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Bo1

Using life evaluation to revise the Dermatology Life Quality Index: a multinational survey of patients with psoriasis

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The aim of this study was to determine to which extent the 10 health dimensions of the Dermatology Life Quality Index (DLQI) predict live evaluation for people living with self-reported psoriasis. The analysis was conducted on a population of 4261 respondents in 20 countries who answered self-administered online surveys. We used regression techniques to estimate weights for the 10 health dimensions of the DLQI based on a subjective life evaluation measure. The linear regression analysis was adjusted for control variables: age, gender, civil status, employment status and country of residence. The analyses were run for the whole population and specifically for men and women, to highlight any gender differences. To measure life evaluation, we employed the Cantril Self-Anchoring Striving Scale (Cantril H. *The Pattern of Human Concerns*. New Brunswick, NJ: Rutgers University Press, 1965), commonly used by research studies around the world, including the World Happiness Report. The data analysis was supported by the Health & Happiness Research Foundation, on a dataset donated by LEO Innovation Lab, part of LEO Pharma. The 10 health dimensions of the DLQI are not equal predictors of life evaluation for people living with self-reported psoriasis. Only eight of the 10 dimensions significantly predicted life evaluation ($P < 0.05$). The exceptions were the questions 'Over the last week, how much has your skin made it difficult for you to do any sport?' and 'Over the last week, how much has your skin influenced the clothes you wear?', which did not significantly predict life evaluation. We observed a considerable change in the weighting system when applying a gender filter, with different dimensions being more predictive of life evaluation for one gender than the other. For women, the answer to the question 'Over the last week, how much has your skin affected any social or leisure activities?' ($\beta = -0.23$; $P < 0.001$) was most predictive of live evaluation. For men, the most predictive question was 'Over the last week, how much has your skin created problems with your partner or any of your close friends or relatives?' ($\beta = -0.31$;

$P < 0.001$). We concluded that anchoring the DLQI in Life Evaluation weights makes for a more accurate estimate of the experienced burden of disease for people living with psoriasis. Giving more weight to aspects related to mental and social well-being and employing a gender-specific interpretation of the scale might provide a better understanding of the burden of disease and more precise assessments of the effectiveness of interventions.

Bo2

No evidence for attentional bias towards disease-related and social threat words in people with psoriasis: an online reaction time study

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Attentional bias is an unconscious process whereby individuals allocate their attention towards or away from threatening information in their environment. While attentional bias has been widely researched in the context of anxiety, depression and chronic health conditions, the role of attentional bias among those with psoriasis is currently not well understood. As psoriasis is associated with increased levels of anxiety, investigation into this area is clinically important. This study aims to identify whether people with psoriasis demonstrate an attentional bias for disease-specific and socially threatening stimuli, and if such a bias exists, at what stage of processing this occurs (early or late). An online modified spatial cueing task was administered to 100 participants with psoriasis and 100 controls. Groups were matched for age, gender and levels of depression and anxiety. The study design was a two (validity: valid vs. invalid) by two (cue type: threat vs. control word) by two (group) mixed factorial design. We predicted a three-way interaction, reflecting altered validity effects for threat words in the psoriasis group relative to the control group. In experiment 1 the stimulus onset asynchrony (SOA) was 200 ms, and in experiment 2 the SOA was 1000 ms. Across the two experiments, we found no evidence for an altered attentional profile in people with psoriasis, as indicated by the absence of a significant three-way interaction. These results are not consistent with the findings from previous similar research (Fortune DG, Richards HL, Corrin A et al. Attentional bias for psoriasis-specific and psychosocial threat in patients with psoriasis. *J Behav Med* 2003;**26**:211–24). This could be due to several factors; previous research (Fortune et al.) used a different task to measure attentional bias (emotional Stroop task), in which threat and neutral stimuli were

also not matched for valence and arousal. The current research also matched participants in each group for age, gender, and levels of anxiety and depression (as measured by the Hospital Anxiety and Depression Scale), whereas previous research only matched participants on age. The lack of a significant interaction in the current study could also be due to the use of words as stimuli over the more attention-grabbing nature of images. Further studies are planned using neutral words with a lower valence and arousal rating, and images of facial expressions of disgust and neutral expressions.

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Bo3

Impact of childhood psoriasis on children and parents: an interpretative phenomenological analysis

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Childhood psoriasis can lead to anxiety, stigmatization and reduced quality of life in children and parents managing the condition. However, while there have been many qualitative studies with adults with psoriasis there has been little in-depth psychosocial research focusing on the disease in childhood. This study aimed to investigate the experience of both children and parents, with a view to highlighting psychosocial issues that might need to be addressed when providing holistic family-centred dermatology care. Participants were recruited in parent-child dyads via collaborating NHS services or via a study advert placed on social media. Sixteen interviews with eight parent-child dyads provided in-depth accounts of the experiences of living with psoriasis. The number of participants sought was commensurate with sample sizes recommended for Interpretative phenomenological analysis (IPA). Participants provided demographic and background information, ratings of psoriasis severity and of quality of life. Parents (seven mothers and one father) were aged between 33 and 49 years and the children were aged between 10 and 14 years (four boys and four girls). Age of onset ranged from 2 to 11 years. The modal psoriasis severity rating was moderate. Interview transcripts were iteratively analysed using standard IPA procedures to develop a summary structure of superordinate and subthemes. In order to ensure rigor within the method, the analytic process was subject to a detailed audit process. Psoriasis was reported as having a large impact on family life, relationships and communication, the focus of which changed over time. The initial period of seeking an effective treatment and the acceptance of the nature of the disease were reported as being particularly difficult for families, while shifting responsibilities for management became an issue during adolescence. Both parents and children described the impact of having a visible condition that attracted stigmatizing reactions as being the most significant aspect of

living with the condition. Significant sources of stress arose from the perceived extent and meaning of the visible difference, the perception of psoriasis treatment on family functioning, and how families coped with the uncertainty and the lack of control inherent in managing a long-term condition. This suggests a number of targets for intervention that could be tailored to the changing priorities of families over the course of treatment.

