the scale across patient characteristics (culture, age, gender, disease duration, disease type and extent of skin involvement).

Results: The dataset comprised 503 patients (286 women) from 15 countries. Their mean (SD) age was 50.8 (13.1), psoriasis duration, 18.4 (13.7) years and PSA duration, 9.8 (9.9) years.

Table 1 presents the summary statistics for the overall model fit (χ^2 interaction) and reliability (PSI). The fit statistics suggest adequate fit to the model and acceptable reliability in all individual cultural groups and except S. America and Asia where sample sizes were limited (not shown).

The HAQ-DI was unidimensional and invariant to all personal characteristics in the N. America dataset. In the pooled dataset, the HAQ-DI displayed differential item functioning (DIF) by type of arthritis, where those with oligoarthritis were more likely to have lower scores on the dressing & grooming item than those with polyarthritis. Floor effects were evident, especially in oligoarthritis. Using the DIF-free population (N. America), the HAQ-DI was shown to be well-targeted and discriminated well between the two types of arthritis (graph not shown).

Conclusions: In Europe and N America, HAQ-DI is a cross-culturally valid and reliable measure of disability in PsA and Rasch-transformed values can be used with confidence alongside other outcome measures in parametric analyses.

Table 1 Overall model fit statistics for HAQ-DI

Region	χ^2 interaction statistic (p-value)	PSI Reliability
UK	8.575 (0.379)	0.885
North America	5.299 (0.725)	0.860
Europe (excl UK)	25.356 (0.064)	0.855
Pooled	76.310 (0.037)	0.857

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P129

Burden of flares on patients with moderate to severe psoriasis: results of the Adelphi Real World Psoriasis Disease Specific Programme in the United States

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Introduction: Patients (pts) with plaque psoriasis have periods of disease exacerbation (flares) and remission.

Objectives: To estimate the annual burden of flares on pts with moderate to severe psoriasis in the US.

Methods: This was a retrospective, cross-sectional analysis of survey data of pts with psoriasis treated by a dermatologist from Jan to Mar

2013 in the Adelphi Real World Psoriasis Disease Specific Programme. Flaring was defined as pts with current disease activity, with worsening/unstable disease progression, and included pts in remission ≤ 12 weeks according to indicators of current disease activity. Flaring and non-flaring pts were matched for demographic and clinical covariates using a multivariate matching algorithm. Health-related quality of life (HRQoL) was assessed with the EuroQol 5D 3L (EQ 5D) using a Wilcoxon signed-rank test. Secondary endpoints, compared between all non-matched flaring and non flaring pts using Wilcoxon rank sum or Fisher's exact tests, included Dermatology Life Quality Index (DLQI), Work Productivity and Activity Impairment (WPAI), physician-rated treatment satisfaction and clinical disease control.

Results: HRQoL, assessed in matched pts (n=68/group), was reduced in flaring vs non flaring pts, with an EQ-5D effect size of -0.076; this was statistically significant (p=0.001) and clinically meaningful (≥ 0.074 in absolute value). A total of 525 non matched pts were included in secondary analyses. DLQI was greater in flaring (n=142) vs non-flaring (n=383) pts (median: 4.0 vs 3.0, respectively; p=0.0178), indicating worse HRQoL in flaring pts. The WPAI showed greater activity impairment in flaring vs non flaring pts (median: 20% vs 10%, respectively, p=0.0002). More physicians were dissatisfied with disease control for flaring vs non-flaring pts (36.0% vs 7.1%, respectively; p<0.0001) and effectiveness of the current treatment (28.1% vs 10.5%, respectively; p<0.0001).

Conclusions: Compared with non-flaring pts, flaring pts experienced clinically meaningful worsening in HRQoL, assessed by EQ-5D and DLQI, and greater WPAI activity impairment. This study highlights the importance of controlling flares in reducing pt disease burden.

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P130

Treatment Patterns, Clinical Outcomes, and Patient-reported Outcomes among Adults Admitted to Hospital in the United Kingdom (UK) Due to Plaque or Erythrodermic Psoriasis

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Introduction: No recent studies have assessed treatment patterns and outcomes among patients hospitalized for psoriasis in the UK.

Objectives: To evaluate treatment patterns, clinical and patient-reported outcomes in patients admitted to hospital for plaque or erythrodermic psoriasis.

Methods: Of 107 hospital stays across 9 hospitals, 61 eligible patients completed questionnaires at admission and discharge about their disease (symptoms, treatments, costs), health status (SF-12v2, EQ-5D-3L), dermatology-related quality of life (DLQI), and work productivity (WPAI). Sites recorded psoriasis treatments, length of stay (LOS), Psoriasis Area Severity Index (PASI), Body Surface Area (BSA), and Physician Global Assessment (PGA) scores at admission and discharge. Descriptive statistics are based on those responding to each item.

Results: Mean age was 45.5 years; 50.8% were male. Mean body mass index and time since diagnosis were 32.1 kg/m² and 20.0 years, respectively. The most common comorbid conditions were psoriatic arthritis (34.4%), depression (24.6%), and arterial hypertension (21.3%). Most (78.7%) had ≥ 1 previous hospitalization for psoriasis. At admission, 44.9% reported changes in employment status due to psoriasis; among the 35.1% employed for pay, mean

WPAI work impairment was 79.2%. Mean SF-12v2 Physical and Mental component summary scores were 35.4 and 32.1, respectively, indicating significant impairment. PASI, BSA, and PGA scores improved from admission to discharge (all p<0.0001), with 22.9% achieving PASI75. EQ-5D-3L, DLQI, and psoriasis symptom scores improved from admission to discharge (all p<0.05), however mean EQ-5D-3L at discharge was low (0.60). During hospitalization, patients received topicals (100%), systemic therapy (54.1%), phototherapy (23%), and/or biologicals (6.6%); 27.9% received only topicals. Mean (range) LOS was 17.0 (2,71) days; for patients achieving PASI75, mean LOS was 18.1 vs. 13.1 days for those not achieving PASI75.

Conclusions: Although few patients are admitted for psoriasis, mean LOS was long for those hospitalized. On average, patients improved during the hospital stay; yet still reported suboptimal outcomes at discharge.

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P131

Development of a patient-reported outcomes instrument for the measurement of the sexual impacts of psoriasis

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Introduction: Psoriasis (Ps) is a chronic, immune-mediated skin disease that can significantly worsen quality of life (QoL). Several instruments are available to assess Ps patient (pt) well-being, but no tool has been developed to capture disease-related sexual and reproductive pt impacts.

Objective: To develop an instrument to measure the sexual impacts of Ps based on qualitative patient interviews.

Methods: 2 rounds of qualitative interviews—1) concept elicitation (CE) interviews; and 2) hybrid CE/cognitive interviews (CIs)—were conducted with Ps pts ≥ 18 years old. Interview transcripts were analyzed to identify pt-reported impacts. Criteria for participation in both rounds of interviews differed only in that pts in the 2nd round had to self-report suffering from ≥ 1 sexual impact.

2 sex-specific questionnaires, the Psoriasis Relationships and Sexual Impact Assessment—Male and -Female (PRSIA-M and PRSIA-F), were created after the 1st round of interviews. Items were selected based on the frequency with which a concept was reported and on clinical and pt-reported relevance. Hybrid interviews were then used to enumerate and affirm reported impacts, assess content validity, and revise questionnaires.

Results: 60 (round 1 [R1]: n=40; Round 2 [R2]: n=20) pts participated in qualitative interviews. Intimate impacts were reported by 68% (n=27) of pts in R1, and 24 distinct impacts were noted across both rounds. Impacts were categorized into 1 of 4 domains: Sexual Desire (R1: 23/27, 85%; R2: 20/20, 100%), Sexual Ability (R1: 17/27, 63%; R2: 20/20, 100%), Reproduction (R1: 5/27, 19%; R2: 20/20, 100%), and Relationships (R1: 17/27, 63%; R2: 20/20, 100%).

Abstracts

Each questionnaire initially included 20 items. After CIs, revisions to item wording, order, instructions, and response options were made; all items were retained.

Conclusions: Owing to the sensitive nature of the intimate impacts of Ps, these potentially devastating outcomes may not be routinely addressed in a clinical setting. The PRSIA instruments may facilitate dialogue between pts and clinicians, improve treatment, and aid in developing future Ps QoL assessments.

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P132

Psycho-social determinants of quality of life in psoriasis patients in developing countries.

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Background: Numerous studies have analyzed the influence of psoriasis on the quality of life and psychological health of patients. However few studies have addressed the effect of this disease on individuals and cohabitants of psoriatic patients.

Objective: To assess the clinical severity, the physical and psychosocial disability and to analyze their interrelationship in psoriasis patients and cohabitants.

Methods: Hospital based cross-sectional study was conducted. The study included patients and cohabitants. The questionnaire was administered to the patient. Their quality of life was measured with the Psoriasis Disability index (PDI) and Family Dermatology Life Quality Index (FDLQI), and their psychological state with Psoriasis Life Stress Inventory (PLSI). The clinical severity by Psoriasis area severity index (PASI) score. Appropriate test were conducted using SPSS software.

Result: 75 patients (46 males, 29 female) were included in the study. The clinical PASI scores correlated significantly with the overall physical disability PDI (<0.0001), stress incurred PLSI (<0.0001), FDLQI (<0.0001) and individual aspects of the PDI. The higher the PASI index, the higher the PDI, PLSI and FDLQI scores, which indicated greater impact on QOL. Most of the patients feel depressed by the shedding of skin, avoid public places, constant fear of relapse and embarrassed in social interaction. Among the physical and psychosocial factors analyzed, daily activity, employment, leisure and treatment were reported to be affected the most. Relative of female patients worries most. Mean scores Female: Male of FDLQI (13.3 : 10.3).

