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- Psoriasis and suicidality: A systematic review and meta-analysis
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IPC’S SEMI-ANNUAL REVIEW OF THE TOP 5 PAPERS: JULY–DECEMBER 2017

Every 6 months, IPC’s board and councilors recommend and vote on articles that make the greatest impact on psoriasis research. The 5 papers that received the most votes for articles published July through December 2017 are reviewed here. Summaries and commentaries were written by this issue’s co-editors, Dr. Colby Evans, Evans Dermatology, Austin, Texas, United States, and Dr. Nancy Podoswa, Hospital General Regional No. 1 Dr. Carlos MacGregor Sanchez Navarro, Mexican Institute of Social Security, Mexico City, Mexico.

1. Residual T-cell clones in both active and resolved psoriatic plaques may reinitiate disease if treatment stops


Summary

Much has been learned in recent years about the local pathogenesis in psoriatic plaques, including the development of targeted treatments to influence the underlying biology. This study looked at plaques that were clinically resolved after treatment to assess the local T-cell population and presence of Interleukin (IL)-17, a key cytokine in the pathogenesis of psoriasis. Oligoclonal populations of T cells were analyzed to try to discern and quantify putative pathogenic T-cell clones. Skin samples were obtained from psoriatic plaques, resolved plaques (successfully treated with either etanercept or phototherapy), unaffected skin in psoriatic patients, and normal controls undergoing cosmetic procedures. High-throughput screening of the CDR3 region of the T-cell receptor and immunostaining for clonality and cytokine production were applied to these specimens. These techniques compared the same plaque before and after clearance with treatment and found oligoclonal populations of T cells in both. Clonal T cells were most common in the active plaques but were more common in the resolved plaques (93% reduction from active disease) than in normal skin of the same patient. This finding may imply that these residual T-cell clones set the stage for recurrence of disease at the same site if treatment is stopped. Further study of these clonal T cells in both active and resolved plaques demonstrated that they produce IL-17 and IL-22, key mediators of psoriasis, and that they have a psoriasis-specific TCR repertoire which was not seen in normal skin or other skin diseases.
Dear colleagues,

We are pleased to share the July issue of the IPC Psoriasis Review newsletter with you. We are midway into 2018 and have been busy these past few months holding educational symposia, launching new CME activities on our website, and convening our psoriasis experts to advance our work to define moderate psoriasis, clarify our research priorities, and further the development of the Global Psoriasis Atlas project.

In addition to our continued efforts on these projects, I am pleased to highlight an initiative we launched earlier this year, the IPC International Fellowship Program. Available to early-career dermatologists-in-training or junior faculty who want to improve their abilities to care for patients with psoriasis and develop effective leadership skills, this program aims to foster the next generation of psoriasis leaders. While participating in this yearlong program, selected fellows are paired with IPC board members or councilors to gain real-world experience in clinical practice and laboratory research. Additionally, IPC fellows will participate in an international dermatology congress during the year and will be invited to join IPC activities and attend our annual Think Tank meeting.

For this first-year program, we received a number of applications from highly qualified candidates from around the world, ultimately selecting 3 young professionals from Chile, China, and the Czech Republic. Next year, we hope to expand the program to include 5 fellows. See page 21 to learn more about this year's fellows.

This new initiative is an example of IPC's ongoing efforts to grow global expertise and leadership in the field of psoriasis. By leveraging the deep knowledge of IPC's network of councilors through education programs, events, and other endeavors, we will increase our ability to influence the care and treatment of people with psoriasis around the world.

Another newly-launched initiative, IPC's Psoriasis Master Class program, will help practicing dermatologists increase their understanding of psoriasis and treatment by providing a complete overview of disease pathogenesis, current therapies, and treatment considerations. Earlier this year, we held our first Master Class in Mumbai, India, with 50 dermatologists from around the country participating in this 1½-day program. In November, we will be offering another Master Class in Barcelona, Spain, and are planning to hold similar classes in the United States and Latin America in the coming year. You can read more about our Master Class in India on page 23.

As these two endeavors illustrate, IPC's educational programs and activities are playing important roles in enhancing the skills of dermatologists and other health care professionals worldwide. They provide opportunities for practitioners to deepen their expertise and to carry our work forward into their universities, clinics, and communities.

As a global network of psoriasis experts, thought leaders, and professionals committed to enhancing care, the IPC is uniquely equipped to affect how psoriasis is understood and treated throughout the world. By continually advancing and sharing our knowledge about this disease through our core areas of education and research, we will be able to build expertise in the medical community and influence better patient outcomes.

We look forward to expanding these important efforts and hope you will continue to engage with us as we strive toward our vision of a world free of psoriasis.

With best wishes,

Alexa Boer Kimball, MD, MPH
President, International Psoriasis Council
COMMENTARY Our understanding of the cellular and cytokine activity in active psoriatic plaques has grown tremendously in the last 20 years. Furthering that understanding will require studies such as this that look at the immunologic tableau during or after treatment and in recurrence. This study establishes that populations of long-lived clonal T cells exist in active psoriatic plaques but also in resolved plaques and therefore may stand ready to reinitiate the inflammatory cascade if triggered or if treatment is withdrawn. Even in clinically resolved lesions, these clonal T cells continue to produce IL-17, indicating that they have not been destroyed or deactivated but simply suppressed by the successful treatment. As the authors point out, better understanding of these persistent clonal T-cell populations could potentially lead to treatments that can kill or inactivate these populations, possibly leading to longer-term control of psoriasis.

– Dr. Colby Evans
Patients with psoriasis have increased odds of all aspects of suicidality compared to the general population


**Summary**

Although psoriasis has been associated with a high prevalence of a wide range of psychiatric comorbidities, including all aspects of suicidality (ideation, suicidal attempts, and completed suicides), few studies have addressed the relationship between psoriasis and the latter.

In order to shed light on the epidemiological association between psoriasis and suicidality, the authors conducted a systematic review and meta-analysis of PubMed, EMBASE, PsyclINFO, and Cochrane databases. The search was limited to English-written studies and included studies published from database inception (1946) to 2017. Inclusion criteria applied were noninterventional studies, study participants 18 years or older, documented psoriasis diagnosis, and documented suicidality, which had to be a primary or secondary endpoint and assessed in conjunction with psoriasis and numerically reported.

Eighteen studies were identified with a total of 1,767,583 participants, of whom 18.6% had psoriasis. The study showed that patients with psoriasis have increased odds of all aspects of suicidality compared to the general population, with suicidal ideation the most pronounced. Patients with psoriasis are twice as likely to contemplate suicide and have a 32% higher likelihood of attempting suicide and 20% higher likelihood of completed suicide. A subanalysis demonstrated that the prevalence of suicidality presents a direct relation with the severity of the disease and that younger patients were more likely to experience suicidality than older patients, putting them especially at risk of suicidal behavior.

**COMMENTARY**

Despite the fact that many reports have confirmed a higher prevalence of depression and anxiety among psoriatic patients, few have addressed suicidality, and many of these studies have claimed that the risk of suicidal ideation and/or suicidal behavior is not increased in this population. Nevertheless, the present study, despite some limitations, shows that psoriasis can have a substantial emotional impact on an individual, with high rates of suicidality among patients with the disease.

Besides direct effects of psoriasis (isolation, itch, sleeplessness, etc) contributing to psychiatric comorbidity in these patients, shared inflammatory pathways and/or an elevated inflammatory state provided by psoriasis may affect the development and progression of psychiatric diseases, including suicidality.

This finding has important implications in the integral management of psoriasis. Dermatologists and others involved in the care of patients with psoriasis should consider and recognize this association so that those suffering from suicidality can be identified. Then, effective interventions can be established aimed at controlling and reducing the severity of the skin disease as well as this potentially lethal comorbidity.  

– Dr. Nancy Podoswa
3. Study validates IL-36 as a target for novel psoriasis therapies, paving way for new line of treatment


**Summary**

Interleukin (IL)-36 (α, β and γ) are a family of IL-1 cytokines (usually produced in response to viral infection or skin trauma) sharing a common receptor with immunomodulatory effects. Loss-of-function mutations of an antagonist of the IL-36 receptor gene have been found in generalized pustular psoriasis, suggesting a role for IL-36 activation in the disease. There are also multiple lines of genetic and laboratory evidence connecting IL-36 to plaque psoriasis. This study aimed to further the analysis of IL-36 as a potential target for new therapies in psoriasis.