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Bo4

Clinical correlates of depression and anxiety in psoriasis and prevalence of undiagnosed depression

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The association between psoriasis and depression is well established. However, depression may often remain unrecognized in patients. Furthermore, the factors driving this association are unclear. To improve understanding and treatment of mood disorders in psoriasis, investigating potential links with clinical measures of psoriasis activity is important. While some studies have linked depression risk to psoriasis severity, others highlight the mediating effects of comorbidities and illness perceptions. Our objectives were to (i) investigate if depression, anxiety and lifetime suicidality are associated with clinical indicators of psoriasis severity and chronicity; and (ii) capture the extent of undiagnosed depression in patients with psoriasis. We surveyed patients attending our tertiary psoriasis service, using the following questionnaires: Hospital Anxiety and Depression Scale (HADS); Quick Inventory of Depressive Symptomatology-Self-Report (QIDS-SR); Sheehan Suicidality Tracking Scale; and Dermatology Life Quality Index (DLQI). Psychiatric history was obtained from both self-report forms and medical records. We measured psoriasis severity with the Psoriasis Area and Severity Index (PASI) prior to the COVID-19 pandemic and the Simplified Psoriasis Index self-report (saSPI-s) during the pandemic. Analysis was performed in R, using Pearson correlation and multiple regression. In total, 195 patients (79% on biologics; 51% recruited prepandemic) completed the survey. Thirty-eight per cent and 19% of participants were classed as depressed using HADS-Depression Subscale cutoff scores of ≥ 8 and ≥ 11 , respectively. Depending on the cutoff, 26–38% of depressed patients had no

lifetime diagnosis of unipolar or bipolar depression; at least one in five had no psychiatric diagnosis. One-third of patients classed as having at least moderate depression (HADS-D \geq 8, QIDS-SR \geq 11) received neither antidepressants nor psychotherapy. Depression, anxiety and lifetime suicidality scores were not associated with psoriasis onset, psoriasis duration or PASI. HADS-D and QIDS-SR showed similar moderate correlations with DLQI ($r = 0.38$; $P < 0.001$) and saSPI-s ($r = 0.39$; $P < 0.001$). Depression and anxiety prevalence did not differ between treatment groups. The number of lifetime biological treatments was not associated with lifetime suicidality and only weakly correlated with HADS depression and anxiety scores ($r < 0.25$). Depression severity was not associated with biological treatment duration in depressed patients taking biologics. Undiagnosed depression remains considerably prevalent in patients with psoriasis and regular depression screening is crucial. There were no associations of objective measures of psoriasis severity and treatment characteristics with depression, anxiety or lifetime suicidality. Consistent with previous reports, self-reported psoriasis severity measures correlated with depressive symptom severity. It is important to investigate whether this reflects an aggravation of illness perceptions driven by depression or systemic symptoms of psoriasis contribute to this discrepancy.

Bo5

Implementation of the PsoWell™ model for the management of people with complex psoriasis

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Chronic plaque psoriasis is associated with increased risk of cardiovascular disease (CVD) and higher prevalence of modifiable CVD risk factors, including smoking, excessive alcohol consumption, obesity, physical inactivity, poor sleep and low mood. The IMPACT (Identification and Management of Psoriasis Associated Comorbidity) research programme confirmed these links and demonstrated that clinicians feel unprepared in addressing behavioural factors in dermatology consultations. Subsequently, a novel behaviour change training programme, PsoWell™ (Psoriasis and Wellbeing) based on motivational interviewing (MI), was trialled. PsoWell improved clinicians' knowledge and skills of health behaviour change in complex psoriasis; furthermore, it was acceptable and feasible to incorporate into dermatology consultations. The Psoriasis Association UK funded the implementation of PsoWell to: (i) deliver the training programme to dermatology specialists across the UK; and (ii) determine whether the PsoWell training and consultation style is feasible and acceptable outside of dermatology centres of excellence. This cross-sectional, qualitative study involved semi-structured interviews with 19 National Health Service staff specializing in complex psoriasis management. Data

analysis was guided by the Theoretical Framework of Acceptability. Two main themes were identified: (i) 'perceptions and priorities', showing that implementation of the PsoWell model depends on dermatology specialists' and service leaders' perceptions of its value, and identifying barriers to implementation; and (ii) 'awareness', which was divided into two subthemes ('awareness not competence' emphasizes the training benefits and the need for further MI training to ensure clinical competency; and 'increasing awareness' conveys the need to show how PsoWell can improve patient outcomes at the service and policy level to ensure implementation). The PsoWell model is acceptable and feasible to implement across dermatology settings. Training improved clinicians' skills and motivation to address psychological issues, including behaviour change, and undertake further training. A lack of awareness of the benefits of this approach might prevent uptake, although demonstrating patient benefit could overcome scepticism. Remote consultation could embrace the PsoWell approach and this needs to be tested for efficacy.