Conclusion: Psoriasis markedly worsens the global well-being of patients and their cohabitants, who experienced an impairment of their quality of life and higher levels of anxiety and depression.

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P133

The relevance of total skin clearance for patients with plaque psoriasis: A comparison of health related quality of life benefits associated with achieving PASI100 versus PASI90 to <100, and PASI75 to <90

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Introduction: A 75% improvement in the psoriasis area and severity index (PASI75) is a common clinical trial endpoint in psoriasis (PsO). New therapies have demonstrated a significant number of patients achieving almost clear skin (PASI90) and even total skin clearance (PASI100). The difference between achieving higher levels of skin clearance in terms of health-related quality of life is not well understood.

Objectives: To compare health related quality of life (HRQoL) differences associated with achieving PASI100 versus PASI90 to <100, and PASI75 to <90 using RCT data.

Methods: Data from all non-placebo arms of 3 brodalumab Phase III PsO studies (NCT01708590, NCT01708603, and NCT01708629) were pooled. Analyses compared proportions of patients achieving a dermatology life quality index (DLQI) total score of 0 or 1 (no effect on HRQoL) at Week 12, among patients achieving PASI100, PASI90 to <100, PASI75 to <90, and PASI75 to <100.

Results: Baseline DLQI scores were similar across patients who achieved PASI100 (baseline mean DLQI=14.0, SD=7.0) and PASI75 to <100 (baseline mean DLQI=14.6, SD=7.3) at Week 12. 1078, 906 and 594 patients achieved PASI100, PASI90 to <100, and PASI75 to <90 with non-missing DLQI score at week 12, respectively. A significantly higher percentage (95% CI) of patients with PASI100 [80.2%, (77.7%, 82.6%)] achieved DLQI=0/1 compared to PASI90 to <100 [62.7%, (59.5%, 65.9%)], PASI75 to <90 [42.9%, (38.9%, 47.0%)], and PASI75 to <100 [54.9%, (52.3%, 57.4%)], all p<0.001.

Conclusions: A significantly higher proportion of patients achieving complete psoriasis clearance (PASI100) reported no effect on HRQoL compared to those achieving PASI90 to <100 or PASI75 to <90. Results showed meaningful HRQoL differences between achieving PASI100 versus PASI90 to <100, or PASI75 to <90 in the clinical trial population of subjects with moderate to severe chronic plaque psoriasis. The findings support the use of PASI100 as a differentiating, clinically relevant endpoint in addition to PASI90 and PASI75.

Disclosure of Interest: D. M. Augustin Consultant of: Amgen, D. K. Reich Consultant of: Amgen, D. C. Paul Consultant of: Amgen, D. M. Lebwohl Consultant of: Amgen, D. C. E. Milmont Shareholder of: Amgen, Employee of: Amgen, D. H. N. Viswanathan Shareholder of: Amgen, Employee of: Amgen, D. A. Mutebi Shareholder of: Amgen, Employee of: Amgen, D. P. Klekotka Shareholder of: Amgen, Employee of: Amgen

P134

Ixekizumab impact on health-related quality of life compared to etanercept and placebo: Results from UNCOVER-2, a phase 3 trial in patients with moderate-to-severe plaque psoriasis

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Introduction: Psoriasis has a significant impact on health-related quality of life (HRQoL).

Objectives: To understand the impact on HRQoL after 12 weeks of treatment with ixekizumab, an anti-IL-17A monoclonal antibody, compared to etanercept or placebo.

Methods: In this trial, 1224 patients were randomized to receive subcutaneous placebo (N=168), etanercept (50 mg twice weekly; N=358), or a single injection of 80 mg ixekizumab every 2 weeks (IXE Q2W; N=351) or every 4 weeks (IXE Q4W; N=347) following a 160 mg starting dose at week 0. HRQoL was assessed with the Dermatology Life Quality Index (DLQI) and the SF-36. DLQI scores of 0 or 1 indicate no impact of skin disease on HRQoL. The SF-36 Physical (PCS) and Mental (MCS) component summary scores are derived from the eight SF-36 domains (scored 0-100). The proportion of patients who achieved a DLQI score of 0 or 1 at week 12 and changes in DLQI total score, PCS, and MCS scores from baseline to week 12 were compared between treatment groups.

Results: The average baseline DLQI score across groups was 12.3 and the average baseline SF-36 MCS and PCS were 48.3 and 47.6, respectively. Greater improvements in DLQI were observed as early as first postbaseline assessment at week 2 for the ixekizumab treatment groups compared to placebo and etanercept ($p<0.05$). At week 12, more patients in the IXE Q2W (64%) and IXE Q4W (60%) groups had a DLQI score of 0 or 1 versus placebo (6%; $p<0.05$) or etanercept (34%; $p<0.05$). At week 12, greater improvements in the SF-36 PCS were observed in the IXE Q2W (3.8) and IXE Q4W (4.6) groups versus placebo (-0.5; $p<0.05$) and etanercept (2.6; $p<0.05$). There were greater improvements in the SF-36 MCS in the IXE Q2W (4.5) and IXE Q4W (2.9) groups versus placebo (-0.1; $p<0.05$) and in the IXE Q2W group versus etanercept (2.4; $p<0.05$).

Conclusions: Ixekizumab-treated patients reported significantly greater and more rapid improvements in HRQoL as measured by DLQI or SF-36 compared to placebo and etanercept over 12 weeks, and more than 60% patients reported no impact of psoriasis on HRQoL with a DLQI score of 0 or 1.

Disclosure of Interest: K. Reich Consultant of: AbbVie, Amgen, Biogen-Idec, Celgene, Centocor, Covagen, Eli Lilly, Forward Pharma, GlaxoSmithKline, Janssen-Cilag, LEO Pharma, Medac, MSD, Novartis, Ocean Pharma, Pfizer, Regeneron, Takeda, UCB, Vertex, Xenoport., Speakers bureau of: AbbVie, Amgen, Biogen-Idec, Celgene, Centocor, Covagen, Eli Lilly, Forward Pharma, GlaxoSmithKline, Janssen-Cilag, LEO Pharma, Medac, MSD, Novartis, Ocean Pharma, Pfizer, Regeneron, Takeda, UCB, Vertex, Xenoport., D. Toth Grant/Research support from: LEO, Celgene, Amgen, Janssen, Lilly, Novartis, Pfizer, Abbott, Speakers bureau of: Lilly, Novartis, Amgen, Janssen, Celgene, Abbott, E. Nikai Shareholder of: Eli Lilly and Company, Employee of: Eli Lilly and Company, B. Zhu Shareholder of: Eli Lilly and Company, Employee of: Eli Lilly and Company, H. Carlier Shareholder of: Eli Lilly and Company, Employee of: Eli Lilly and Company, S. Feldman Shareholder of: Medical Quality Enhancement Corporation, Causa Research, Grant/Research support from: Galderma, National Biological Corporation, Anacor, Novartis, Pfizer, Consultant of: Celgene, Mylan, GSK/Stiefel, Amgen, Novartis, Lilly, Speakers bureau of: Galderma, Janssen, Novartis, Celgene, Abbvie, Pfizer, Baxter, Merck, Boehringer Ingelheim,

P135

Effect of etanercept on patient-reported outcomes in psoriasis patients with and without metabolic syndrome

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Introduction: Psoriasis patients have higher rates of metabolic syndrome (MetS) and impaired quality of life.

Objective: To compare the effect of etanercept on patient-reported outcomes (PROs) in psoriasis patients with MetS and without MetS (non-MetS).

Methods: Changes from baseline to week 24 in PROs were compared using ANCOVA models adjusted for baseline PRO and geographic region; week 24 dichotomous responses were analyzed using Fisher's exact test. Baseline continuous and categorical variables were analyzed using Wilcoxon-Mann-Whitney and Cochran-Mantel-Haenszel tests, respectively. Baseline characteristics and week 24 data were analyzed using the randomized population and modified intent-to-treat population, respectively.

Results: 121 patients from the PRISTINE trial met MetS criteria. Patients received etanercept 50 mg subcutaneously once weekly (QW) or twice weekly (BIW) for 12 weeks followed by etanercept 50 mg QW for another 12 weeks. Statistically significant higher baseline values for MetS parameters were observed for MetS patients compared with non-MetS patients with no differences seen for PASI or PROs; non-MetS patients were younger and had statistically significant higher HDL levels. In the QW/QW group, week 24 changes between MetS and non-MetS patients for EQ-5D Usual Activity and WPAL Work Time Missed were statistically significant (-0.06 vs -0.34, $p<0.001$, and -7.38 vs -5.45, $p<0.05$, respectively). Numerically greater week 24 improvement was observed in non-MetS patients for FACIT-Fatigue, HADS, and various domains of DLQI, EQ-5D, Patient Global Assessment, and WPAL. More non-MetS patients had DLQI improvement ≥ 5 and fewer patients had major HADS anxiety (≥ 11) and depression (≥ 11) at week 24.

Conclusions: At baseline, the MetS group had more comorbidities. Observed PRO responses at week 24 were better for non-MetS patients than for MetS patients. Since no adjustment was made for multiple comparisons, statistically significant findings should be considered exploratory.

Limitations: This post-hoc analysis used data from a previously completed trial that was not designed with sufficient power to detect differences in PROs.

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P136

Rasch analysis of the Psoriatic Arthritis Quality of Life and Dermatology Life Quality Index measures in psoriatic arthritis

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Background: Psoriatic Arthritis Quality of Life (PsAQoL) and Dermatology Life Quality Index (DLQI) measures cover different aspects of psoriatic arthritis (PsA) but the ability of each measure to capture health-related quality of life information about skin and joint disease simultaneously is unknown.