The first portion of the study treated keratinocytes with IL-36 and found that the genes upregulated after exposure were those genetically mapped to psoriasis but not to other diseases used as negative controls, implying that increasing levels of IL-36 have the potential to trigger psoriasis. Further analysis showed that 56% of keratinocyte genes upregulated by IL-17 (a fundamental cytokine in psoriasis pathogenesis) were also in the set upregulated by IL-36 exposure. Keratinocytes exposed to IL-36 also demonstrated further increases in IL-36 production (a positive feedback loop) and attracted TH17 cells and potentiated IL-17 production, which may help explain the continuous inflammation seen in psoriatic plaques.

The authors then analyzed mice that were pretreated with an IL-36 inhibitor and exposed to imiquimod to induce psoriasiform dermatitis. Mice so treated demonstrated significantly (30%) less acanthosis as well as less neutrophil infiltration compared to those treated with imiquimod alone. Although blunted, treatment with IL-36 blockade did not prevent psoriasiform dermatitis in this model.

Lastly, using a genetic registry, the authors identified 12 individuals who had homozygous mutations in the IL-36 receptor gene to ascertain if loss of IL-36 function might be dangerous. Reviews of their medical histories found no pattern of infections or cancers. Six of these patients underwent further testing, including normal blood tests and appropriate increase in levels of IL-17 when their peripheral blood mononuclear cells were exposed to vaccines.

**COMMENTARY**

Future improvements in psoriasis treatment will likely rely on the discovery of new immunologic pathways involved in the pathogenesis of different disease subtypes. This study cleverly demonstrates the potential relevance of IL-36 in psoriasis pathophysiology and the immunologic health of patients who are genetically deprived of its function. Although it is far from demonstrating clinical relevance and safety, IL-36 blockade may be an avenue to consider for the next line of psoriasis treatment, especially in pustular psoriasis, where few convincingly effective treatments exist. — CE
4. Imaging of coronary arteries in patients with psoriasis shows high-risk plaque formation that improves with treatment


**Summary**
This important paper by Lerman et al looks to further establish the connection between inflammation in psoriasis and the risk of coronary artery disease. While it is known that psoriasis is associated with an increased risk of myocardial infarction and a variety of coronary risk markers, this study compares imaging of the coronary arteries in patients with psoriasis and controls to assess relative damage. Patients with psoriasis, patients with hyperlipidemia who were approximately 10 years older than the psoriasis patients, and healthy volunteers all underwent coronary computed-tomography angiography to assess for total coronary plaque burden, noncalcified burden, and the presence of high-risk plaques. Total burden and noncalcified burden have previously been established to prospectively predict cardiac events. Patients with psoriasis exhibited significantly more total burden, noncalcified burden, and high-risk plaques than healthy volunteers. Psoriasis was strongly associated with high-risk plaque formation (about 6 times higher than the healthy population and independent of traditional cardiac risk factors). Compared to older patients with hyperlipidemia, psoriasis patients had increased noncalcified plaque burden and a similar number of high-risk plaques despite being younger and having fewer traditional risk factors. The first 50 patients with psoriasis were followed for 1 year and then re-imaged. Interestingly, when the Psoriasis Area and Severity Index (PASI) had improved over that year, there was a significant improvement in both the total plaque burden and the noncalcified burden after adjustment for other coronary risk factors. When the PASI worsened during the year, there was an increase in noncalcified plaque burden.

**COMMENTARY** This paper adds significantly to the increasing evidence that psoriasis is not only associated with coronary disease, but that inflammation is at the heart of both conditions. Psoriasis may be a “hidden risk factor” that, so far, is not commonly considered alongside lipids, blood pressure, and obesity. Even when a patient with psoriasis has few traditional cardiac risk factors, it is important for dermatologists and other physicians to consider that patient’s cardiac risk similar to that of a higher-risk, older patient. Prevention (diet, exercise), cardiac monitoring, and possibly even interventions (such as statins) may be necessary in patients with psoriasis when they would not be in a similar patient who does not have psoriasis. The other key message of this paper is that treating psoriasis successfully shows, even in just one year, improvement in signs of cardiac risk. As we consider how aggressively to treat moderate to severe psoriasis, we must consider the mounting evidence that reducing body-wide inflammation will not only help the patient’s skin and joints, but also may lower the risk of serious and even fatal comorbidities. Psoriasis is a systemic disease, and dermatologists must continue to look to educate colleagues and monitor patients using a team approach to treat not only the skin, but the serious potential complications of chronic inflammation.

– CE
5. Study provides additional evidence that reducing psoriasis severity also reduces vascular inflammation


**Summary**

Vascular inflammation demonstrated by fluorodeoxyglucose positron emission tomography/computed tomography (FDG PET/CT) is an important biomarker of cardiovascular risk, and psoriasis, especially in its severe forms, has been associated with vascular inflammation by FDG PET/CT, suggesting a relationship between skin inflammation and vascular disease.

This is an observational prospective cohort study intended to investigate the association between improvement in skin disease and consequent improvement in aortic vascular inflammation, as well as to characterize the impact of anti-TNF therapy on vascular inflammation.

Using vascular inflammation by FDG PET/CT as a primary outcome, the authors hypothesized that improvement of psoriasis severity would be associated with improvement of vascular inflammation at one year. A total of 115 patients were recruited and followed up to a year. The study group was middle-aged (mean 50.8 years), predominately male, had a formal diagnosis of moderate plaque psoriasis (mean PASI score 5.2), and were at low cardiovascular risk by the Framingham Risk Score. All of the patients underwent FDG PET/CT scans at baseline and at 1 year, and all the scans were read in a blinded fashion to patient characteristics.

Psoriasis was treated with different therapeutic modalities, including topical, phototherapy, systemic, and biologic treatments. Psoriasis severity was associated with vascular inflammation at baseline. At 1-year follow-up, the cohort had an improvement in different inflammatory biomarkers, including high-density lipoprotein cholesterol level and high-sensitive C-reactive protein. Reduction in skin disease severity was associated with reduction in vascular inflammation and the greater the improvement in psoriasis severity (PASI > 75) the greater the improvement in vascular inflammation. A subgroup analysis of anti-TNF-treated patients demonstrated significant reduction in psoriasis severity as well as significant improvement in vascular inflammation.

**COMMENTARY**

This study offers further evidence of the systemic nature of psoriasis and how its control provides a beneficial effect on vascular inflammation, shown by the improvement demonstrated by highly sensitive vascular imaging modalities, in this case FDG PET/CT, as well as amelioration in inflammatory biomarkers. Though not designed to prove causality, the findings in this study suggest that reduction in severity or clearance of the disease can have potential impact in decreasing future cardiovascular events and, hence, cardiovascular morbidity-mortality. Some observational studies have already reported a reduction in the incidence of vascular disease in patients with well-controlled psoriasis. Randomized clinical trials with prolonged observation periods will be needed to confirm this hypothesis.  

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The International Psoriasis Council (IPC) is pleased to announce a series of **accredited education programs** designed for clinicians managing patients with psoriasis. These programs will provide clinicians with an informative and engaging online learning experience delivered by the leading experts in psoriasis.

**TOPICS:**
- Patient behavioral factors
- Comorbidities and complications
- Treatment approaches based on individualized patient needs
- Newer therapies available for treatment of psoriasis

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**Individualizing Treatment in Psoriasis: Empowering You and Your Patients to Make Well-Educated Decisions as a Team**
On-demand webcast filmed at the 2017 American Academy of Dermatology Annual Meeting
*Program chair: Alan Menter, MD; Program faculty: April Armstrong, MD, MPH, & Christine Bundy, PhD, C Psychol AFBPS*
2.0 AMA PRA Category 1 Credit(s)™; Program expires 8/2018

**Advances in Psoriasis: A Focus on Emerging Therapies and Approaches to Treatment**
On-demand webcast filmed at the 2017 European Academy of Dermatology and Venereology Congress
*Program chair: Peter van de Kerkhof, MD, PhD; Program faculty: Claudia de la Cruz, MD, & Mark Lebwohl, MD*
1.5 AMA PRA Category 1 Credit(s)™; Program expires 10/2018

**Clinical Challenges in Psoriasis: Raising the Standard of Care**
On-demand webcast recorded during a Live WebEx
*Program chair: Peter van de Kerkhof, MD, PhD; Program faculty: Caitriona Ryan, MD, & Jashin J. Wu, MD*
1.0 AMA PRA Category 1 Credit(s)™; Program expires 11/2018

**Comorbidities and Psoriasis: Challenging Cases from World Experts**
Two interactive case-based activities designed to improve your skills in managing complex cases: Psoriasis, metabolic syndrome and pregnancy; Psoriasis treatment and managing the risk of lymphoma
*Program chair: Alan Menter, MD; Program faculty: Elise Kleyn, MD, PhD*
1.0 AMA PRA Category 1 Credit(s)™; Program expires 6/2019

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These programs are provided through the joint providership of the A. Webb Roberts Center for Continuing Medical Education of Baylor Scott & White Health, Dallas, and the International Psoriasis Council. These activities are supported by educational grants from Janssen Scientific Affairs, LLC, Lilly, and Sun Pharma.