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Bo6

Impact of abrocitinib on itch, sleep, skin pain and psychological stress in patients with moderate-to-severe atopic dermatitis: pooled analysis from JADE monotherapy trials

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Patients with atopic dermatitis (AD) experience pruritus, skin pain and sleep deprivation, which contribute to psychological stress (anxiety and depression). Abrocitinib is an oral, once-daily Janus kinase 1 selective inhibitor that has been shown to be effective and safe for treating moderate-to-severe AD in a phase IIb (NCT02780167) and two phase III monotherapy trials [JADE MONO-1 (NCT03349060) and JADE MONO-2 (NCT03575871)]; however, its impact on psychological stress was not analysed in detail. This post hoc analysis evaluated the following using data pooled from the three studies: Peak Pruritus Numerical Rating Scale Response (PP-NRS (used with permission of Regeneron Pharmaceuticals Inc. and Sanofi); sleep loss visual analogue scale (VAS) of SCORing of Atopic Dermatitis (SCORAD); skin pain item of the Pruritus and Symptoms Assessment for Atopic Dermatitis (PSAAD); and anxiety and depression subscores of the Hospital Anxiety and

Depression Scales (HADS). Abrocitinib treatment improved all outcomes as early as week 2 in a dose-dependent manner, and the effects were sustained through week 12. At week 12, more abrocitinib-treated patients (200 or 100 mg) achieved itch-free or virtually itch-free status [i.e. PP-NRS 0/1, 36.6% [95% confidence interval (CI) 31.3–42.0] or 23.4% [95% CI 18.7–28.1]] vs. placebo (5.3%, 95% CI 2.1–8.5). Similarly, outcomes with abrocitinib were better than with placebo for least squares means (LSM) percentage change in PP-NRS [–56.1 (95% CI –61.5 to –50.7) or –42.3 (95% CI –47.8 to –36.8) vs. –19.5 (95% CI –27.1 to –11.8)], SCORAD sleep loss VAS [1.8 (95% CI 1.5–2.0) or 2.6 (95% CI 2.4–2.9) vs. 4.0 (95% CI 3.6–4.3)] and PSAAD skin pain item score [2.0 (95% CI 1.8–2.2) or 2.8 (95% CI 2.6–3.1) vs. 4.7 (95% CI 4.3–5.0)]. Both doses of abrocitinib provided greater LSM change vs. placebo in the anxiety [–2.0 (95% CI –2.4 to –1.7) or –1.7 (95% CI –2.0 to –1.4) vs. –1.0 (95% CI –1.5 to –0.6)] and depression subscores [–1.7 (95% CI –2.0 to –1.4) or –1.3 (95% CI –1.6 to –1.0) vs. –0.1 (–0.5 to 0.3)] of the HADS. In addition, more abrocitinib vs. placebo patients with a HADS score ≥ 8 at baseline achieved a HADS score < 8 for both anxiety [54.1% (95% CI 44.2–63.9) or 48.0% (95% CI 38.2–57.8) vs. 25.4% (95% CI 15.0–35.8)] and depression [60.4% (95% CI 47.2–73.5) or 46.7% (95% CI 34.0–59.3) vs. 27.3% (95% CI 12.1–42.5)]. Abrocitinib monotherapy provided rapid and sustained improvement in pruritus, sleep and skin pain, contributing to reduced psychological stress for patients with moderate-to-severe AD.

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Bo7

A qualitative study on maternal attachment behaviour as a risk factor for the onset of atopic dermatitis in the infant

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Atopic dermatitis (AD) is a recurring chronic skin inflammation with rising incidence worldwide. Further research still needs to specify risk factors for AD. Since 2017 a prospective birth cohort study has assessed risk factors in AD development within the first years of life. This includes regular examinations, including cord blood analysis, overall assessment of health status, signs of AD and environmental risk factors, as well as laboratory and microbiome analyses. One segment of this study focuses on the possible correlation between maternal attunement and onset of AD in the child. Stress experiences increase stress hormone levels and can trigger the onset of AD. As infants cannot cope with stressful situations on their own, they need the presence of responsive, attuned caregivers, helping them to regulate. We therefore analysed maternal caregiving behaviour. We conducted 20 semi-structured interviews, with 10 mothers of children diagnosed with AD and 10 mothers of healthy children. Interviews were transcribed verbatim and assessed along 26 different items: we reviewed how mothers perceived (i) the home situation during their childhood; (ii) their work situation; and (iii) the pregnancy and (post-) birth situation. Both (i) what mothers said, as well as (ii) how they said it was scored on a Likert scale. The mean per item was calculated for each group. Those means per item revealed relevant differences between the two groups. Mothers with children diagnosed with AD scored high(er) on 'unresolved trauma', 'rejecting parents', 'idealization', 'derogation' and 'valuing independence'. They scored low on 'loving parents', 'coherence of script' and 'neglect'. The control group shows the opposite results. 'Atopic predisposition' and '% working' were similar in both groups. With reference to 'nature' vs. 'nurture', we observed comparable parental atopic predispositions, yet substantial differences in the mothers' behavioural patterns. Studies have revealed that dismissively attached parents fail to provide the required care, notably when children are most in need of parental attunement (Schaver MMAPR. *Attachment in Adulthood: Structure, Dynamics, and Change*. New York: Guilford Press, 2007). High scores on 'lack of memory', 'unresolved trauma', 'idealization' and 'derogation', and low scores on 'coherence of script' and 'neglect', as shown here with mothers of atopic infants, are associated with insecure dismissive attachment. Unintentionally failing to provide required maternal care leaves the infant in distress. This suggests that maternal attunement is a relevant risk factor in the development of AD. As time-consuming interviews are unfeasible in clinical situations, a practical measurement tool is needed to identify this AD risk factor.