Objectives: To assess cross-cultural validity of the PsAQoL and DLQI and to determine if each measure captures domains relevant to both skin and joints.

Methods: PsAQoL and DLQI data from people with PsA in 5 cultural regions (UK, N. America, S. America, Europe and Asia) were analysed using Rasch analysis to determine their construct validity, reliability,

Abstracts

targeting and invariance to culture, gender, age and disease duration; disease type and extent of skin involvement (PASI score split at 10).

Results: The sample comprised 503 patients (286 were women) with mean (SD) age 50.8 (13.1), psoriasis duration 18.4 (13.7) and PSA duration 9.8 (9.9) years.

The N. America PsAQoL and DLQI data satisfied the expectations of the Rasch model while the Europe and pooled data did not. See table 1 (Asia and S. America had limited sample sizes - not shown).

Within each cultural group, PsAQoL was invariant to all patient characteristics. For the DLQI, the N. America data displayed DIF by gender on items 8 & 9. The pooled data displayed DIF by culture on items 1 and 7 and DIF by gender on item 4.

Both PsAQoL and DLQI discriminated well between patients with oligo/polyarthritis. As expected, DLQI discriminated well between the patients with high vs. low degree of skin involvement but the PsAQoL did not.

Conclusions: There is not enough evidence from this analysis to suggest the cross-cultural validity of the PsAQoL and DLQI or whether each measure captures domains relevant to both skin and joints.

Table 1: Summary statistics and reliability of the PsAQoL and the DLQI

Region	PsAQoL interaction statistic (p-value)	PsAQoL reliability (PSI)	DLQI interaction statistic (p-value)	DLQI reliability (PSI)
UK	38.481 (0.008)	0.870	14.227 (0.163)	0.819
N. America	25.385 (0.187)	0.887	15.638 (0.111)	0.781
Europe (excl UK)	56.882 (0.040)	0.826	24.221 (0.007)	0.825
Pooled data	202.392 (0.001)	0.851	167.741 (<0.001)	0.803

Disclosure of Interest: M. Ndosi Grant/Research support from: Pfizer Inc, M.-A. Hsu Shareholder of: Pfizer Inc, J. C. Cappelleri Shareholder of: Pfizer Inc, H. Jones Shareholder of: Pfizer Inc, A. C. Amit Chhabra Shareholder of: Pfizer Inc, P. Helliwell Grant/Research support from: Pfizer Inc

P137

Education is key to building a better world for people with psoriasis

Barbra Bohannan ^{1,*}

¹ International Federation of Psoriasis Associations, Stockholm, Sweden

Introduction: In 2014 it was decided that IFPA should seek to identify strategic activities, or “tools”, to help improve the situation for people with psoriasis world-wide, by conducting an online open survey. 17 such activities were selected and the survey went live June 8, 2014 and will close May 31, 2015.

Objectives: To identify which strategic activities within psoriasis education, awareness and advocacy patients, their family members, physicians and others believe to be the most important; acting as guidance for all psoriasis stakeholders addressing unmet needs.

Methods: The 17 “tools” were developed into an online survey which was then linked into IFPA’s website as a pop-up window. The survey is anonymous, but the respondents are asked to identify respondent category, gender, age group and country. The respondents can vote for up to five “tools” and also add their own free-text suggestion.

Results: The survey was accessed on March 6, 10 am CET. The activities receiving the most votes from the patient category (n=116), with respondents from 88 countries, at this point were: “Tool 2: Educating the patients about treatment options” (53%), “Tool 3: Educating the patients about serious comorbid conditions” (42%) and “Tool 1: Educating the patients about psoriasis as a serious, inflammatory, noncommunicable disease” (38%). In the physician group (n=156) 55 countries were represented. The most votes from the physician category went to Tool 3 (58%), Tool 1 (56%) and Tool 2 (55%). The top three votes of the family member group (n=182), representing 50 countries, went to Tool 2 (49%), Tool 1 (45%) and Tool 3 (36%). In the category “Other” we find primarily other HCPs, pharma professionals, pharmacists, researchers, volunteers and friends. This category had 196 respondents from 55 countries and the top votes were for Tool 2 (46%), Tool 3 (42%) and Tool 9: “Educating policy makers about the socioeconomic and psychosocial impact of psoriasis” (41%).

Conclusion: Of the activities suggested in the survey, these preliminary results clearly indicate that all respondent categories see primarily educational initiatives as key to improving the situation for people with psoriasis.

Disclosure of Interest: None to declare

Young scientists (born on or after January 1, 1980)

P138

Need psoriasis patients in the event of medico-social nature, necessary to improve the quality of medical care.

Olesya Mishina ^{1,*}

¹ Central Research Institute of public health organization and informatization, Moscow, Russian Federation

Introduction. The level of patient satisfaction with medical help becomes a key criterion not only to improve the quality and accessibility of medical care, learning needs of the population, but also a tool to enhance the social role of health in shaping public consciousness. In this regard, the objective is to highlight the needs of patients in the activities of the specialized service.

Methods. It was surveyed, 1090 people with psoriasis. We conducted a statistical analysis.

Results. Marked low (not exceeding 2.5 points at the 5-point system) level estimates of the impact of medical measures to improve the status and improving the quality of life of patients. However, priority is given to the possibility of obtaining psychological help to improve the interaction between various specialists involved in the treatment of patients, clinical monitoring, provision of sanatorium-resort treatment, enhancing patient participation in the treatment process. The remaining proposed for the evaluation of patients events related to the organization of work of the doctor and are not of interest to patients. The last place in the ranking took the importance of establishing interaction with the doctor, which can be explained by the absence of this problem in most patients. According to patients, most of them need a number of events non-medical plan and measures of public support. Among the measures medical priority given to greater involvement of relatives to support patients, the patients Association in non-governmental organizations on the disease profile, the expansion of the Internet in advising patients and their immediate environment.

Conclusions. The provision of quality medical care, taking into account the complexity of its rendering in importance is not inferior to the needs of patients and to ensure their measures of social support in the prevailing situation, which should be aimed at attracting relatives to the treatment process, the formation of partnerships with patients, joint definition of the treatment programs, the creation and involvement of the patient in the patient's community profile of the disease, the possibility of online communication with experts.

Disclosure of Interest: None to declare

P139

Psoriatic arthritis and the heavy lung heredity

Giovanni Damiani ^{1,*}, Anna Garelli ², Caleb Browne ³

¹ Dermatology, University of Trieste, Trieste, ² Internal Medicine, University of Brescia, Brescia, Italy, ³ Psychology, University of Toronto, Toronto, Canada

Introduction: Our understanding of psoriatic arthritis has evolved, as a new knowledge of the disease has emerged, defining it as a chronic inflammatory systemic disorder. Epidemiological studies summarized several comorbidities¹, but the results of studies on respiratory comorbidities are discordant².

Objectives: Psoriatic arthritis is a pro-inflammatory condition, importantly assessed in blood, urine and synovial fluid. In this study we aimed to evaluate the sub-clinical airway inflammation in non-smoking psoriatic people with FeNO (Fraction of exhaled nitric oxide), an indirect marker of inflammation, in order to evaluate the respiratory risk of respiratory comorbidities in psoriasis.

Methods: A sample of 57 non-smoking patients with psoriatic arthritis (satisfying CASPAR classification criteria) were recruited and compared with a control group of 57 psoriatic patients. A respiratory evaluation was preliminary performed with a spirometric exam, that pointed as inclusion criteria a BMI<25, Tiffenau Index >70%, FEV1>80%, FEF 25-75 >65%, no active respiratory diseases and lung cancer history. Then after one-week discontinuation therapy, included patients performed FeNO test with on-line single-breath technique. Different flows (30,50,100,200 ml/sec) were adopted in order to evaluate the entire respiratory tree.

Results: FeNO at all flows resulted increased in both groups. However, patients with psoriatic arthritis have higher FeNO values to all flows, compared to psoriatic people (p<0,001). Likewise, both PASI and CASPAR exhibited a correlation with FeNO to all flows (p<0,0001).

Conclusion: Airway inflammation is higher in patients with psoriatic arthritis than patients with only psoriasis. Furthermore, PASI and CASPAR serve as a useful index to evaluate indirectly airway inflammation in patients with a negative spirometric test. Therefore, respiratory comorbidities need to be better detected with prospective studies.

References: 1. Chiang YY, Lin HW. Association between psoriasis and chronic obstructive disease: a population-based study in Taiwan. *J EADV* 2012;259-65

2. Peluso R, Iervolino S, Vitiello M et al. Extra-articular manifestations in psoriatic arthritis patients. 2014 May 8.

Disclosure of Interest: None to declare

P141

12/15-Lipoxygenase products facilitate the generation of psoriasiform dermatitis in mice

Siegfried Bezdek ^{1,*}, Ashref Hdnah ¹, Detlef Zillikens ¹, Christian Sadik ¹

¹ Department of Dermatology, Allergy and Venerology, University Hospital Lübeck, Lübeck, Germany

Introduction: 12/15-lipoxygenase (15-LO) is an enzyme, among others catalyzing the oxidation of membrane lipids as well as biosynthesizing a broad set of bioactive lipids. In general, 15-LO products can exert opposing pro- and anti-inflammatory net effects dependent on the detailed context of the inflammatory response. 15-LO products are also present in large quantities in lesional psoriatic skin, but their role in the pathogenesis of diseases is only poorly understood.

Objectives: We therefore investigated the role of 15-LO in psoriasis using the Aldara-induced psoriasiform dermatitis (AIPD) mouse model of the disease.