Learn more at [www.psoriasiscouncil.org/cmeonline](http://www.psoriasiscouncil.org/cmeonline)
Neuroimmunology of the skin, genetics, immunology & economic impact of biologics among psoriasis-related topics discussed at international dermatology meeting

By Thomas Scharnitz, MD

Thomas Scharnitz received his medical degree at Pennsylvania State University and completed his intern year in internal medicine at the University of Virginia. He is currently in his second year of training as a resident physician at the University of Michigan Department of Dermatology.

The International Investigative Dermatology (IID), composed of the United States-based Society for Investigative Dermatology (SID), the European Society for Dermatologic Research (ESDR), and the Japanese Society for Investigative Dermatology (JSID), held its 7th and final meeting in May 2018 in Orlando, Florida. Every 5 years since 1989, the IID has brought together some of the finest investigators across all fields of dermatology. This international collaborative organization will now officially become the more inclusive International Society of Investigative Dermatology (ISID) and will hold its first meeting in Asia in 2023. This final IID meeting in May highlighted some of the most exceptional minds in investigative dermatology, with many prominent and up-and-coming psoriasis investigators showcasing their achievements.

On opening day, the IPC presented a forum featuring lectures that focused on “Psoriatic Disease Mechanistic Scenarios.” Co-chairs for the forum were IPC Councilors Johann Gudjonsson, MD, PhD, of the University of Michigan, United States, and Hervé Bachelez, MD, PhD, Hôpital Saint-Louis and Sorbonne Paris Cité Université, France. Presentations covered a wide spectrum of topics from the genetics of psoriasis variants to modeling psoriatic inflammation in mouse models. The IPC symposium closed with an array of exceptional poster presentations from a variety of international investigators.

The following are summaries of significant psoriasis-related lectures presented by IPC councilors and other international psoriasis experts at the IID meeting.

SID Rising Star Lecture
For the opening ceremonies, Dr. Gudjonsson, an investigator in both psoriasis and autoimmunity, was chosen by his SID peers to present one of 3 prestigious “Rising Star Lectures” on his group’s research on “Sexual Dimorphism in Autoimmunity.” His lecture detailed their research regarding the differences commonly encountered between sexes in autoimmune conditions. They performed RNA sequencing (RNA-Seq) on 82 healthy patients, revealing 661 gender-biased genes and identifying the transcription factor VGLL3 as the regulator for more than 200 female-biased genes, half of which are implicated in autoimmune conditions. VGLL3 mRNA level in female skin was near 5-fold of that in males by qPCR, and VGLL3 knockdown in female cells decreased the mRNA levels of other female-biased, SLE-associated genes (including BAFF, ITGAM, etc). Furthermore, VGLL3 overexpression in transgenic mouse models resulted in striking skin phenotypes mimicking human lupus both clinically and histologically, with an accompanying type-1 interferon (IFN-1) signature, also characteristic of lupus. Initial evidence suggests VGLL3 is epigenetically regulated, and additional studies are vital to further elucidate its expression.

Neuroimmunology of the skin
As part of a session entitled “Neuroimmunology of the Skin,” IPC Councilor Nicole Ward, PhD, of Case Western Reserve University, Ohio, United States, who serves as SID chair, described a study she and her team conducted. Using 3 psoriatic mouse models (KC-Tie2, imiquimod, and IL-21), the researchers denervated mice at the midline and found ipsilateral clinical resolution of psoriasiform plaques, as well as significant early and sustained decreases in CD11+ dendritic cells, acanthosis, and CD4+ T-cells. They also performed PCR microarray of the dorsal root ganglia, revealing pronounced elevations in substance P (SP) and calcitonin gene-related peptide (CGRP). Remarkably, both denervated mice with SP/CGRP reintroduction and innervated mice with substance blockade showed that SP and CGRP affect T-cell populations, CGRP alone affects keratinocytes, and SP alone affects dendritic
cells. Translating to the clinical setting, they used Botox on KC-Tie2 mice and demonstrated lesion clearance comparable to the surgical hemi-denervation. Clearance of a human psoriatic plaque s/p Botox injection was also demonstrated on a patient in collaboration with Dr. Erin Gilbert, New York, United States, with sustained response until 7 months. Her ongoing, intriguing research re-emphasizes the complex pathogenesis and circuitry of psoriasis.

**Genetics & Immunology**

Ankit Srivastava, PhD, of the Karolinska Institutet, Stockholm, Sweden, expanded on her group’s prior work in psoriasis processes that displayed miRNA involvement in keratinocyte (KC) differentiation, T-cell apoptosis, and KC-immune cell crosstalk. To assess the cell-specific miRNomic signature, they analyzed the miRNome of CD45- epidermal cells from healthy controls and both lesional and non-lesional skin via RNA-sequencing. They detected differential expression of 104 known and novel miRNAs, identifying miR-149 as significantly downregulated miRNAs in lesional skin. They demonstrated that miR-149 negatively regulates the IFN-γ-induced inflammatory response (IL-6 expression) in keratinocytes, suggesting that miR-149 downregulation may play a contributing role in pathogenesis and warranting future functional studies of miRNAs and topical therapeutic targets.

Type-3 innate lymphoid cells (ILC3s) are increased in peripheral blood, lesional, and non-lesional skin in patients with psoriasis, yet their role in its pathogenesis has yet to be clarified. By injecting purified cell lines into the SCID/beige mouse model, Amos Gilhar, PhD, of the Russell Berrie Nanotechnology Institute, Haifa, Israel, demonstrated that all positive control mice (IL2-activated peripheral blood mononuclear cells [PBMCs]), zero negative control mice (CD3-NKp44-), and 83% of mice injected with TH17/Tc17 cells developed psoriasis lesions in the human xenografts. Importantly, as hypothesized, purified ILC3s from PBMCs induced psoriasiform lesions in 77% of mice, with both characteristic macroscopic and histologic features. The study provides the first functional evidence of ILC3s producing psoriasiform lesions in human skin in vivo, necessitating further investigation into the early pathogenesis and possible novel therapeutic targets.

Many patients with psoriasis commonly possess residual plaques of 1-5% total body surface area (TBSA). Kathleen Smith, PhD, AbbVie, Massachusetts, United States, compared skin biopsies assessing mRNA gene expression, histology, and fluorescent-activated cell sorting (FACS) of skin hematopoietic cells in residual psoriasis plaques vs. untreated psoriasis and healthy controls. mRNA gene expression revealed similar characteristics in all plaques; residual plaques retained key active psoriasis pathways, expression and signaling of common psoriasis cytokines and chemokines, and no new pathways emerged. Histology of residual plaques revealed focal suppression, with active dermal immune aggregates beneath active areas and resident inflammatory cells. They hypothesized that the inflammatory load is higher in select psoriatic plaques and such plaques do not respond to conventional doses or monotherapy. They posit that future combined approaches to attack separate arms of the inflammatory circuit may clear residual plaques.

**Biologics/Therapeutics**

Risankizumab is a novel anti-Interleukin (IL)-23 agent targeting the p19 subunit. In a randomized phase 2 clinical trial, Tibor Pakozdi, PhD, Harvard University, Massachusetts, United States, compared clinical efficacy and RNA-seq data of rizankizumab (single 18-mg dose at week 0, or 90- or 180-mg doses at weeks 0, 4, and 16) against ustekinumab. The research group demonstrated superiority of the rizankizumab 90- and 180-mg arms in the proportion of patients achieving PASI 90 by week 12. RNA-seq differential gene expression analysis of 58 matched biopsies confirmed specific inhibition of relevant disease activity biomarker genes and IL-23 associated signaling pathways, with clear dosage effects. Regarding the magnitude of repression on the IL-17/23 axis and psoriasis genes, the 180-mg risankizumab arm proved superior and 90-mg arm equal to ustekinumab. The reduction in signature correlated with PASI response.

Biologics are often favored over systemics, given superior response rates, but important questions regarding serious side effects remain. Using the British Association of Dermatologists Biologic Interventions Register (BADBIR, a psoriasis pharmacovigilance registry), Kayleigh Mason, PhD, University of Manchester, United Kingdom, investigated...
keratinocyte carcinoma (KC) via hazard ratios of chronic plaque psoriasis patients with no prior KC history upon initiation of a first biologic or systemic therapy. Her study demonstrated no significantly increased risk for developing an initial KC for patients treated with biologics, suggesting the safety of such medications in at-risk populations. Dr. Mason plans to follow these cohorts over extended periods, considering the study’s relatively brief median follow-up (2.5 years) when compared to KC pathogenesis.