Bo8

Eczema and interpersonal avoidance

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Common skin conditions such as acne, psoriasis and eczema carry a large psychosocial burden for the affected individual and can leave them susceptible to stigmatization and isolation. A common misconception is that they are contagious diseases.

It has been suggested that our 'behavioural immune system' protects us from the potential threat of disease-causing pathogens by encouraging avoidance of situations that may cause disease. Individuals who are sensitive to disgust and/or show high levels of health anxiety may aim, in particular, to avoid potential disease-causing situations. In the reported experiment we investigate whether the presence of visible eczema (on the face and hands) is related to interpersonal aversion towards the affected individual. Healthy volunteers (with no history of skin disease) viewed images of either faces or hands with no eczema, mild eczema and more severe eczema. Participants indicated their willingness for social (items rated on 5-point Likert scale) and indirect (11 items rated on a 5-point Likert scale) contact with the viewed person. A number of variables that could influence avoidance were also measured. These included 'disgust sensitivity' (using the Disgust Propensity and Sensitivity Scale – Revised) and 'health anxiety' (using an adapted version of the Whitely Index scale). The perceived attractiveness of the person was also rated. Finally, we measured the 'social impact of COVID-19' (using an adapted version of the Social Withdrawal Scale). Preliminary results suggest that when viewing people with eczema, the likelihood of interpersonal aversion (social or indirect) is related to the visibility of their eczema. Individual attitudes to disgust and the fear of contamination mediate this relationship. An unwarranted fear of infection may lead to avoidance behaviour towards those with eczema. Additional research is needed to understand fully the factors that influence avoidance of contact behaviour.

B09

Topical steroid withdrawal: an emerging clinical problem T. Sung-rab Brookes,¹ R. Barlow,² P. Mohandas³ and A. Bewley³

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Topical steroid withdrawal (TSW) is the clinical manifestation of inappropriate, prolonged, frequent use of mid-to-high potency topical corticosteroids (TCS) thought to be secondary to nitric oxide-mediated vasodilation. No consensus diagnostic criterion exists. TSW is frequently interpreted as flaring of the underlying disorder or contact allergy to topical treatment. Irrespective of academic divide, a distinct phenotype clearly manifests after chronic inappropriate use of TCS with reported improvement following the discontinuation of TCS (Sheary B. Topical steroid withdrawal: a case series of 10 children. *Acta Dermatovenerol* 2019;**99**:551–6). Further characterization is required, as recognized by the National Eczema Society, UK (<https://eczema.org/wp-content/uploads/Topical-Steroid-Withdrawal-position-statement.pdf>). A retrospective case note review of patients from January 2019 to January 2021 in our multidisciplinary (MDT) psychodermatology service identified 11 cases of TSW (nine females and two males; age range 22–48 years). All 11 had underlying atopic dermatitis. The most frequently reported features included burning, redness,

swelling, pain and itching. Two distinctive patterns regarding TCS were noted; worsening of symptoms upon reducing or stopping TCS and worsening upon restarting TCS; the one patient patch tested was negative to the steroid series. Similar patterns were noted with calcineurin inhibitors and emollients. Eczema was typically severe, with three patients undergoing recurrent admissions for infected eczema. There was a high burden of comorbid anxiety and depression. Dermatology Life Quality Index scoring was recorded for two patients, and was 12 and 15, respectively. All patients reported a profound effect on daily living. Eight patients presented with their online research; four of whom sought private consultation with international dermatologists, in Japan and the USA. Nonconventional self-funded treatments included traditional Chinese medicine, acupuncture, handheld ultraviolet devices, no moisture regimens, organic beef fat-based emollients and herbalists. Improvements were noted in the context of open psychodermatology consultations with earlier introduction of phototherapy, systemics and biologics. Symptomatic relief was achieved with amitriptyline, gabapentin and extended courses of low-dose antibiotics. TSW compounded by COVID-19 isolation has driven patients to seek help from unregulated online sources, heightening the burden of mental, social and physical morbidity. This is complicated by the rise in social media and the constantly changing landscape of influencer-endorsed products and skin regimes. Patients with TSW need to be heard and acknowledged by the medical community. We therefore advocate a holistic approach in the setting of an MDT psychodermatology service to improve outcomes.