Methods: In these experiments, we compared the severity of skin inflammation in C57BL/6 wild-type and Alox15^{-/-} mice. For this purpose, AIPD was induced by daily topical application of 50 mg Aldara cream for 5 consecutive days and clinical manifestation of the disease was evaluated based on a modified version of the Psoriasis Activity and Severity Disease Score (PASI), taking into account erythema, skin infiltration, and desquamation as criteria for the severity of skin inflammation.

Results: We have found that AIPD is attenuated in Alox15^{-/-} mice in comparison to wild-type controls. Herein, erythema, skin infiltration, and desquamation are all reduced. Histologically typical signs of psoriasis, including keratinocyte hyperproliferation are less pronounced in Alox15^{-/-} mice. Particularly epidermal hyperplasia, a signature feature of psoriasis, is significantly diluted in 15-LO-deficient mice indicating pro-proliferative actions of 15-LO products to the generation of full-blown AIPD. Additionally, chimera experiments with bone marrow reconstituted WT and Alox15^{-/-} mice revealed an important role of 15-LO expression on hematopoietic cells for the development of full-blown AIPD.

Conclusions: Collectively, these results indicate that 15-LO actions may play an important role in the pathogenesis of psoriasis and highlight 15-LO as a promising pharmacological target in the treatment of the disease.

Disclosure of Interest: None to declare

P142

A computational approach to identify new treatment options for psoriasis

Sören Dräger ^{1,*}, Linda Heimberg ¹, Yask Gupta ¹, Katja Bieber ¹, Ralf Ludwig ¹

¹ Lübeck Institute of Experimental Dermatology (LIED), University of Lübeck, Lübeck, Germany

Introduction: Psoriasis with a prevalence of nearly 5% in North America calls for a more diverse treatment regimen. Current treatment options do not resolve the disease and have severe side effects.

Objectives: One approach to identify new therapeutics is the virtual screening of existing databases.

Methods: We here used the Connectivity Map (cMap) and publicly available microarray gene expression data of patient and mouse psoriatic skin to identify new treatment options for psoriasis.¹

Results: With this method, we found 10 potential therapeutics. Some of these are already clinically used, whereas others are in phase 2 or 3 clinical trials. For most of the compounds an anti-inflammatory effect has not been yet described. To verify the in vivo efficacy of our

Abstracts

results from the cMap, we have so far tested 6 of the 10 substances in the ALDARA®-induced psoriasis-like skin inflammation dermatitis (AIPD) model in mice². The drugs are applied either topically on the skin or given systemically via i.p. injection one day prior to ALDARA® application. Scoring is based on the Psoriasis Area and Severity Index (PASI). Secondary endpoints are the epidermal thickness, the qualitative infiltrate of the epidermis and an increased spleen size and weight, which is a feature of this model. One of the tested drugs had a better therapeutic *in vivo* efficacy compared to corticosteroids, which reduced the disease score by 16%. Differences between the treatment groups became apparent on day 3. Compound 1 reduced the disease score by 34%. Mice treated with compound 1 also had a lower spleen weight compared to control.

Conclusions: Collectively, we here demonstrate the suitability of combining virtual drug screening with *in vivo* validation to identify new treatment options for psoriasis.

References: 1. Lamb, J. The Connectivity Map: a new tool for biomedical research. *Nat Rev Cancer* 7, 54–60 (2007).

2. Fits, L. Van Der et al. Imiquimod-Induced Psoriasis-Like Skin Inflammation in Mice Is Mediated via the IL-23/IL-17 Axis. (2009). doi:10.4049/jimmunol.0802999

Disclosure of Interest: None to declare

P143

Epidermal Langerhans Cells and Dermal Dendritic Cells Produce Distinct and Complementary Cytokines that Sustain the Skin Inflammation in Active Psoriasis.

Elisa Martini ^{1,*}, Maria Wikén ¹, Mona Ståhle ¹, Liv Eidsmo ¹

¹ Dept of Medicine, Solna, Karolinska Institutet, Stockholm, Sweden

Introduction: Epidermis, the skin epithelia, consists of keratinocytes intermixed with Langerhans cells (LCs) and is separated from the underlying dermis containing dermal dendritic cells and vasculature. In psoriasis, red and scaly skin lesions are caused by vigorous keratinocyte activation and proliferation. We¹ and others² have shown that in active psoriasis, a high proportion of epidermal T cells produces the disease driving cytokines IL-17 and IL-22 whereas dermal T cells are more inert.

Objectives: In this study we aim to investigate if dendritic cells within the inflamed skin steer how epidermal T cells produce cytokines in psoriasis.

Methods: Skin biopsies were taken from healthy skin, psoriasis lesions and resolved skin after treatment (UVB or anti-TNF). Epidermal infiltrating DCs (iDCs) and LCs from epidermal skin suspensions were sorted for gene expression profiling or were stimulated with TLR ligands and analysed by flow cytometry.

Results: iDCs lacking Birnbeck's granules and langerin were identified in epidermis in addition to LCs in active psoriasis lesions by confocal imaging and electron microscopy. LCs were the main producers of the Th17 driving cytokine IL-23, measured both by RNA expression and flow cytometry, in comparison to iDCs. In contrast, epidermal iDCs produced IL-1 β but also the regulatory cytokine IL-10. Epidermal LCs and iDCs from active psoriatic lesions could be stimulated to increase the production of the pro-inflammatory cytokines IL-1 β and IL-23, whereas LCs from healthy skin remained inert.

Conclusions: Our results highlight the complexity of tissue inflammation in the skin and we show that infiltrating epidermal dendritic cells together with LCs may have the capacity to drive inflammatory T cell responses.

References: 1. Cheuk, S. et al. Epidermal Th22 and Tc17 Cells Form a Localized Disease Memory in Clinically Healed Psoriasis. *J Immunol.* 192(7), 3111–20 (2014)

2. Fujita, H., Shemer, A. et al. Lesional dendritic cells in patients with chronic atopic dermatitis and psoriasis exhibit parallel ability to activate T-cell subsets. *J Allergy Clin Immunol.* 128(3), 574–82 (2011)

Disclosure of Interest: None to declare

P144

Psoriasis screening qRT-PCR array as a potential tool for adjustment and monitoring the therapy of psoriasis patients

Elwira Smolińska ^{1,*}, Marta Moskot ², Joanna Jakóbkiewicz-Banecka ¹, Grzegorz Węgrzyn ¹, Magdalena Gabig-Cimińska ²

¹ Department of Molecular Biology, University of Gdansk, ² Laboratory of Molecular Biology (affiliated with the University of Gdańsk), Institute of Biochemistry and Biophysics, Polish Academy of Sciences, Gdansk, Poland

Introduction: Psoriasis screening qRT-PCR array has been developed for monitoring of psoriasis patients undergoing isoflavone therapy. Genistein, a soy-derived isoflavone has attracted attention as a potent agent in treatment of psoriasis, as a mediator modulating expression of various genes, whose products are involved among others in different phases of the inflammation and proliferation.

Objective: In this study, mRNA expression profiling of genistein-treated human keratinocyte, healthy type and engineered skin psoriatic cells model was established in order to identify molecular markers for psoriasis, to find new potential targets for therapy and/or to develop a tool for treatment monitoring.

Methods: *In vitro*, two-dimensional (2D) engineered skin psoriatic cells model was developed by treatment of the HaCat cells either with a mix of proinflammatory cytokines: IL-1A, IL-17A, IL-22, OsM, TNF α and INF- γ , or by the growth of keratinocytes in a combined culture with monocytes. Gene expression profiling was performed by means of HumanHT-12 v4 Expression BeadChip and real-time qRT-PCR custom panel on keratinocytes treated with genistein, and mRNA levels were determined relative to those in untreated cells.

Results: Testing the effects of genistein on human keratinocyte transcriptome via the microarray analysis, we found that this compound induced significant dose- and time-dependent alterations in profiles of hundreds of transcripts. These changes included psoriasis-related genes. Modulation of their activities, by reducing the expression efficiency of genes revealing enhanced activity in psoriatic cells, and by stimulating the expression efficiency of genes revealing decreased activity in psoriatic cells was noted. Following confirmation of these results by qRT-PCR, chosen genes were utilized to design a psoriasis-screening qRT-PCR array panel, dedicated to the analyses of skin samples taken from psoriasis patients.

Conclusions: Our results suggest that aberrant expression of genes contributing to the progress of psoriasis can be improved by the action of genistein. This knowledge can be potentially used to monitor the molecular response of patients with psoriasis to treatment with genistein.

Disclosure of Interest: None to declare

Industry-sponsored satellite symposia

Thursday, July 9

12.15–13.15 International Federation of Psoriasis Associations – IFPA

Room: Main auditorium, A1
Moderator: Per Hamid Ghatan
Panelists: Silvia Fernandez Barrio, Josef de Guzman, Mahira El Sayed, Sergio Toloza

We need to talk! Improving patient outcomes through communication and collaboration

Welcome to a highly interactive panel discussion with both patient and physician experts. In this symposium you will be able to ask questions directly to the panel and also hear them discuss how patients and physicians can work together to improve the treatment, care and outcomes for people with psoriasis and psoriatic arthritis.

This symposium is provided with educational support from Eli Lilly and Company.

17.00–18.00 Novartis

Room: Main auditorium, A1
Chair: B Kirkham

Meeting patient needs in psoriasis and psoriatic arthritis: Current evidence

- 17.00–17.10 Welcome and Introduction
Speaker: B Kirkham
- 17.10–17.30 Is it Time for a New Treatment Paradigm in Psoriasis?
Speaker: G Perera
- 17.30–17.50 Emerging Perspectives in the Treatment of Psoriatic Arthritis
Speaker: B Kirkham
- 17.50–18.00 Q&A
Speaker: B Kirkham

Friday, July 10

07.15–08.00 AbbVie

Room: C1–C3, level 2
Speaker: David Charles, Global Alliance for Patient Access

Biologics and Biosimilars: An Overview of Policy Issues impacting Patient Access

Friday, July 10

12.15–13.15 Actavis

Room: Main auditorium, A1
Is there a place for traditional treatments for Psoriasis?