Rosa Ejarque, PhD, King’s College, London, United Kingdom, on behalf of the the Psoriasis Stratification to Optimise Relevant Therapy (PSORT) Consortium, sought to identify the effect of adalimumab’s cellular and molecular targets by monitoring translocation of nuclear factor κB (NF-κB), which facilitates entry of pro-inflammatory cells and keratinocyte proliferation. Blood samples of 20 psoriatic patients were monitored at baseline and throughout treatment with adalimumab. The samples were stimulated with TNF, IL-17, or TNF+IL17, and NF-κB levels were quantified using Fishers Discriminant ratio. Dr. Ejarque found that TNF induces NF-κB translocation in psoriasis immune cells, whereas IL-17 has no outright or synergistic effect. Adalimumab strongly inhibited TNF-induced NF-κB translocation in lymphoid cells (with lesser extent on dendritic cells and no effect on monocytes or neutrophils). Interestingly, this mechanism did not alter the clinical response; inhibition of TNF-induced NF-κB translocation by adalimumab did not correlate with the mid-term response to treatment.

The increased risk of major adverse cardiovascular events (MACE) and related mortality in psoriasis patients is well established, with many critical studies coming from IPC Councilor Joel Gelfand, MD, MSCE, University of Pennsylvania, United States, and his team. Here, they aimed to determine the impact of adalimumab and phototherapy (nbUVB) on aortic inflammation (using novel 18PET-FDG imaging), inflammatory biomarkers, lipid function, and metabolism. There was no significant difference in change in aortic inflammation for either group (adalimumab at 12 and 52 weeks [open label], nbUVB at 12 weeks) when compared to placebo. At 12 weeks, nbUVB did improve HDL-P, CRP, and IL-6, and adalimumab improved CRP, TNF-α, IL-6, and GlycA. At 52 weeks, adalimumab demonstrated impairment in HDL, had neutral impact on insulin metabolism, and had mixed effects on inflammation (CRP, TNF-α, GlycA decrease; IL-6 increase). They concluded that MACE improvements in studies of TNF-i may be mediated through mechanisms beyond vascular inflammation, such as reductions in inflammatory markers (e.g. GlycA, biomarker predictive of coronary disease).

Alessio Mylonas, MSc, University of Lausanne, Switzerland, studied the mechanism of paradoxical psoriasis (affecting 2-5% of patients treated with anti-TNF) and found overexpression of IFN-1 when compared to classic plaque psoriasis. Using a novel mouse model with anti-TNF treatments, they demonstrated early plasmacytoid dendritic cell infiltration with loss of maturation, and an ensuing marked increase in IFN-1 expression. They subsequently found that paradoxical psoriasis inflammation is independent of T cells, and that paradoxical psoriasis models were devoid of CD8+ T cells. When studying the histologic cytokine profile of lesions, IL-17 blockade was completely ineffective, IFN-γ blockade explicitly worsened the phenotype, and blockade of IL-22 nearly abated the phenotype, suggesting that IL-22 is a key downstream mediator of IFN-1. Further supporting this theory was upregulation of the IL-22 receptor-α1, suggesting the epithelium in paradoxical psoriasis may be primed for an IL-22 inflammatory response.

**Epidemiology/Outcomes**

A cross-sectional study conducted and presented by Nazanin Ehsani-Chimeh, MD, University of Southern California, United States, assessed the economic impact of psoriasis on patients taking biologics compared to oral therapies. Using household income from 2003-2015 through the Medical Expenditure Panel Survey (MEPS) and adjusting for inflation, the authors compiled data using personal economic indicators of age, sex, race, ethnicity, education status, and insurance. Using multiple regression analyses, the authors concluded that patients with psoriasis on biologic therapies reported greater economic gains with significantly increased wage earnings.

Similar to the above study, Nicole Salame, BA, also of the University of Southern California, reported on a study that compared the psychologic distress of patients with...
psoriasis using biologics vs. oral therapies. The study’s authors used MEPS data and assessed across three scales (K6, PHQ-2, SF12-v2), measuring psychologic distress and mental health. They found significant improvements across all scales in patients receiving biologic therapy compared to those on oral therapies, concluding that patients on biologic therapies experience significantly less distress and improved mental health outcomes. Additionally, they highlighted the importance of dermatologists screening for mental health in patients with psoriasis.

Disparities in outpatient dermatologic care remain a complex, vital issue across the United States. Using MEPS data, Raghav Tripathi, BA, Case Western Reserve, United States, analyzed 10,000 patients diagnosed with a dermatologic condition from 2007-2015. The authors used a multivariate logistic regression model on self-reported factors such as age, race, education, insurance, income, etc, and assessed the primary outcome of receiving outpatient dermatologic care. They found significant disparities in odds ratios regarding race (black, OR = 0.41, and Hispanic, 0.54), low income (0.5), age (< 34 years, 0.29) and uninsured (0.48) patients, emphasizing an urgent need to improve access to, and utilization of, dermatologic care for these patient populations.

Despite dementia’s prevalence in society, there remains a paucity of studies regarding dementia in patients with psoriasis. In her presentation, Krystal Mitchell, MD, Northwestern University, United States, focused on the prevalence of dementia in patients aged 40-89 with chronic psoriasis in a large retrospective analysis of more than 150,000 patients. Using a multivariate regression model adjusting for age, race, and gender, they found a significantly increased risk of dementia in all patients with psoriasis (adjusted odds ratio of 1.30) and significantly higher risk in females (aOR 1.38). The authors note the importance of further exploration into the clinical relevance, management strategies, and stratification of dementia subtypes, specifically vascular dementia.

Conclusion
As evidenced by the 7th and final IID meeting, psoriasis remains at the vanguard of dermatologic research. Whether in genetics, epidemiology, therapeutics, or novel topics, investigators continue to expand our knowledge of psoriasis and its mechanisms. With continual advances in dermatology, one can only imagine what breakthroughs will arise by the inaugural ISID meeting in Asia in 2023. ISID’s inclusion of new societies and colleagues will build on the IID’s longstanding trend of innovation and excellence. IPC researchers and other psoriasis investigators will undoubtedly continue to provide vital contributions to the care of patients who live with the disease.
ADDRESSING THE TOUGHEST DERMATOLOGY CHALLENGES TAKES ALL OF US.

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IPC’s ‘What’s new’ symposium explores topics including nail psoriasis, new-molecule therapies, anti-IL-23 drugs, therapeutic updates

By Daniela Armijo, MD

Daniela Armijo is a 3rd year dermatology resident in the Faculty of Medicine at the University of Chile. She is the author of 4 international publications and has presented cases at La Reunión Anual de Dermatólogos Latinoamericanos (RADLA). Dr. Armijo holds a special interest in combining clinical practice and laboratory research and in the integral management of psoriasis. Earlier this year, Dr. Armijo was named a 2018 IPC Fellow and will study with IPC Immediate Past President Professor Chris Griffiths at the University of Manchester in the United Kingdom.

As part of the 36th Reunión Anual de Dermatólogos Latinoamericanos (RADLA) held in Cancun, Mexico, in April, the IPC sponsored a symposium titled “What’s New in Psoriasis: An Update by the International Psoriasis Council.” Following are summaries of the lectures presented during the symposium.

Meta-analyses of psoriasis treatments: Results and practical approach
IPC Councilor Dr. André V. Esteves de Carvalho, Brazil, presented a critical review of these recently-published meta-analyses related to psoriasis treatment.