B10

Psychopathological profile and response to combined therapy with mirtazapine and sertraline in patients with somatoform pruritus

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Somatoform pruritus (SP) occurs in the absence of no other potential causes of pruritus and constitutes a debilitating condition associated with psychogenic aetiologies. In patients with SP, symptoms can significantly decrease their quality of life by contributing to anxiety, sleep disturbances and depression. Recent studies have demonstrated the effectiveness of mirtazapine and selective serotonin reuptake inhibitor monotherapy in relieving chronic itch, but no controlled trials have studied a combination of both antipruritic agents with respect to efficacy, safety and tolerability in SP. The present study aimed to describe the psychopathological profile of patients with SP and to evaluate the clinical response to combined therapy with mirtazapine and sertraline. A quasi-experimental, before-and-after study was designed. At the time of screening (T0), patients' eligibility was assessed. Following a systematized protocol, a panel of sociodemographic data, clinical features, laboratory tests and chest X-rays were collected, in order to

rule out systemic disease. A psychoemotional evaluation through structured questionnaires was also performed. Patients received sertraline 50 mg daily and mirtazapine 15 mg daily. Three follow-up visits were performed. The first two visits [after 6 weeks (T1) and 3 months (T2), respectively], were carried out to assess clinical improvement and side-effects. At the third visit, after 6 months of treatment (T3), clinical and psychoemotional variables were reassessed. Primary outcomes included improvement in pruritus severity [delta numerical rating scale (Δ NRS)] and quality of life [delta Dermatology Life Quality Index (Δ DLQI)]. Of 35 patients included in the study, 20 [15 women and five men; mean (SD) age 64.80 (14.52) years] completed the 6-month treatment with sertraline and mirtazapine. Anxiety and depression symptoms were prevalent in these patients at baseline (69% and 51%, respectively). There was a statistically significant decrease in mean (SD) NRS scores from T0 [7.20 (2.17)] to T3 [2.90 (2.67)]; $t(19) = 5.78$ (two-tailed $P < 0.001$). The mean (SD) decrease in NRS scores was 4.30 (3.33). Quality of life, anxiety and depression also showed a statistically significant improvement from T0 to T3. Mirtazapine and sertraline were generally well tolerated, with only three patients (15%) reporting side-effects. The present study highlights the burden of psychological impairment in patients with SP and strongly points to the need of proper therapeutic approach. The results from this study seem to support the safety and potential efficacy of combined therapy with sertraline and mirtazapine in patients with SP. However, further randomized placebo-controlled trials are needed to determine accurately the therapeutic effect of both drugs.

B11

Biopsychosocial correlates of scratching behaviour in patients with psoriasis: the role of implicit self-esteem

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Itch is frequently experienced in patients with chronic skin diseases such as psoriasis and provokes the urge to scratch, which may further damage the skin. This vicious itch-scratch cycle forms an important challenge in dermatological treatment. Previous research shows that psychosocial factors can influence itch and scratching. Chronic skin conditions are also known for their psychosocial impact, including detrimental effects on self-esteem. Few studies have examined psychosocial predictors of scratching behaviour in people with psoriasis. Furthermore, whereas dual-process models theorize that impulsive behaviour such as scratching is – to a large extent –

determined by implicit processes, no research to date has examined the relationship between implicit self-esteem and scratching behaviour. Therefore, the aims of this cross-sectional observational study were to (i) examine and compare levels of implicit and self-reported self-esteem in patients with psoriasis and healthy controls; and (ii) examine biopsychosocial predictors of scratching behaviour [i.e. implicit self-esteem (Name Letter Preference Test); self-reported self-esteem (Rosenberg Self-Esteem Scale); itch (Impact of Chronic Skin Disease on Daily Life); psychological distress (Hospital Anxiety and Depression Scale); and disease severity (self-assessed Psoriasis and Area Severity Index)]. Preliminary results from 100 participants (psoriasis, $n = 50$; general population, $n = 50$) showed that implicit self-esteem was lower in patients with psoriasis than in controls ($P < 0.05$), while self-reported self-esteem was similar in both groups ($P = 0.52$). In multiple regression analyses, itch and implicit self-esteem were predictive of more self-reported scratching behaviour ($P < 0.05$), while self-reported self-esteem, psychological distress and disease severity were not predictive ($P \geq 0.28$). In line with dual-process models, these results suggest that implicit self-esteem relates to scratching behaviour, over and above self-reported self-esteem, psychological distress and disease severity. Furthermore, these results add to our previous work in which we found that patients with psoriasis showed an implicit avoidance bias towards stigmatization-related stimuli (van Beugen S, Maas J, van Laarhoven AI et al. Implicit stigmatization-related biases in individuals with skin conditions and their significant others. *Health Psychol* 2016;**35**:861–5), suggesting that several implicit processes play a role in both the psychological and physical impact of chronic skin conditions. Future research may extend these findings in prospective studies, to disentangle potential causal pathways and further examine the potential clinical implications.

B12

Neurodermatitis and emotions

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Lichen simplex chronicus (LSC) or neurodermatitis circumscripta is a circumscribed lichenification area of the skin characterized by excessive scratching and/or rubbing caused by the itch-scratch-itch cycle, which is hard to break. Although some authors believe that it is a chronic and localized form of atopic dermatitis, its pathogenesis is still unclear. Intractable pruritus is the main symptom, associated with chronicity and also progression of lesions. Paroxysmal attacks of itching are induced by negative emotional experiences and followed by gratification when scratching the skin. These attacks last until the desire passes and then chemicals released during scratching arouse further itching; thus, a new attack begins and a vicious circle emerges. This is, in fact, the continual and self-perpetuating nature of the disease. Previous reports have demonstrated that psychological factors may play a role in both the initiation and persistence of the disease. Patients with LSC have

proportionally higher incidences of depressive, dissociative and anxiety disorders; obsessive–compulsive personality traits; sleep disturbances; and sexual dysfunction. Some develop secondarily to intense pruritic attacks; however, compulsive traits, emotional distress, including anxiety and depression, and even personality differences may play a role in triggering and maintaining itch–scratch–itch attacks. Therefore, it can occur in response to stressors. Cross-talk between the skin, brain and immune system is very likely to set up the psychophysiological ground of LSC. Clinicians should account for psychosocial aspects of the disease and be aware of the emotions of patients with LSC as a contributing factor. Furthermore, they should embrace a biopsychosocial approach to their patients.