Cost-effectiveness of old versus new psoriasis treatment

Speaker: Olle Larkö

Acitretine, Methotrexate and Ciclosporine: the good use

Speaker: Louis Dubertret

Systemic retinoids combined with phototherapy

Speaker: Peter Wolf

17.00–18.00 Celgene

Room: Main auditorium, A1
Chair: Diamant Thaçi

Overcoming the challenges of psoriasis and psoriatic arthritis

- 17.00–17.05 Chair's welcome
Speaker: Diamant Thaçi
- 17.05–17.20 Session 1: HCP-only session
Addressing the needs of patients with psoriasis psoriatic arthritis
Speaker: Diamant Thaçi
- 17.20–17.40 Session 2: Open session
The PS Live project: an ethnographic approach to assess the true impact of psoriasis and psoriatic arthritis on patients' lives
Speaker: Dawn Harper
- 17.40–18.00 Session 3: Open session
The PS Live roundtable: how stakeholders can foster a patient-centric approach to the treatment of psoriasis and psoriatic arthritis
Speaker: Dawn Harper and Diamant Thaçi joined by an expert panel

Saturday, July 11

12.15–13.15 Pfizer

Room: Main auditorium, A1

Targeting Intracellular Signaling Pathways: Small Molecule Therapies in Psoriasis

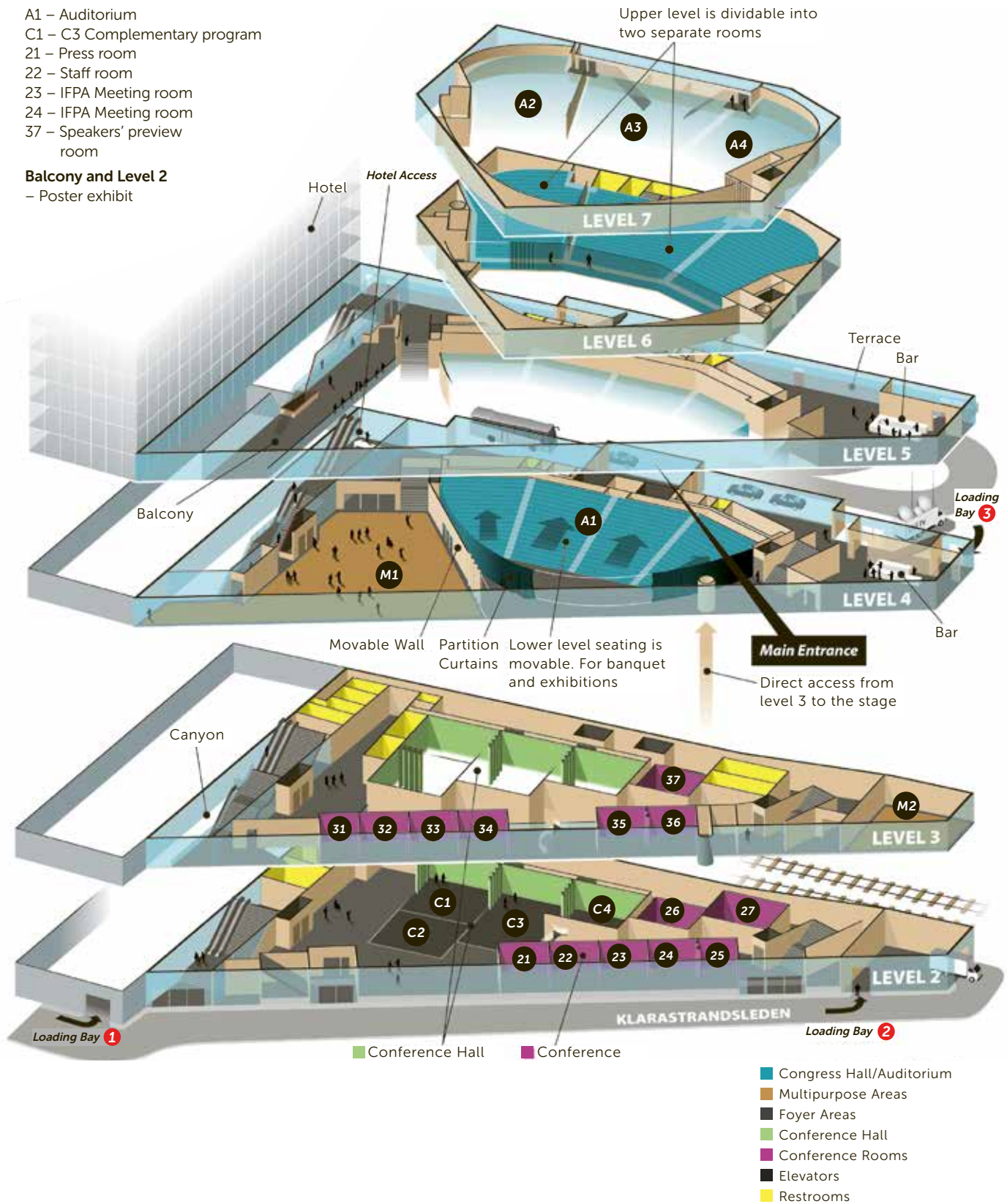
- 12.15–12.20 Welcome and Introduction
- 12.20–12.40 Session 1: Importance of Intracellular Signaling Pathways
- 12.40–13.05 Session 2: Key Clinical Findings in Psoriasis Therapies
- 13.05–13.15 Speaker Q&A

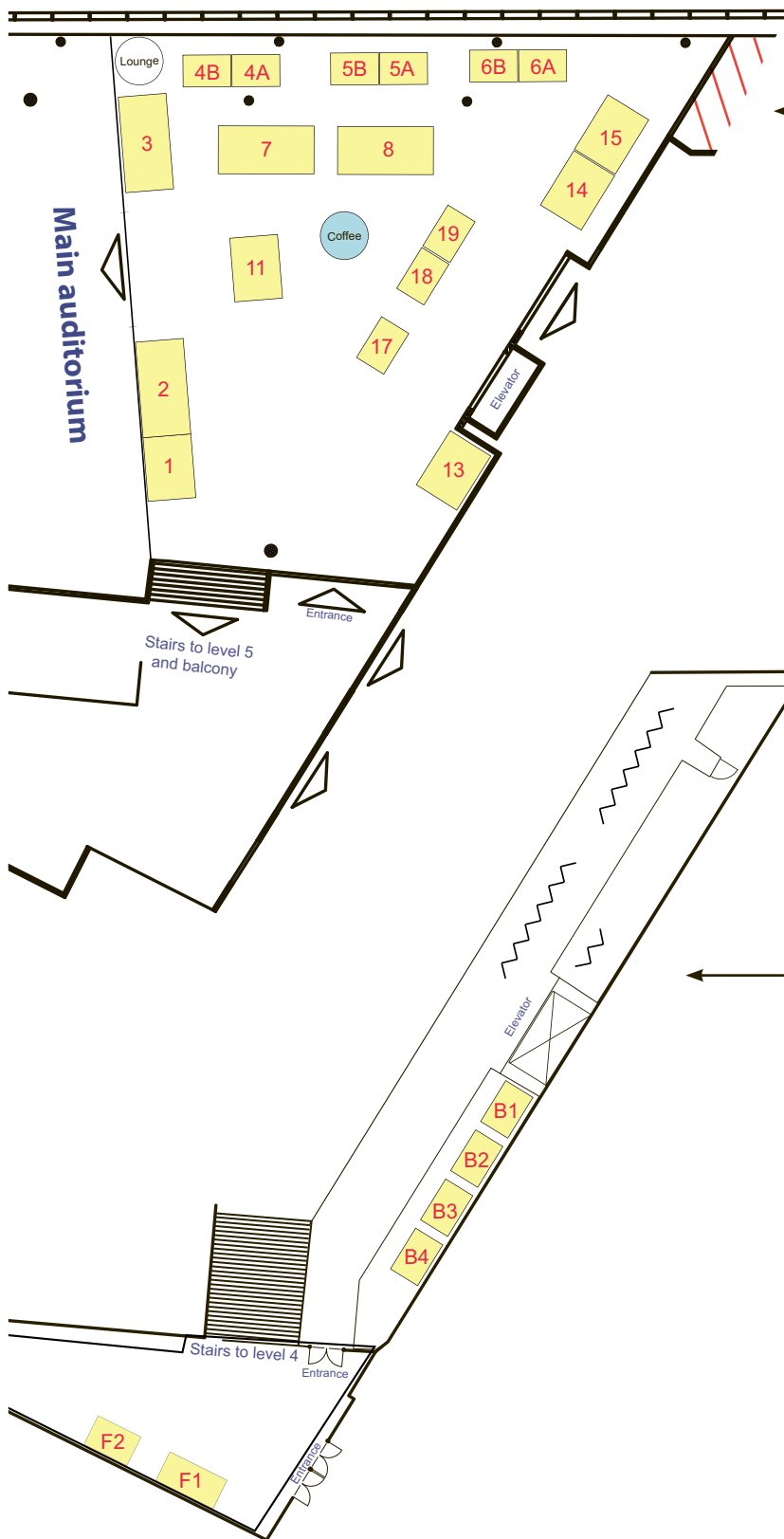
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Stockholm Waterfront Congress Centre

- A1 – Auditorium
- C1 – C3 Complementary program
- 21 – Press room
- 22 – Staff room
- 23 – IFPA Meeting room
- 24 – IFPA Meeting room
- 37 – Speakers' preview room