Systemic pharmacological treatments for chronic plaque psoriasis: a network meta-analysis
This network meta-analysis of various psoriasis treatment strategies reviewed the results of 109 randomized controlled trials (RCTs) that involved 39,882 patients with moderate to severe psoriasis or psoriatic arthritis. The objective of the study was to compare the safety and efficacy of conventional systemic, small molecules, biologics (anti-TNF-α, anti-IL12/23, anti-IL17, anti-IL23), and other biologics (alefacept, itolizumab). This meta-analysis demonstrated that biologic drugs were more effective at achieving PASI 90 during the induction phase (< 24 weeks after randomization) than small-molecule and conventional systemic treatments. No differences were found between drugs and placebo regarding the risk of serious adverse events.¹

Topical treatment for scalp psoriasis
This meta-analysis included 59 RCT studies involving 11,561 patients evaluating the efficacy and safety of topical treatments for scalp psoriasis. According to the results, a corticosteroid-vitamin D combination (e.g. betamethasone dipropionate plus calcipotriol) and corticosteroids of high and very high potency were more effective and caused fewer adverse events than vitamin D alone. Only a slim benefit of the 2-compound combination over the corticosteroid monotherapy was noted. Evaluation of other topical treatments was limited.²

Impact of biologic therapy and risk of major cardiovascular events (MACEs) in patients with psoriasis: systematic review and meta-analysis of randomized controlled trials
This large meta-analysis examined the risk of MACEs in adult patients with plaque psoriasis who are exposed to biologic therapies. A total of 38 RCTs involving 18,024 patients were analyzed. No statistically significant difference in risk of MACEs associated with the use of biologic therapies was observed.³

IPC AT THE 36TH REUNIÓN ANUAL DE DERMATÓLOGOS LATINOAMERICANOS (RADLA)

Celebrating a successful IPC symposium at RADLA in Cancun, Mexico, are, left to right, IPC CEO Christy Langan, IPC Councilor Matías Maskin, IPC Board Members Ricardo Romiti and Claudia de la Cruz, IPC Councilor André Carvalho, presenter Tatjana Maul, and IPC Councilor Fernando Valenzuela.
Risk of serious infections in patients with psoriasis on biologic therapies: a systematic review and meta-analysis
For this study, researchers conducted a systematic review and meta-analysis of randomized controlled trials and prospective cohort studies reporting serious infections in people taking any licensed biologic therapy for psoriasis. In this review of 32 RCTs (13,359 participants) and one cohort study (n. 4,993 participants), no association between biologic therapies and serious infections was found. Analysis of the prospective cohort study (data of low quality) suggested that only adalimumab was associated with a significantly higher risk of serious infection compared with retinoid and/or phototherapy in adults.4

Nail psoriasis
IPC Board Member Dr. Ricardo Romiti, Brazil, discussed “Nail psoriasis and evidence-based therapeutic options.”
Approximately 50% of patients with psoriasis have nail involvement, and the estimated lifetime incidence is 80-90%.5,6 Nail psoriasis is associated with pain, discomfort, impairment in quality of life, and higher scores in the Dermatology Quality of Life Index (DLQI).7 It is also associated with long-standing disease and severity in PASI scores.6 Therapy for nail psoriasis is frequently perceived to be ineffective, partially due to the lack of treatment guidelines or methods for evaluating outcomes.6

Current treatment options include patient education, avoidance of repetitive nail trauma, management of expectations, and the treatment of concomitant onychomycosis, which is present in up to 50% of cases.5

Topical treatments include high-potency corticoestroides and vitamin D analogues. Among these treatments, clobetasol and calcipotriol have shown improvement of the subungueal hyperkeratosis in up to 70% of the cases.6

Clobetasol nail lacquer at concentration of 8% has shown significant clinical improvement compared to lower concentrations8 and a combination of calcipotriol plus betametasone once a day per 12 weeks has demonstrated 72% improvement in Nail Psoriasis Severity Index (NAPSI) scores. Data to support the efficacy and safety of intralesional corticoestroides are limited. However, intralesional corticoestroides can be used by trained personnel to treat localized nail psoriasis and when few nails are involved.

Other topical therapies that have shown efficacy include topical cyclosporine, tazarotene, tacrolimus, anthralin, psorales plus ultraviolet A therapy (PUVA), and Indigo naturalis (Lindiol).5,8 In March, the U.S. Food and Drug Administration approved the inclusion of moderate to severe fingernail psoriasis data in adalimumab prescribing information for patients with moderate to severe plaque psoriasis.

Among systemic treatments, methotrexate is recommended as a first-line systemic therapy, and its efficacy should be assessed after a 6-month treatment period.

Other systemic treatments that can be used include cyclosporine and acitretin; more recently, apremilast was added to the therapeutic armamentarium.5,9

Biologic therapy should be considered only in severe cases and when previous topical and systemic therapies have failed.

Therapeutic objectives & Quality of life
IPC Councilor Dr. Fernando Valenzuela, Chile, presented a lecture on “New therapeutic objectives: PASI 75 vs. PASI 90.”
Over the last 15 years, PASI 75 response (75% improvement from baseline) or a DQLI score of 0-1 have been the standard goals for psoriasis treatments. Studies have emerged reporting that patients who achieved a PASI 90 response present lower DLQI scores (0-1),10,11,12,13 and lower DLQI scores are considered the most significant clinical improvement parameter. So with the recently-introduced and very potent drugs for psoriasis treatment (anti-IL-17, anti-IL-23) that have demonstrated higher rates of achieving PASI 90, there is a trend to propose PASI 90 as the new standard in therapeutic efficacy for psoriasis. Despite the fact that these data support a change in therapeutic objectives, long-term safety and the effect of these therapies on comorbidities is still unknown. Also, it should be noted that this proposed change in goal paradigms entails a higher cost in treatments, so, for many countries
In his presentation, Dr. Matías Maskin, Argentina, discussed quality-of-life measurements for patients with psoriasis. The most widely used tool to measure the severity and extent of psoriasis in daily practice is body surface area (BSA). The National Psoriasis Foundation recommends a BSA goal of 1% or less; however, both BSA and PASI may not be sufficient parameters to establish therapeutic success. In some situations, they could overestimate or underestimate the severity of psoriasis, as they do not consider a patient’s feelings and/or the location of the lesions, which can have a significant impact on quality of life.

There are different QOL measurement techniques, but performing them routinely might be difficult. The QOL measurement used the most in clinical practice is the DLQI; nevertheless, it is criticized because it does not consider a patient’s feelings and its results could be biased, depending on different cultures, population, profession, or social and economical profile, among other factors.

Although different measurement tools are currently available, Dr. Maskin emphasized that a good physician-patient relationship is essential for establishing adequate therapeutic goals and achieving an acceptable quality of life for the patient.

**New molecules & anti-IL-23 drugs**

IPC Board Member Dr. Claudia de la Cruz, Chile, discussed “New molecules in the treatment of psoriasis.”

The IL-23/IL-17 axis is crucial in the pathogenesis of psoriasis, and new drugs that block this pathway have been developed. Ustekinumab, a monoclonal antibody (mab) against the p40 subunit shared by both IL-12 and IL-23, has shown strong clinical activity in the treatment of psoriasis. Evidence suggests that IL-23 may play a more important role than IL-12 in the pathogenesis of psoriasis, so it has been proposed that selectively targeting the IL-23 by inhibiting its unique p19 subunit could offer advantages in efficacy and safety compared to p40 blockage shared by two cytokines. In this context, 3 mabs that target specifically IL-23 p19 subunit have been developed: guselkumab, tildrakizumab, and risankizumab.

In phase 3 Voyage 1 and VOYAGE 2 trials, guselkumab, a fully human monoclonal antibody against IL-23/p19, was superior to adalimumab in achieving Investigator’s Global Assessment (IGA) 0/1 and PASI 90. The drug was well tolerated, maintained its efficacy through week 48, and was highly effective in adalimumab nonresponders. In the phase 3 NAVIGATE trial, guselkumab demonstrated greater efficacy compared with ustekinumab in patients who had failed to achieve IGA 0/1 by week 16.

Tildrakizumab, a humanized IgG1 monoclonal antibody that selectively inhibits the p19 subunit of IL-23, has proven similar effects in phase 3 reSURFACE 1 and reSURFACE 2 trials. In both trials, tildrakizumab showed superior efficacy in achieving PGA 0/1 and PASI 75 compared to placebo and etanercept. Among the intervention groups, no significant difference was observed in severe infection, malignancy, major adverse cardiac event and drug-related hypersensitivity reactions. One death occurred in a patient on tildrakizumab 100 mg (reSURFACE 2 trial) with alcoholic cardiomyopathy and hepatic steatosis in which the cause of death was undetermined.

In a phase 3 randomized, double-blind, placebo and active comparator controlled trial, risankizumab, a humanized IgG1 monoclonal antibody that binds to the p19 subunit of IL-23, demonstrated superior efficacy compared to ustekinumab in achieving PASI 90 (75.3%/74.8% vs 42.0%/47.5%) and sPGA 0/1 (87.8%/83.7% vs 63.0%/61.6%) at week 16, with a maintenance response rate over 20 weeks after drug withdrawal. Its safety profile was similar to ustekinumab’s.

These results suggest that, by selectively targeting pathogenic mediators, it might be possible to develop more specific and less immunogenic drugs.

**References**


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Biologics for psoriasis: treatment options continue to expand

Since the beginning of the year, there has been a flood of positive decisions by both the U.S. Food and Drug administration (FDA) and the European Medicines Agency Committee for Medicinal Products for Human Use (CHMP), resulting in an increase in the number of approved therapies, approved indications, and label updates of biologics and biosimilars in the treatment of psoriasis.