B13

Skin tone lightening: a psychodermatological problem?

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The aim of this study was to enhance the knowledge and awareness of the public and clinicians of skin-lightening practices. In societies that strive for beauty and perfection, people are increasingly adopting risky behaviours to enhance their perceived body image. One of these behaviours is the use of skin-lightening products. These products are available without medical prescriptions, often via unregulated websites. Some products contain contaminants, or undisclosed ingredients, that are responsible for skin or systemic side-effects. In addition, little is known about the motivational factors behind this practice, including underlying psychological or psychiatric problems. A mixed-methodology approach was used, which included quantitative and qualitative studies. A semi-structured questionnaire, inclusive of validated tools such as the 10-item Rosenberg's Self-Esteem Scale (RSES-10), the Body Dysmorphic Disorder Questionnaire (BDDQ) and the Cutaneous Body Image Scale (CBIS), was disseminated in both online and clinical settings (in two dermatology clinics). The emerging evidence was integrated into semi-structured interviews with dermatological patients who used skin-lightening products. Five hundred responses were collected. Twenty-six per cent of respondents claimed to have used skin-lightening products. Thirty-five per cent of the online group and 10.4% of the clinical group used skin-lightening products. Alarmingly, about half the number of users (50.8%) reported some side-effects, of which skin redness and irritation were the most common. A logistic regression model was implemented, and a number of risk factors were identified. Asian females aged 25–34 years with a medium skin tone were the most likely group to use skin-lightening products. 'Being more beautiful' and 'having hyperpigmented lesions; were the most common reasons given for using skin-lightening products. In examining the potential psychological reasons for skin-lightening (RSES-10), we found that users were more likely to have self-esteem issues than nonusers ($P = 0.017$). There was no statistically significant association with BDDQ

and CBIS in people using skin lighteners. However, interviewed participants demonstrated body image concerns and even body dysmorphic disorder regarding their skin colour. Skin-lightening practices represent a potentially dangerous cosmetic behaviour that leads to various skin and systemic side-effects. There is an urgent need to improve the awareness of the risks of skin-lightening behaviour through collaboration with dermatologists, psychologists and psychiatrists, especially about the potentially harmful side-effects and regulation of these products.

B14

Suicide: last resort for the prisoners trapped in ill skin

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The skin–mind axis is well known and established. The connection between skin problems and various psychological deviations is not new. However, during the last two decades the bidirectional relationship between skin and various psychological conditions became the target of many researchers. Nowadays, it is widely accepted that sufferers of various skin diseases experience psychological conditions such as depression, anxiety and stigmatization, which can lead to suicidal thoughts and attempts. Articles about suicidality in dermatological patients have been published. However, this problem remains somehow out of the main dermatological 'highway'. Talks about suicidality are rarely delivered at dermatology meetings, and no suicidal cases are usually discussed. Dealing with suicide is difficult for any dermatologist. Also, training in dealing with suicidality in dermatological practice is limited. Our aim was to assess all forms of suicidality behaviour (including suicidal ideation, suicide attempts and completed suicide) in dermatology patients. The English-language literature was searched up to September 2020 for all available articles examining suicidality in dermatology patients. The search was done in PubMed and specific key words used in order to obtain all the information. The literature consistently points to an increased suicide risk in patients with psoriasis, atopic dermatitis and acne, with a higher risk in patients in whom the skin condition is associated with clinically significant emotional distress, changes in body image, difficulties in close relationships and impaired daily activities. Our research found that suicidality was mostly studied in individuals with psoriasis. Most of the studies also indicated that psoriasis has the highest incidence of suicidal behaviour. Research in patients with various skin diseases has confirmed that both suicidal ideation and attempts are not rare. Proper assessment of suicidality in dermatological practice is required in order to identify those at risk and prevent fatal consequences. Training is needed to improve dermatologists' knowledge and confidence in suicide assessment, in turn, providing dermatologists with an opportunity to recognize dermatology patients at risk of suicide, which may provide an opportunity to reduce suicide in this population. Increasing

dermatologist awareness of the issue of suicide and developing mental health consultation–liaison services within dermatology settings would be instrumental in contributing to suicide prevention in this population.

B15

Patients with nodular prurigo commonly have pre-existing psychological disease, which requires treatment concomitant with cutaneous treatments