Balcony and Level 2
– Poster exhibit





Exhibition Area M1 – level 4

Company name	Booth location
AbbVie	2
Actavis	1
Canfield Scientific	19
Celgene International	11
Daxxin	6a
Dr Hoenle Medizintechnik GmbH	18
FotoFinder Systems GmbH	5b
H. Waldmann GmbH & Co. KG	4b
Janssen Pharmaceutica NV	13
KIMOVİ Aps	4a
Novartis Pharma AG	7–8
Pfizer	3
Philips Lighting	6b
UCB	17
Upcoming events	14–15

Level 5 & balcony

Company name	Booth location
IPC (International Psoriasis Council)	B1
Psoriasis Shout Out	B2
Psoriasis International Network (PIN)	B3
International Skin Care Nursing Group (ISNG)	B4
IFPA booth	F1
IFPA member booth	F2

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- Combined therapies and transition treatments
- Life quality and adherence to treatment
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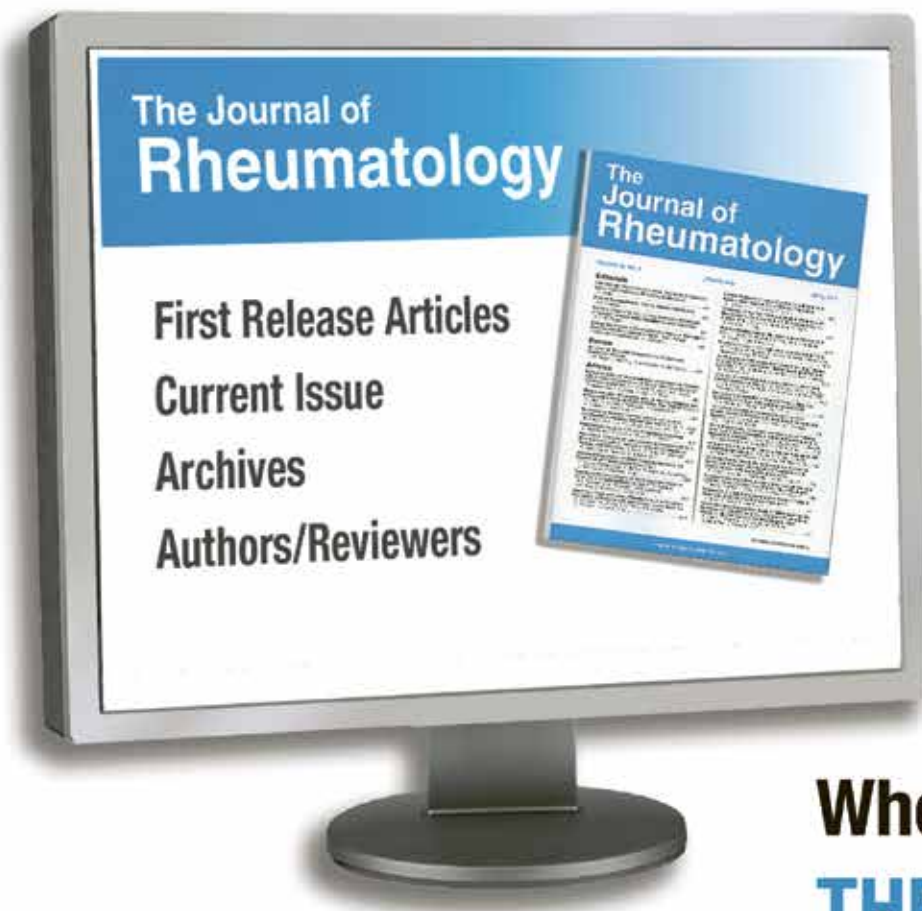
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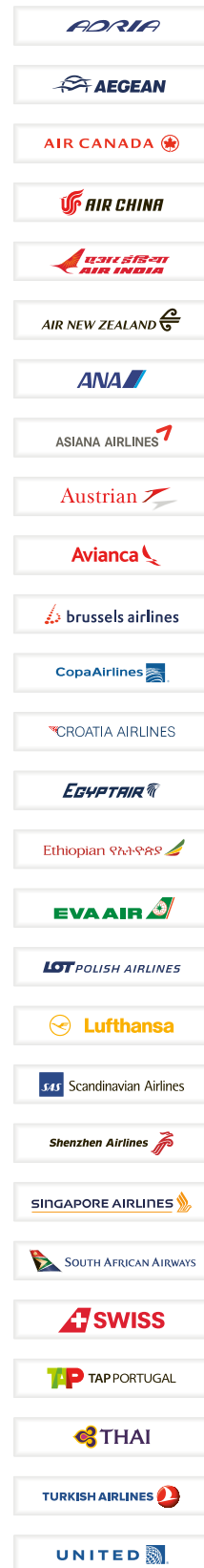
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Is there a place for traditional treatments for Psoriasis

Cost-effectiveness of old versus new psoriasis treatment

Olle Larkö, Professor of Dermatology and Venereology and Dean of the Sahlgrenska Academy, University of Gothenburg, Sweden.

Acitretine, Methotrexate and Ciclosporine: the good use

Louis Dubertret, Professor Emeritus of Dermatology at Saint-Louis Hospital. Founder and honorary Director of the Skin Research Institute, University Paris 7, France.

Systemic retinoids combined with phototherapy

Peter Wolf, MD, Professor of Dermatology and Bioimmunotherapy, is Vice Chair of the Department of Dermatology and Director of the Research Unit of Photodermatology at the Medical University Graz, Austria.

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Meeting patient needs in psoriasis and psoriatic arthritis: current evidence

Program

- 17.00–17.10** Welcome and introduction
Bruce Kirkham
Guy's and St Thomas' NHS Foundation Trust, London, UK
- 17.10–17.30** Is it time for a new treatment paradigm in psoriasis?
Gayathri Perera
West Middlesex University Hospital, London, UK
- 17.30–17.50** Emerging perspectives in the treatment of psoriatic arthritis
Bruce Kirkham
Guy's and St Thomas' NHS Foundation Trust, London, UK
- 17.50–18.00** Question and answer session
Moderator: Bruce Kirkham
Guy's and St Thomas' NHS Foundation Trust, London, UK

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17.00–18.00
Thursday 9 July 2015
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SMALL MOLECULE THERAPIES IN PSORIASIS



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A

Adebajo	Adewale	P120
Ahn	Kyu Joong	P010
Aigner	Birgit	P071
Akbarzadeh	Azim	P121
Akita	Shosuke	P106
Al Hammadi	Anwar	P103
Alaggapan	Uma	P031
Alenius	Gerd-Marie	P001
Amit Chhabra	Amit Chhabra	P128,P136
Anderson	Jaclyn	P046,P117
Andreadou	Ioanna	P111
Andrews	John	P042
Anisfeld	Andrew	P043
Anthony	Mary	P002
Arenberger	Petr	P103
Armstrong	April	P027,P052,P070,P127
Augustin	Matthias	P133
Augustin	Matthias	P044,P069

B

Bachelez	Hérve	P016,P119
Baliwag	Jaymie	P097
Ball	Susan	P058,P059
Bansal	Frainey	P092
Baran	Wojciech	P035
Barker	Jonathan	P119
Barnes	Drew	P089
Barrón	Maria Teresa	P063
Batalov	Anastas	P024
Batucu	Joana R	P098
Bauzá	Ana	P041
Bebchuk	Judith	P002
Bensen	William	P033
Benseñor	Isabela	P011
Berianu	Florentina	P084,P085
Bezdek	Siegfried	P141
Bieber	Katja	P142
Birbara	Charles	P102,P120
Bivik Eding	Cecilia	P096
Blauvelt	Andrew	P029,P035,P049,P051, P052,P057,P060
Blažiček	Pavel	P019
Bleakman	Alison	P060
Bodur	Hatice	P104,P107
Boer Kimball	Alexa	P066
Bogunia-Kubik	Katarzyna	P077,P078,P080
Bohannan	Barbra	P137
Bohinc	Masa	P124
Bolduc	Chantal	P035
Branisteanu	Daciana Elena	P124
Braun	Daniel	P057,P058,P059
Braun	Daniel K.	P029
Browne	Caleb	P139
Bruin	Gerard	P052
Brunoni	Andre	P011
Bundy	Christine	P123
Burge	Russel	P102
Bushnell	Donald	P125

C

Caitriona	Ryan	P025
Calabro	S	P056
Calabro	Steve	P044
Callis Duffin	Kristina	P102
Cameron	Gregory	P058,P059
Cameron	Gregory S.	P029,P057
Camhi	Maya	P097
Cappelleri	Joseph	P130
Cappelleri	Joseph C	P006,P128,P129,P136
Carlier	Hilde	P058,P059,P066,P134
Carneiro	Sueli	P103
Cather	Jennifer	P035,P131
Cerda	Dacia	P100
Chang	Gyu Tae	P074
Chang	Yun-Ting	P007
Charles-Schoeman	Christina	P043
Chen	Yan	P042
Chen	Yi-Ju	P007
Chhabra	Amit	P103,P135
Chhabra	Seema	P092
Chinoy	Hector	P123
Chisholm	Anna	P123
Choe	Yong Beom	P010
Choquette	Denis	P033
Clegg	Daniel	P140
Coates	Laura C	P046
Cohen	Arnon D	P038,P040
Cohen	Stanley	P043
Connors	Dr. Sean	P016
Corominas	Hector	P100
Crow	J A	P056
Crowley	Jeffrey	P053,P118
Cuchacovich	Raquel	P102
Curtis	Jeffery R	P042
Curtis	Jeffery R	P043
Cutolo	Maurizio	P120
Czarnowicki	Tali	P099