- The drug ixekizumab (Taltz) can now be prescribed to treat psoriasis that involves the genital area. Taltz is the first and only FDA-approved psoriasis medication to include such data in its label. Ixekizumab was first approved for treating moderate to severe psoriasis in 2016. It received additional approval for treating psoriatic arthritis by the FDA this past December and the EMA in January. Ixekizumab binds to Interleukin 17 (IL-17), inhibiting the inflammatory process. Eli Lilly and Company manufactures ixekizumab.

- The drug secukinumab (Cosentyx) has received 2 label updates this year. In February, the FDA approved secukinumab for the treatment of moderate to severe scalp psoriasis, a difficult-to-treat form of the disease that affects approximately half of all psoriasis patients. This follows the same update, approved by the EMA last year. In June, the FDA approved an update to the secukinumab label to include new evidence that the drug inhibits progression of joint structure damage in psoriatic arthritis. Secukinumab had already been approved to treat psoriatic arthritis (EMA approved it for this use as well as to treat ankylosing spondylitis in 2015, followed by FDA approval in 2016). This most recent update adds to the evidence that it is effective for treating this joint-damaging disease.

- In March, the FDA approved tildrakizumab-asmn (Ilumya) for treating moderate to severe psoriasis in adults who are candidates for systemic therapy or phototherapy, bringing the total number of biologics now available to treat psoriasis and psoriatic arthritis in the U.S. up to 12.* Tildrakizumab-asmn works by selectively binding to the p19 subunit of IL-23, inhibiting its interaction with the IL-23 receptor, which, in turn, inhibits the release of pro-inflammatory cytokines and chemokines. Sun Pharmaceutical Industries Ltd is the drug’s maker.

- The biologic certolizumab pegol (Cimzia) was approved to treat moderate to severe plaque psoriasis in May of this year, following its approval by CHMP in April for the same purpose. Previously, Cimzia had been approved for treating psoriatic arthritis, rheumatoid arthritis, ankylosing spondylitis, and Crohn's disease. The approval makes Cimzia the first Fc-free, PEGylated anti-TNF treatment option for this indication, according to UCB, the drug’s manufacturer. In addition, FDA and EMA have updated the label to include data demonstrating negligible-to-low-risk drug transfer through placenta and minimal risk for transfer through breast milk among women with chronic inflammatory diseases.

- In May, the European Commission (EC) approved Zessly, a new biosimilar of infliximab, for use in all indications of the reference medicine, including rheumatoid arthritis, adult Crohn's disease, pediatric Crohn's disease, adult ulcerative colitis, pediatric ulcerative colitis, ankylosing spondylitis, psoriatic arthritis and plaque psoriasis. Made by Sandoz, Zessly is the fourth infliximab biosimilar available in Europe and the ninth biosimilar approved for treatment of psoriasis.

*Biologics approved by the FDA for treating psoriasis and/or psoriatic arthritis are: adalimumab (Humira), brodalumab (Siliq), certolizumab pegol (Cimzia), etanercept (Enbrel), golimumab (Simponi), guselkumab (Tremfya), infliximab (Remicade), ixekizumab (Taltz), abatacept (Orencia), secukinumab (Cosentyx), tildrakizumab-asmn (Ilumya), and ustekinumab (Stelara).
The IPC International Fellowship Program is a new IPC initiative aimed at fostering the next generation of psoriasis leaders. The fellowship program matches early-career dermatologists with IPC Councilors, providing an in-clinic shadowing opportunity up to one month, and a yearlong mentorship. Our 2018 Fellows will be active participants in IPC programs with the world’s key opinion leaders, gaining exposure to clinical, research, and educational skills that will further their careers as psoriasis leaders.

Chosen from a highly qualified international field of young dermatologists, IPC’s 2018 International Fellows represent the future of psoriasis leadership and the organization’s commitment of growing expertise in the field.

**Daniela Armijo, MD, Chile**
Dr. Armijo is a 3rd-year dermatology resident in the Faculty of Medicine at the University of Chile. She is author of 4 international publications and has presented cases at La Reunión Anual de Dermatólogos Latinoamericanos (RADLA). Dr. Armijo holds a special interest in combining clinical practice and laboratory research and in the integral management of psoriasis. Dr. Armijo comes highly recommended by IPC Board Member Ricardo Romiti and Councilor Fernando Valenzuela.

As a 2018 Fellow, she will study with Professor Christopher Griffiths, OBE, MD, FRCP, at the University of Manchester in the United Kingdom and attend the 27th European Academy of Dermatology and Venereology Congress in Paris.

**Jiaqi Chen, PhD, China**
Dr. Chen is a dermatologic fellow at the Second Affiliated Hospital of Zhejiang University School of Medicine. She completed her PhD in Dermatology from Zhejiang University and her residency at the same institution. Dr. Chen is published as lead author on 3 peer-reviewed manuscripts. She has focused her dermatology education investigating the pathogenesis of psoriasis. Dr. Chen works under and is recommended by IPC Councilor Min Zheng.

As a 2018 Fellow, she will study with Dr. Curdin Conrad, MD, at the University Hospital of Lausanne in Switzerland and attend the 27th European Academy of Dermatology and Venereology Congress in Paris.

**Filip Rob, MD, PhD, Czech Republic**
Dr. Rob recently completed his PhD in biomedicine from Charles University in Prague, where he is currently a lecturer on the medical faculty. He is a physician in dermatovenereology at Na Bulovce Hospital. Dr. Rob is published as lead author on 7 manuscripts, and is leading research related to HPV and psoriasis as well as skin microbiota changes in psoriasis patients on biologics. He works under and is highly recommended by Professor Jana Hercogová, MD, PhD, MHA, Chairwoman of the Department of Dermatovenereology at Charles University, Prague.

As a 2018 Fellow, he will study with Dr. Joel Gelfand, MD, MSCE, at the University of Pennsylvania and attend the 27th European Academy of Dermatology and Venereology Congress in Paris.

Applications for the 2019 IPC International Fellowship Program will open in September. Visit www.psoriasiscouncil.org/fellows

The 2018 IPC International Fellowship Program is supported by AbbVie, Amgen, Janssen Biotech, Inc., LEO Pharma, and Novartis.
PATIENT CARE

Latin America Working Group
The IPC Latin America Working Group met to discuss a wide range of topics during the recent Reunión Anual de Dermatólogos Latinoamericanos (RADLA) in Cancun, Mexico. Discussion focused on the group’s role in data collection for the Global Psoriasis Atlas project and potential topics for the upcoming symposium at the Congreso Ibero Latinoamericano de Dermatología (CILAD) in São Paulo in November. The group also recognized the need to identify gaps in knowledge regarding treatment of patients with psoriasis who contract acute and chronic tropical diseases prevalent in the Latin American region. In addition, the group expressed interest in performing a review of current psoriasis education provided during dermatology residence programs in Latin America. With the completion of this review, the group will be able to identify training gaps and make recommendations for additional educational components into dermatology training.

Moderate psoriasis project
In an ongoing project, members of IPC’s Patient Care Committee are continuing to develop an improved clinical definition of “moderate” psoriasis that lowers body surface area (BSA) affected by psoriasis to 10% or below. It would also take into account difficult-to-treat areas that affect a patient’s quality of life. A systematic literature search has been conducted to identify correlations between objective and subjective severity measures reported in psoriasis randomized controlled trials. The results from this review, registry data, other supporting evidence, and expert opinion will be used to inform statements on the classification of psoriasis disease severity determined through a Delphi consensus exercise.

RESEARCH

IPC assists in study to develop criteria for pediatric psoriasis
Partnering with a team of British researchers, the IPC participated in a survey that identified criteria for diagnosing pediatric psoriasis. An abstract of the study was accepted for an oral presentation at the July annual meeting of the British Association of Dermatologists (BAD).

The purpose of the study was to reach consensus from a panel of expert clinicians who treat the disease on a list of diagnostic criteria for diagnosing plaque psoriasis in children 18 years or younger. Diagnosing pediatric psoriasis is especially challenging, the abstract noted, “because differential diagnoses are common, skin changes can be more subtle and involve unexposed skin, and there is a reduced awareness of psoriasis occurring in younger patients.” Developing diagnostic criteria could help nondermatologists recognize the disease in children and also standardize a definition of pediatric psoriasis for future research.