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Nodular prurigo (NP) is a condition of both the skin and the mind, defined as multiple localized or generalized itchy nodules that become excoriated as a result of intractable pruritus. Retrospective data were collected from patients who had attended a psychodermatology clinic at least once between January 2007 and February 2017. The purpose of this study was to assess whether patients with NP had a pre-existing and/or concurrent psychological disorder, and to explore whether concomitant treatment of the psychological disorder improved outcomes for patients with NP. Forty patients were analysed [28 were females (70%), 12 males (30%), aged 18–93 years (mean 53.9)]. The majority of patients with NP were from a white ethnic background, despite the geographical area explored in this study having one of the lowest proportions of white British people in the UK. Almost two-thirds (65%) had either a current or past history of a psychiatric disorder. Of these, the most common mental health disorders were depression (46%), anxiety (19%) and schizoaffective disorder (15%). In total, there were 35 different treatments prescribed for the 40 patients in this study. Clinicians used psychotropic medication in 32 patients, at least one form of cognitive behavioural therapy (including habit reversal and/or psychotherapy) in 16 patients, phototherapy in 21 patients and steroid preparation in 19 patients. The remission rate of NP was low. Of the 40 patients, only 16 (40%) were better at the time the data was collected and had been discharged. Of these, 14 were on a range of combination therapies and the other two were on monotherapy. In conclusion, NP is a condition of the skin and mind that has been a recognized entity for a long time, although the treatment pathway remains poorly defined. The management of NP still follows the notion of trial-and-error, which is reflected in the wide array of treatments currently used for NP in our study. Our data also suggest that patients with NP respond better with a combination of any of phototherapy, psychotropic medication and topical treatment. It is hoped that guidelines and pathways for the treatment of NP can be standardized. It can be argued that lifestyle factors need to be addressed to improve outcomes and facilitate discharge. While treatment via a multidisciplinary approach within a specialist psychodermatology clinic is recommended, the prognosis remains fairly poor.

B16

Decrease in quality of life among patients with hidradenitis suppurativa: a cross-sectional study of 1795 patients

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The chronic, inflammatory skin disorder hidradenitis suppurativa (HS) is associated with the formation of lesions at multiple body areas, a foul smell, purulent discharge and considerable pain. As a result, negative influences on patients' quality of life (QoL) have been documented in prior publications. The aim of the study was to further characterize and understand the QoL impairment associated with HS in a cohort of 1795 German patients. The impairment in QoL was assessed with the use of Dermatology Life Quality Index (DLQI) and HS severity with Hurley staging system and International Hidradenitis Suppurativa Severity Score System (IHSS4). Additionally, life impairment was correlated with various clinical features. Overall, patients reported a very large effect of HS on their QoL [mean (SD) DLQI 13.2 (8.1) points]; 22% of the analysed population even reported the effect as extremely large and only 6% of patients reported that their HS had no effect on their QoL. Women tended to experience a significantly higher impairment than men ($P < 0.001$). The impairment in QoL correlated positively with pain ($r = 0.581$, $P < 0.001$), HS severity (measured by IHSS4) and Hurley stage. Neck involvement tended to decrease QoL significantly more than any other location [mean (SD) 14.7 (8.3) points]. This study, including a large cohort, confirms the enormous influence of HS on patients' QoL. The knowledge on impairment of QoL in patients with HS is crucial for proper understanding and holistic management of this disease.

B17

Alexithymia in patients with hidradenitis suppurativa assessed by the Bermond–Vorst Alexithymia Questionnaire (BVAQ)

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Hidradenitis suppurativa (HS) is a chronic, recurrent, inflammatory, debilitating skin condition. Owing to its chronic and recurrent course with significant stigmatization, HS negatively affects patients' mental health and quality of life (QoL). Stigmatization, social disorders, low self-esteem, negative

perception of the public image, anxiety and depression have already been reported as associated factors of this disease. Alexithymia – a personality trait characterized by impairment in identifying, distinguishing and describing, naming and expressing emotions to others – could be the next psychological disorder linked with HS. Alexithymia can be considered a negative prognostic factor inhibiting clinical improvement. The aim of the study was to analyse alexithymia in details, distinguishing its individual components. The study involved 100 patients (59 males and 41 females). The control group consisted of 110 healthy subjects (68 males and 42 females). Alexithymia was assessed by the Bermond–Vorst Alexithymia Questionnaire (BVAQ). HS severity was assessed with Hurley staging, Sartorius Score and the International Hidradenitis Suppurativa Severity Score System. QoL was evaluated with Dermatology Life Quality Index. The total BVAQ scores were significantly higher in the patient group compared with the control group ($P < 0.001$). The prevalence of alexithymia in the patient cohort was also significantly higher compared with healthy controls (41.0% vs. 25.5%; $P = 0.02$). Significantly higher total BVAQ values were present in patients with HS with a smoking addiction ($P < 0.05$). Patients with HS and healthy controls differed on the verbalizing ($P < 0.001$), fantasizing ($P < 0.01$) and analysing ($P < 0.001$) subscales. Patients with more severe HS had a significantly more impaired ability to fantasize and describe emotions ($P = 0.04$ and $P = 0.01$, respectively). Alexithymia occurs more frequently in patients with HS than in healthy controls. It seems that it can be considered as another psychological comorbidity of HS. Including emotionalizing and fantasizing while assessing alexithymia in BVAQ is a distinguishing factor between BVAQ and the commonly used Twenty-Item Toronto Alexithymia Scale (TAS-20). This is the first study that carefully analysed five basic factors of alexithymia, highlighting that verbalizing, fantasizing and analysing are mostly impaired in patients with HS.