D

Damiani	Giovanni	P139
Daniel	Shoshana	P130
Day	Robert	P118
De Jong	E	P056
de Vlam	Kurt	P101,P103
Delgado Alves	José	P098
Deren	Tağmaç	P104,P107
Disch	Damon	P032
Dogra	Sunil	P014,P048,P086,P092
Dorr	Alexander	P046,P117
Dräger	Sören	P142
Dutronc	Yves	P028

E

Edson Heredia	Emily	P027
Edwards	Christopher	P120
Efthymiadis	Konstantinos	P018
Egeberg	Alexander	P012,P040

Authors and presenters index

Eidsmo	Liv	P143
Ekman	Anna-Karin	P096
Emir	Biröl	P082
Enerbäck	Charlotta	P096
Erickson	Janelle	P029,P057,P058,P059, P102
Escalas	Juan	P041
Escamilla	Tilch	P081
Escudero	María Del Mar	P041
Escueta	Luella Joy	P017
Estrada	Paula	P100

F

Fakharzadeh	S	P056
Fakharzadeh	Steve	P044
Faleiro	Inês	P098
Fan	Haiyun	P042
Feldman	Steven	P036,P039,P125,P134
Ferdousi	Tahmina	P103
Ferran	Marta	P067
Ferrandiz	Carlos	P118
Ferreira	Paulo	P126
Flores	Rosa María	P063
Foley	Catherine	P127,P131
Foley	Peter	P038
Fox	Todd	P047,P049,P050,P051, P052
Franck	Johan	P021
Frazier	Don	P036
Fritz	Yi	P013,P097

G

Gabig-Cimińska	Magdalena	P144
Gabriel	Ma. Teresita	P017
Gallardo	Fernando	P067
Gallo	Gaia	P103
Garcia	Silvia	P100
García	Rosario	P063
García-Martínez	Pablo	P067
Garelli	Anna	P139
Geçbura	Katarzyna	P077,P078,P080
Geier	Jamie	P042
Geijer	Mats	P001
Gelfand	Joel M.	P020
Geng	Ziqian	P053
Giacaman	Aniza	P041
Gimeno	Ramon	P067
Girolomoni	Giampiero	P103,P119
Gislason	Gunnar	P012
Gisondi	Paolo	P103
Gladman	Dafna	P046,P117,P120
Glazkov	Alexey	P061
Gluhova	Svetlana	P022
Goldblum	Orin	P060
Golden	Jacklyn	P013
Gomez-Reino	Juan	P120
Gong	Yankun	P047,P051
Gooderham	Melinda	P044,P118

Gordon	Kenneth	P029,P057
Gottlieb	A B	P114,P116
Gottlieb	Alice	P035,P049,P102
Gottlieb	Alice B.	P045
Goulart	Alessandra	P011
Gouveia	Sofia	P098
Goyal	K	P056
Goyal	Kavitha	P044
Granados-Arriola	Julio	P081
Gravanis	Kostas	P111
Griffiths	Christopher	P051,P060
Griffiths	Christopher E M	P038
Griffiths	Christopher E.	P058,P059
Groft	Sarah	P097
Gudjonsson	Johann	P089
Guenther	L	P056
Guettner	Achim	P047
Guevara	Esther	P063,P081
Gül	Ülker	P104,P105,P107
Gulliver	Susanne	P016,P072
Gulliver	Wayne	P016,P072,P073,P079
Gupta	Pankaj	P034,P039,P040
Gupta	Sunil	P014
Gupta	Yask	P142
Guttman-Yassky	Emma	P099

H

Haidich	Anna - Bettina	P018
Handa	Sanjeev	P014,P048
Hansen	Peter Riis	P012
Harms	Paul	P089
Harnett	James	P082
Hashimoto	Jun	P106
Hazes	Mieke	P004,P075,P112
Hdnah	Ashref	P141
Heffernan	Michael	P058,P059
Heffernan	Michael P.	P029,P057
Heijde	D Van Der	P113
Heimberg	Linda	P142
Helander	Anders	P021
Helliwell	Phillip	P128,P135,P136
Higashiyama	Mari	P106
Hojnik	Maja	P046
Hollister	Kristin	P027
Hopkins	L	P056
Horn	Elizabeth	P131
Hsu	Ming-Ann	P006,P082,P103,P128, P129,P135,P136
Hu	ChiaChi	P118,P120
Huang	Jiaqing	P051,P052
Huang	Yu-Huei	P026
Hui	Rosaline Chung-Yee	P026
Huq	Mohammad Samiul	P132
Huq	Saleheen	P132
Husmark	Tomas	P001
Hutmacher	Matthew	P034

I					
Ikonomidis	Ignatios	P111	Kricorian	Greg	P035
Ito	Kaori	P034,P040	Krishnaswami	Sriram	P034
Ivanova	Mina	P024	Krueger	Gerald G	P044
Izadyari	Azadeh	P121	Krueger	James	P039,P099
J			Ku	Sang Hyeon	P008,P009
Jakóbkiewicz-Banecka	Joanna	P144	Külcü Çakmak	Seray	P104,P107
Janes	Jonathan	P032	Kumar	Santosh	P076
Jean	Christine	P030	Kumaran	Sendhil	P086
Jin	Hyunju	P005	Kwok	Kenneth	P043
Johnston	Andrew	P089,P097	Kye	Young Chul	P008
Jones	Heather	P101,P103,P128,P135, P136	L		
Jung	Ji Yun	P008	Lacour	Jean-Philippe	P028,P050
K			Lan	Shuping	P037
Kahlenberg	Michelle	P089	Landells	Ian	P055
Kalia	S	P056	Landewé	R	P113
Kandala	S	P115,P116	Langholff	W	P056
Kapniari	Irine	P108	Langholff	Wayne	P044
Karamparpa	Argiro Anna	P108	Langley	Richard	P029,P047,P057,P119
Karateev	Dmitrii	P061	Langley	Richard G	P035
Karreman	Maren	P004,P075,P112	Langley	Richard G B	P038,P039
Karunaratne	Mahinda	P070	Larsson	Per	P001
Katsimbri	Pelagia	P108	Le	Cathy	P130
Kaur	Mandeep	P037,P040,P042	Lebwohl	Dr. Mark	P133
Kavanaugh	A	P113,P114,P116	Lebwohl	Mark	P034,P038,P040,P058, P059,P060,P119
Kavanaugh	Arthur	P045,P046,P119,P120	Lee	Eun Bong	P042,P043
Keddy-Grant	Jill	P030	Lee	Kihoon	P074
Kerdel	Francisco	P044	Lee	Min Kyung	P008,P009
Kerr	Lisa	P102	Lee	Min Seok	P003
Khalid	Usman	P012	Lee	Min-Geol	P003
Khobzey	Kuzma	P124	Lee	Yang Won	P010
Kim	Byung-Soo	P005,P110	Lehman	Allen	P033
Kim	Dae Suk	P003	Lekakis	John	P111
Kim	Do Young	P003	Leonardi	Craig	P029,P035,P038,P051, P057
Kim	Kwang Joong	P008,P009	Lespessailles	Eric	P120
Kim	Min Seok	P009	Letourneau	Vincent	P033
kim	Minsung	P093	Levin	Ethan	P027
Kim	Soo Young	P010	Li	Joanne	P035
Kimball	A B	P056	Li	Shu	P045
Kimball	Alexandra B	P036	LI	Yihan	P117
Kingo	Küllli	P124	Li	Yumeng	P013
Kircik	Leon	P125	Ligozio	G	P114
Kirillova	Irina	P022	Lin	Yin-Ku	P026
Kirkham	B	P113,P114,P115	Lindqvist	Ulla	P001
Klekotka	Dr. Paul	P133	Loginova	Elena	P022,P061
Klekotka	Paul	P035	Lonne-Rahm	Sol-Britt	P021
Klekotka	Paul A	P125	Lotufo	Paulo	P011
Klenotic	Philip	P097	Löfvendahl	Sofia	P083
Koo	John	P027	Lucas	James	P006,P129
Koparal	Salih Suha	P104	Ludwig	Ralf	P142
Koparal	Salih Süha	P107	Luger	Thomas	P029,P057
Korman	Lucyna	P077,P078,P080	Luime	Jolanda	P004,P075,P112
Korotaeva	Tatiana	P022,P061	Luo	Yingchun	P039
Koumaki	Dimitra	P108,P111	Lynde	Charles	P030
Kremer	J	P115			

Authors and presenters index

M

MacDonald	Dr. Don	P016,P073
Macias	William	P032
Makavos	George	P111
Mallbris	Lotus	P006,P012,P034,P037, P038,P039,P040,P082, P101,P129,P130
Mamolo	Carla	P006,P037,P039,P082, P129,P130
Marcoux	Danielle	P054
Mariette	Xavier	P042,P043
Markelova	Evgenia	P022
Marren	Amy	P036
Martin	George	P042
Martin	Mona	P125
Martini	Elisa	P143
Marzo-Ortega	H	P116
Matsui	Minoru	P106
McCormick	Thomas	P013,P097
McIlraith	Melissa	P120
McInnes	I B	P113,P114,P115,P116
McInnes	Iain	P046
McInnes	Iain B.	P045
Mease	P	P113,P114,P115
Mease	Philip	P046,P102,P117,P120
Mebus	Charles	P034,P039
Mehta	Nehal	P051
Meisgen	Florian	P095
Melancia	Jaime	P126
Mena	Lourdes	P081
Menter	Alan	P025,P032,P044,P058, P059
Merola	Joseph	P037
Miljković	Jovan	P124
Milmont	Cassandra E	P035
Milmont	Dr. Cassandra E	P133
Mishina	Olesya	P122,P138
Moreno	Carlos	P081
Moskot	Marta	P144
Motallebi	Sogol	P121
Mpofu	S	P113,P114,P115,P116
Mpoumpas	Dimitrios	P108
Mrowietz	Ulrich	P064,P069
Mutebi	Dr. Alex	P133