Leading the study was IPC Councilor Ruth Murphy, PhD, who works at Sheffield Teaching Hospitals and holds an honorary contract at Nottingham University Hospital and the Centre of Evidence Based Dermatology, United Kingdom. She currently is the BAD’s new president. To develop the criteria list, Murphy and her fellow researchers used the electronic Delphi (eDelphi) survey method, soliciting suggestions from IPC councilors from 19 countries with expertise in treating psoriasis.

These are a “starting point,” the abstract says, and additional studies will be needed to test their validity and usefulness. A case-control diagnostic accuracy study (DIPSOC study) has begun recruiting patients in United Kingdom pediatric departments.

Criteria for pediatric psoriasis are likely to be most useful to nondermatologists, such as general practitioners and pediatric rheumatologists, according to the abstract.

Researchers joining Murphy in conducting the study were Esther Burden-Teh, BMBS, Kim S. Thomas, PhD, and Sonia Ratib, PhD, all from the Centre of Evidence Based Dermatology, University of Nottingham, United Kingdom.

Mechanistics of psoriatic disease theme of IPC symposium
In May, as part of the 7th International Investigative Dermatology (IID) meeting in Orlando, Florida, the IPC sponsored a symposium titled, “Psoriatic Disease Mechanistic Scenarios.” IPC councilors presented and led session discussions that included: “Immunogenetics of plaque psoriasis and psoriatic arthritis,” Jonathan Barker,
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United Kingdom; “Transcriptomics studies in psoriasis: From functional genomics to patient stratification,” Johann Gudjonsson, United States; “Modeling psoriatic inflammation,” Nicole Ward, United States; and “Genetics of pustular psoriasis,” Kazumitsu Sugiura, Japan. Poster presentations by eight researchers were also featured at the symposium. Dr. Gudjonsson and IPC Board Member Hervé Bachelez, France, served as the event’s co-chairs. The symposium was well attended with more than 175 participating. See a report from the IID meeting on page 10.

IPC’s Research Committee meets in Orlando
The IPC Research Committee met during the International Investigative Dermatology (IID) meeting to discuss the successful outcome of the recent IPC symposium and to plan future symposia for the 2019 Society for Investigative Dermatology (SID), European Society for Dermatological Research (ESDR), and Japanese Society for Investigative Dermatology (JSID) congresses. The topic for the SID symposium will focus on cardiovascular disease (CVD) in psoriasis and feature expert speakers who will present the latest CVD research and discuss implications for psoriasis management. At the 2019 ESDR congress, the IPC symposium will highlight mechanisms of autoimmunity and autoinflammation in psoriasis through panel and poster presentations. The committee looks forward to planning the upcoming symposium in Japan, which marks the first time the IPC will be involved in this congress. All events will take place before the conference, with dates and times to be announced soon.

EDUCATION AND OUTREACH

IPC symposium focuses on patient-centered management in psoriasis treatment
“Treating to goal: A clear path to patient-centered psoriasis management” was the title of a symposium presented in February by the IPC as part of the American Academy of Dermatology’s Annual Meeting in San Diego, California, United States. Serving as program faculty were IPC Board Member Peter van de Kerkhof, the Netherlands; IPC Councilor Paolo Gisondi, Italy; and, IPC Immediate Past President Chris Griffiths, United Kingdom. Professor van de Kerkhof spoke on the topic, “Psoriasis: Pathogenesis and the spectrum of treatments.” Professor Gisondi led a discussion about “The key role of dermatologists in managing comorbidities in patients with psoriasis.” Professor Griffiths addressed the topic, “Personalizing psoriasis management.” The symposium was a success with vigorous discussion between the faculty and the audience and more than 100 attending the program.

IPC at RADLA: Psoriasis update
IPC Board Members Claudia de la Cruz, Chile, and Ricardo Romiti, Brazil, served as program co-chairs of “What’s
new in psoriasis: An update by the International Psoriasis Council,” a symposium held during the 36th annual RADLA (Reunión Anual de Dermatólogos Latinoamericanos) in Cancun, Mexico. IPC councilors were symposium speakers and made presentations on the following topics: “Meta-analysis of psoriasis treatments,” André Vicente Esteves de Carvalho, Brazil; “Nail psoriasis,” Dr. Romiti; “PASI 75 vs PASI 90: Changing the paradigm in psoriasis,” Fernando Valenzuela, Chile; “New molecules for psoriasis treatment,” Dr. de la Cruz; and “Quality of life for patients with psoriasis,” Matías Maskin, Argentina. At least 75 researchers and health care professionals attended the session. On demand webcasts from each presentation are available on our website at bit.ly/IPC_2018RADLA. A report about the symposium begins on page 15.

NEWSMAKERS

Congratulations to these IPC board members and councilors for their notable achievements

IPC Immediate Past President Professor Chris Griffiths, MD FRCP FMedSci, can add OBE to his credits now that he has been awarded the prestigious Order of the British Empire by Britain’s Prince William for his outstanding contributions to dermatology. Professor Griffiths is foundation professor of dermatology at the University of Manchester and a consultant dermatologist at Salford Royal Trust and Foundation. He is world-renowned for his expertise in psoriasis and is director of the Medical Research Council Stratified Medicine Consortium and heads the consortium’s Psoriasis Stratification to Optimise Relevant Therapy (PSORT) initiative to develop tests that can be used in the clinic to help direct personalized treatments. He also serves as chief investigator of the British Association of Dermatologists Biologic Interventions Register (BADBIR), the national pharmacovigilance register for psoriasis. Professor Griffiths is a co-founder of the IPC. The OBE is a Queen’s honor given to an individual for a major role in any activity such as the sciences, business, charity or the public sector.

Councilor April Armstrong has been promoted to professor of dermatology at the Keck School of Medicine at the University of California, Los Angeles, United States. Dr. Armstrong is also associate dean for clinical research at the school and serves as director of clinical research for the Southern California Clinical and Translational Research Institute. In the university’s dermatology department, she serves as vice chair, clinical trials and outcomes research director, and director of the psoriasis program. For her research focus, Dr. Armstrong is particularly interested in the appropriate use of systemic agents, comparative effectiveness research, technology-enabled health care delivery, and comorbidities associated with inflammatory skin diseases. She has been an IPC councilor since 2014.

Fernando Valenzuela, an IPC councilor since 2015, has been promoted to associate professor of dermatology at the University of Chile in Santiago. Dr. Valenzuela has received multiple awards throughout his career. Highly regarded by his colleagues in Latin America, he attends all SOLAPSO and RADLA meetings in Latin America and is frequently a featured speaker. He is concentrating his research efforts on the clinical efficacy of new drugs and studying the quality of life and comorbidities in his patients, who are usually underrepresented in clinical trials or medical literature. Dr. Valenzuela most recently presented a lecture on “PASI 75 vs PASI 90: Changing the paradigm in psoriasis,” as part of IPC’s symposium at RADLA 2018 in
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Cancun, Mexico. He currently serves as a member of IPC’s Patient Care Committee and recently was re-elected as a RADLA delegate representing Chile.

In May, The Guilan Society of Dermatology sponsored the second national seminar focused on psoriasis within the past year. IPC Councilor Omid Zargari, Iran, was one of the seminar’s organizers. Professors from the universities of Tehran, Shiraz, and Rasht were the event’s main lecturers, and topics included the role of IL-17 in the pathogenesis of psoriasis; pathologic differential diagnoses of the disease; biosimilar medications; and updates on psoriatic arthritis. The seminar also included a discussion of 10 challenging psoriasis cases presented by the 3 moderators, followed by comments from expert panelists. Approximately 80 dermatologists from the region were in attendance. Dr. Zagari is a consultant dermatologist at the DANA clinic in Rasht and is active in psoriasis-related research and educational programs in Iran. He became an IPC councilor in 2017.

NEW IPC COUNCILORS

Denis Jullien, MD, PhD
Lyon, France
Professor Jullien is a professor of dermatology and heads the dermatology department at Hôpital Edouard Herriot, Hospices Civils de Lyon, University of Lyon. He received his medical degree, PhD, and postdoctoral qualification from the University Claude Bernard Lyon I and trained as a research fellow in the dermatology department at the University of California, Los Angeles, United States. Professor Jullien’s research and clinical interests focus primarily on inflammatory skin diseases, notably psoriasis, and the skin immune system. He was involved in the first human hand allograft project. Professor Jullien is a member of the French Society of Dermatology and college des Enseignants de Dermatologie, and serves on the scientific boards of the French Society of Dermatology, the French psoriasis prospective observational cohort PSOBIOTEQ, and the Psoriasis Group of the French Society of Dermatology. Professor Jullien has published a number of articles, and several chapters in textbooks in international peer-reviewed journals, including The Lancet, Journal of Immunology, Journal of Investigative Dermatology, Journal of the American Academy of Dermatology, and Journal of the European Academy of Dermatology and Venereology.