N

Na	Chanho	P093
Nantel	Francois	P033
Narang	Tarun	P014,P048,P086,P092
Narula	Neha	P084
Narula	Tathagat	P084
Nash	P	P113
Nash	Peter	P043
Nasonov	Eugenie	P061
Nasonov	Eugeny	P022
Navarro	Vanesa	P100
Ndosi	Mwidimi	P128,P136
Nduaka	Chudy	P042
Nickoloff	Brian	P029,P057,P058,P059

Nijsten	Tamar	P004,P075,P112
Nikai	Enkeleida	P060,P066,P134
Nirula	Ajay	P035
Nordlind	Klas	P021
Novikova	Diana	P022

O

Ogdie	Alexis	P020
Oğuz	Işıl Deniz	P104,P107
Ohshima	Shirou	P106
Ohson	Kamal	P030
Ohtsuki	Mamitaro	P029,P057
Okun	Martin	P053
Olszynski	Wojciech	P033
Oon	Hazel H.	P031
Ortega-Hernández	Esteban	P081
Osuntokun	Olawale	P058,P059
Osuntokun	Olawale O.	P029,P057
Otawa	Susan	P033

P

Pai	Ganesh S	P065
Paiva-Lopes	Maria João	P098
Papadakis	Ioannis	P111
Papadavid	Evangelia	P108,P111
Papavassilis	Charis	P047
Papp	Kim	P032,P034,P035,P039, P044,P054,P058,P059, P102
Paraskevaidis	Ioannis	P111
Parasramani	Shrichand	P023,P068
Parikh	Minal	P076
Pariser	David	P044
Parissis	John	P111
Park	Chul-Jong	P110
Patsatsi	Aikaterini	P018
Paul	Carle	P035,P050,P058,P059, P119
Paul	Dipankar	P076
Paul	Dr. Carle	P133
Pavlidis	Georgios	P111
Pavlovsky	Lev	P124
Pearce	Christina	P123
Péč	Juraj	P124
Peifer	Kim	P135
Peramiquel	Laura	P100
Peshev	Zhivko	P024
Petersson	Ingemar F	P083
Phillipp	Sandra	P055
Piercy	James	P006,P129
Pierre-Dominique	Pierre-Dominique	P055
Pinto	Lionel	P125
Pivarcsi	Andor	P095
Pompilus	Farrah	P127,P131
Ports	William	P082
Potts Bleakman	Alison	P027
Pricop	L	P113,P114,P115,P116
Prinz	Joerg C	P049

Proulx	James	P036,P038
Puig	Lluís	P045
Puig	Lluís	P119
Pujol	Ramon M	P067

R

Radtke	Marc Alexander	P069
Rahman	P	P113
Rahman	Proton	P033,P045
Rajczyova	Zuzana	P019
Raman	Mani	P032
Rampakakis	Emmanouil	P033
Randazzo	Bruce	P045
Randell	Shane	P016,P072
Reich	Dr. Kristian	P133
Reich	Kristian	P035,P047,P051,P052, P058,P059,P060,P069, P119,P134
Reimers	Nadine	P064
Reina	Delia	P100
Reyes Servin	Ofelia	P070
Richards	H	P113
Rigopoulos	Dimitrios	P108,P111
Ritchlin	Christopher	P045
Ritchlin	Christopher T	P117
Roig	Daniel	P100
Rottinghaus	Scott T	P034,P038,P040
Rowan	Christopher	P002
Rubant	Simone	P117
Rustenbach	Stephan Jeff	P069
Ryan	Caitriona	P053

S

Sabbag	Cid	P011
Sadik	Christian	P141
Saeki	Yukihiko	P106
Saikia	Biman	P092
Salmhofer	Wolfgang	P071
Sampalis	John	P033
Santos	Itamar	P011
Saraswat	Megha	P076
Sashidharan	Nithin	P076
Sawatkar	Gitesh	P092
Scanlon	Michael	P125
Schaefer	Caroline	P130
Schett	Georg	P120
Secrest	Roberta	P058,P059
Sermon	Jan	P044
Severinova	Maria	P061
Shaikh	Saeed	P033
Sharifzadeh Baei	Mazyar	P121
Shawi	May	P033
Shear	N H	P056
Shen	Zhu	P090,P091
Sheriff	Maqbool	P033
Shields	Alan	P127,P131
Shin	Bongseok	P093
Shin	Daniel	P020

Shin	Dongyun	P003
Shrom	David S.	P029,P057
Shuler	Catherine	P102
Šimaljaková	Mária	P019
Simon	Daniel	P013
Singh	Shubhmohan	P014
Singh	Vinay	P015,P062,P088
Skov	Lone	P012
Smolińska	Elwira	P144
Sokolik	Renata	P077,P078,P080
Song	Michael	P045
Sonkoly	Enikő	P095
Sotiriadis	Dimitrios	P018
Soylu	Seçil	P105
Spehr	Christina	P069
Srivastava	Ankit	P095
Starr	Michael	P033
Steen Carlsson	Katarina	P083
Stokes	Jonathan	P127,P131
Stokkeland	Knut	P021
Strand	V	P116
Stähle	Mona	P095,P143
Sundaram	Murali	P127,P131
Šustrová	Elena	P019
Svensson	Åke	P083
Swanson	Robert	P038
Szegedi	Andrea	P124
Szumski	Annette	P101,P103,P135

T

Takeshita	Junko	P020
Tan	Huaming	P034,P039
Tanaka	Yoshiya	P043
Tatulych	Svitlana	P037,P038,P039
Tchetverikov	Ilja	P004,P075,P112
Teixeira	Henrique	P030
Teleman	Annika	P001
Terry	Ketti K	P042
Thaci	Diamant	P035,P054,P069
Theander	Elke	P001,P083
Theodoropoulos	Konstantinos	P111
Thirunavukkarasu	Krishan	P043
Thompson	John R	P038,P040
Tomita	Tetsuya	P106
Torii	Hideshi	P039
Torrente-Segarra	Vicente	P100
Toth	Darryl	P035,P134
Triantafyllidi	Helen	P111
Tsai	Tsen-Fang	P051
Tsuboi	Hideki	P106
Tsuji	Shigeyoshi	P106
Tyring	Stephen	P118
Tyring	Stephen K	P039,P040
Tzannis	Kimon	P108

Authors and presenters index

U

Uehara	Shinji	P106
Unnebrink	Kristina	P054,P055

V

Valdez	Hernan	P034,P040
Van de Kerkhof	Peter	P058,P059,P119
van der Ven	Myrthe	P004,P075,P112
Varoudi	Maria	P111
Vegfors	Jenny	P096
Verma	Anant Kumar	P014
Vidal	David	P100
Vis	Marijn	P004,P075,P112
Viswanathan	Dr. Hema N	P133
Viswanathan	Hema N	P125
Volkov	Alexander	P022,P061

W

Wade	Sally W	P125
Wakkee	Marlies	P075,P112
Walker	Ranjana M	P092
Walsh	Jessica	P140
Wang	Lisy	P043
Wang	Yunmei	P013
Ward	Nicole	P013,P097
Warren	Richard	P123
Warren	Richard B	P036,P117
Wasel	Norman	P118
Weel	Angelique	P004,P075,P112
Weger	Wolfgang	P071
Węgrzyn	Grzegorz	P144
Weibel	Lisa	P054
Weinberg	Jeff	P040
Weisman	Jamie	P118
Wikén	Maria	P143
Wiland	Piotr	P077,P078,P080
Williams	David A.	P054,P055
Winthrop	Kevin	P038,P040,P043
Wolf	Peter	P071
Wolk	Robert	P034,P038,P039
Wollenhaupt	Jürgen	P043,P120
Wolterink	Liza	P089
Wood	Robert	P006,P129
Wu	Chun-Ying	P007
Wu	Jashin	P002
Wysoczańska	Barbara	P077,P078,P080

X

Xing	Xianying	P089
Xu Landén	Ning	P095

Y

Yang	Jieun	P074
Yang	Wenjing	P125
Yilmaz	Özlem	P104,P107
Yoo	Jinho	P074
Yosipovitch	Gil	P066

You	Ruquan	P049,P050
You	Yin	P045
Yuan	J	P113

Z

Zaghi	Daniel	P025
Zhang	Li	P097
Zhang	Lu	P028,P058,P059
Zhang	Ying	P046
Zhao	Fangyi	P029,P057
Zhu	Baojin	P027,P066,P134
Zillikens	Detlef	P141
Zou	Linnea	P021
Zummer	Michel	P033



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To impart current scientific and clinical care information about psoriasis and psoriatic arthritis to medical professionals, industry representatives and patient associations so they can collaborate to develop an international agenda to improve the understanding of psoriasis and psoriatic arthritis and access to care throughout the world.

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- Bring medical professionals, industry representatives and national psoriasis association representatives from around the world together to examine current information about psoriasis and psoriatic arthritis.
- Encourage collaboration on developing future research and advocacy initiatives.
- Increase the global recognition of the seriousness of these diseases.
- Improve the quality of life of people who have psoriasis and psoriatic arthritis.
- Develop a broader international perspective of psoriasis and psoriatic arthritis.
- Increase medical professionals' awareness of the value of nonprofit psoriasis associations, the role they play in assisting the medical communities and the value in supporting their efforts.
- Build partnerships with the medical professionals, researchers and the pharmaceutical/ biotechnology industry.



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