Masamoto Murakami, MD, PhD
Matsuyama, Japan
Dr. Murakami is a senior assistant dermatology professor at Ehime University Graduate School of Medicine, Aichi, Japan, in 1995. He served as an assistant professor of pathology at the school until 2001, when he became a postdoctoral research fellow in dermatology at the University of California San Diego, United States. In 2003, he returned to Japan to become a senior resident in Asahikawa Medical University’s dermatology department. He was promoted to assistant professor in 2006, then to senior assistant professor in 2009. He assumed his current position in 2012. Dr. Murakami’s dermatology interests are palmoplantar pustulosis, psoriasis, and skin antimicrobial peptides. He is a member of the Society for Investigative Dermatology, European Society for Dermatological Research, Japanese Society for Investigative Dermatology, Japanese Society for Psoriasis Research, the Japanese Dermatological Association, and the Japanese Society of Pathology.

Tadashi Terui, MD
Tokyo, Japan
Dr. Terui is professor and chairman of the dermatology department at Nihon University School of Medicine in Tokyo. Since 2015, he has also served as vice director of Nihon University Itabashi Hospital. Professor Terui received his medical degree from Tohoku University School of Medicine in 1981 and his PhD in cutaneous immunology
in 1991. From 1985-1988 he was an assistant dermatology professor at the Tohoku School of Medicine and from 1988-1991 served as a research associate in the pathology department at the University of Utah, United States. From 1991-2004, he served first as a lecturer and then as an associate in the dermatology department at the Tohoku School of Medicine. He has served in his current position since 2005. Professor Terui’s major research interests are cutaneous inflammation and immunology, inflammation, hidradenitis suppurativa, psoriasis, pustulosis palmaris et plantaris-SAPHO syndrome, urticaria, and atopic dermatitis. He serves on the board of directors of the Japanese Dermatology Association and the Japanese Society for Psoriasis Association.

Tiago Torres, MD, PhD  
Porto, Portugal

Dr. Torres is a dermatology professor at the Abel Salazar Institute of Biomedical Sciences, University of Porto. He received his medical degree from the Faculty of Medicine, University of Porto, and completed a residency program in dermatology and venereology at Centro Hospitalar do Porto. He finished his PhD thesis in 2014, studying the role of psoriasis-associated systemic inflammation in atherosclerosis. Currently, he heads the dermatology department’s psoriasis and clinical trials units at the Centro Hospitalar do Porto. Dr. Torres helped develop national guidelines for treating psoriasis and has won the Juvenal Esteves prize from the Portuguese Society of Dermatology and Venerology with research projects in psoriasis and psoriatic arthritis. His main research topics in dermatology are immunodermatology, immunology and immunopharmacology of psoriasis and atopic dermatitis. He is an associate editor of the journals Acta Médica Portuguesa and Journal of the Portuguese Society of Dermatology and Venereology. His articles have been published in journals that include Drugs, American Journal of Clinical Dermatology, BioDrugs, and Clinical Drug Investigation.

Manuelle Viguier, MD, PhD  
Reis, France

Professor Viguier heads the dermatology department and is a professor at both the Hôpital Robert Debré and the University Reims-Champagne Ardenne. She received her medical degree from the University René Descartes Paris V in 1999, her PhD in immunology from the University Denis Diderot Paris VII in 2007, and the habilitation à diriger des recherches (accreditation to supervise research) from the University Denis Diderot Paris VII in 2010. She previously served as an assistant dermatology professor at the Hôpital Saint-Louis and University Denis Diderot Paris VII. She has contributed articles to more than 100 peer-reviewed journals, including Journal of Allergy and Clinical Immunology, Journal of the European Academy of Dermatology and Venereology, Journal of Investigative Dermatology, Journal of the American Academy of Dermatology and Acta Dermato-Venereologica. Professor Viguier serves on the scientific board of the French Society of Dermatology and is president of the society’s Psoriasis Group. She also is a member of the Collège des Enseignants de Dermatologie and serves on the board of the French cohort on psoriasis, PSOBIOTEQ.
The IPC is pleased to announce the launch of our newest CME program

Comorbidities and Psoriasis: Challenging Cases from World Experts

Treating patients with psoriasis requires keen attention to more than just manifestations on the skin. In this program, participants have the opportunity to interact with complex cases taken from the clinics of international experts in the field: Alan Menter, MD, & Elise Kleyn, MRCP, MMedSci, PhD. At various stages, viewers will be asked to choose how to approach treating these patients while monitoring for comorbidities and conditions such as metabolic syndrome, pregnancy, and managing the risk of lymphoma.

Test your knowledge of psoriasis and learn valuable skills to expand your capacity to provide expert care to your patients.

Case Study 1: A 49-Year-Old With Psoriasis and Hodgkin’s Disease; Presented by Alan Menter, MD – Baylor University Medical Center, Texas, USA

Case Study 2: A 35-Year-Old with Psoriasis, Obesity and Pregnancy; Presented by Elise Kleyn, MRCP, MMedSci, PhD – University of Manchester, England, UK

1.0 AMA PRA Category 1 Credit(s)™; Program expires 6/2019

These programs are provided through the joint providership of the A. Webb Roberts Center for Continuing Medical Education of Baylor Scott & White Health, Dallas, and the International Psoriasis Council.

Go to bit.ly/CMEcases to view these on-demand interactive cases and receive CME credit!

These activities are supported by educational grants from Janssen Scientific Affairs, LLC, Lilly, and Sun Pharma.

IPC gratefully acknowledges Co-editors Dr. Colby Evans, Evans Dermatology, Austin, Texas, United States, and Dr. Nancy Podoswa, Hospital General Regional No. 1 Dr. Carlos MacGregor Sanchez Navarro, Mexican Institute of Social Security, Mexico City, Mexico, for their writing and editing contributions to the July 2018 IPC Psoriasis Review newsletter.

IPC PSORIASIS REVIEW

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RESOURCES
The International Psoriasis Council is pleased to bring you the following educational opportunities to advance your knowledge of treating patients with psoriasis:

Scan this code with your smartphone to connect to the IPC Psoriasis Review online.

No smartphone? Visit www.psoriasiscouncil.org/resources/psoriasisreview

Founded in 2004, the International Psoriasis Council (IPC) is a dermatology-led, voluntary, global, nonprofit organization with over one hundred board members and councilors from 30 countries.

IPC embodies the global expertise of multi-specialty psoriasis key opinion leaders including representatives from dermatology, basic science, translational research, genetics, epidemiology, cardiology, psychology, international clinical trials, and direct patient care.

The mission of the IPC is to advance the care of people with psoriasis worldwide, through education, research and advocacy.

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Upcoming IPC Events

October 26 – 28, 2018
IPC Psoriasis Symposium
2nd Annual China Psoriasis Congress
Hefei, China

November 16, 2018
Hot Topics in Psoriasis: An Update by the International Psoriasis Council
Colegio Ibero Latino Americano de Dermatología (CILAD)
São Paulo, Brazil

IPC’s Online CME Programs

On-Demand Webcasts

Comorbidities and Psoriasis: Challenging Cases From World Experts
In this program, participants have the opportunity to interact with complex cases taken from the clinics of international experts in the field. At various stages, viewers will be asked to choose how to approach treating these patients while monitoring for comorbidities and conditions such as metabolic syndrome, pregnancy, and managing the risk of lymphoma. 1.0 AMA PRA Category 1 Credit(s)™, Program expires 6/2019.

Clinical Challenges in Psoriasis: Raising the Standard of Care
With a wide array of clinical presentations and associated comorbidities, successful psoriasis treatment can be complicated and challenging. In this program, internationally renowned faculty discuss new therapeutic options and the importance of engaging patients in disease management in order to improve treatment outcomes and quality of life. 1.0 AMA PRA Category 1 Credit(s)™, Program expires 11/2018.

Advances in Psoriasis: A Focus on Emerging Therapies & Approaches to Treatment
This program explores advances in psoriasis treatment, including the most current and compelling data for new treatments, successful communication strategies used to foster physician and patient dialogue, and future opportunities for new therapies and treatment approaches for patients with psoriasis. 1.5 AMA PRA Category 1 Credit(s)™, Program expires 10/2018.

Individualizing Treatment in Psoriasis: Empowering You and Your Patient to Make Well-Educated Decisions as a Team
This program explores approaches to complex patient cases involving comorbidities, lifestyle management, and communicating with patients. Faculty review the most current and compelling data relevant to each case and reinforce the value of tools and techniques in patient and physician dialogue. 2.0 AMA PRA Category 1 Credit(s)™, Program expires 8/2018.

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