B18

Body dysmorphic disorder and self-esteem in adolescents with acne vulgaris

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Body dysmorphic disorder (BDD) is a serious mental health disorder that is associated with an increased suicide risk and a decreased quality of life. Adolescents with BDD are especially at risk when compared to affected adults, as they are more prone to treatment resistance and suicidal behaviour. Although any perceived defect can become the primary focus of concern, dermatological conditions such as acne vulgaris (AV) are among the most common. The aim of this study was to determine the prevalence of BDD and measure self-esteem in adolescents with AV. As both AV and BDD have been linked to low self-esteem (Halvorsen JA, Stern RS, Dalgard F et al. Suicidal ideation, mental health problems, and social impairment are increased in adolescents with acne: a population-based

study. *J Invest Dermatol* 2011;131:363–70), we hypothesized that both conditions combined would result in lower measures of self-esteem than usually seen in either AV or BDD alone. Patients between 13 and 24 years of age being managed for AV were included at either a dermatology department or a skin clinic. After their visit to a dermatologist a 38-item self-report questionnaire was filled out, which included a BDD screening tool (using *Diagnostic and Statistical Manual of Mental Disorders*, 5th Edition BDD criteria) and the Rosenberg Self-Esteem Scale (RSES). The severity of AV was graded using the Cook acne grading scale. The mean (SD) age of our cohort was 18.4 (2.9) years. Of our 38 patients, 55.3% were female and 32 were included at a dermatological outpatient clinic, whereas six were included at a skin clinic. Our preliminary findings showed that five of 38 individuals with AV screened positive for BDD (13%). Those who screened positive for BDD were more often female ($P = 0.001$), younger (not significant) and had a longer history of AV (not significant) than those who screened negative. There were no statistically significant differences in RSES between those with positive and negative screening results for BDD (21.0 vs. 21.9, respectively), which both fall in the average range of RSES scores for the general population (i.e. 15 and 25; Florián-Vargas, Carruitero Honores MJ, Bernabé E, Flores-Mir C. Self-esteem in adolescents with Angle Class I, II and III malocclusion in a Peruvian sample. *Dental Press J Orthodont* 2016;21:59–64). Females reported spending more hours daily on their appearance than males ($P = 0.001$). We demonstrated a prevalence for BDD of 13.2% in adolescents and young adults with AV in a clinical setting. Our findings suggest that adolescents seeking treatment for AV have a greater risk of experiencing BDD symptoms than the general population, although larger trials are required to confirm these preliminary results. Ultimately, more awareness of BDD among adolescents with dermatological conditions could lead to the implementation of better screening strategies with subsequent referral to a psychiatric unit for further evaluation.

B19

Comparison the effects of biologics and methotrexate treatments on depression and anxiety symptoms in patients with psoriasis

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In patients with psoriasis, psychiatric comorbidities such as anxiety, depression and impairment of quality of life (QoL) are frequently seen (Russo PA, Ilchef R, Cooper AJ. Psychiatric morbidity in psoriasis: a review. *Australas J Dermatol* 2004;45:155–61). In recent years, the common pathogenesis has been focused on systemic inflammation. However, whether these psychiatric comorbidities are directly related to cytokine dysregulation or secondary to psychosocial triggers in psoriasis is unclear. We aimed to investigate the effects of methotrexate (MTX) and biologics, which act against

inflammation, on the symptoms of depression and anxiety. Secondly, we aimed to compare the changes of these symptoms with systemic inflammation parameters accepted as common pathogenesis. Sixty patients with moderate-to-severe psoriasis scheduled to be treated with biologics or MTX were enrolled. Disease severity was assessed with the Psoriasis Area Severity Index (PASI). At baseline and at week 24 of treatment, all patients completed the Beck Anxiety Inventory (BAI), Beck Depression Inventory (BDI) and Dermatology Life Quality Index (DLQI). Inflammation was also assessed with serum C-reactive protein (CRP) and tumour necrosis factor (TNF)- α levels. The decreases in anxiety and depression scores at week 24 of treatment were statistically significant in both patient groups receiving biologics and MTX. However, when the decrease in the median BAI and BDI scores of the two groups were compared, no statistically significant difference was found (all $P > 0.05$). The decrease in DLQI scores in both groups after treatment was statistically significant. However, when the two treatments were compared, the median decrease in DLQI scores of patients receiving biologics was statistically significantly superior compared with those receiving MTX ($P = 0.007$). There was a statistically significant positive correlation between median decrease in BDI scores and PASI response ($r = 0.267$, $P = 0.039$), and median decrease in DLQI score ($r = 0.385$, $P = 0.002$). Although both treatments reduced serum inflammation parameters, especially serum CRP levels, there was no significant correlation between median decrease in BDI and BAI scores and median decrease in the serum CRP and TNF- α levels. Treatment with both MTX and biologics reduces depression and anxiety symptoms without a significant difference between treatments; however, biologics improve the QoL of patients with moderate-to-severe psoriasis better than MTX. However, systemic inflammation parameters do not accompany the changes in depression and anxiety symptoms in these patients.

B20

Informing the development of a Needs Assessment Tool for Ichthyosis Caregivers (NAT-IC): an international multimethod qualitative study using framework analysis

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Ichthyosis refers to a group of rare, genetic, incurable skin disorders that can be difficult to diagnose, despite having one of the most harmful impacts on a patient's quality of life. Although current international policy and guidance recommend that informal dermatological caregivers should have access to regular appropriate assessment, no solution-focused model that directly assesses care needs exists. To inform the development of evidence-based items for a needs assessment tool, international ichthyosis caregivers were invited to share their perspectives of key aspects of perceived need and useful supports. Online qualitative semi-structured interviews ($n = 7$), focus groups ($n = 6$) and email interviews

($n = 5$) were conducted with 39 caregivers across four continents, recruited via two medically recognized online ichthyosis support groups. Transcripts were imported to NVivo and drawing on elements of framework analysis, an inductive approach was applied to data analysis. Caregivers, including grandparents, adoptive and affected parents, provided care for 46 children (age range 0–25 years) affected by the five main subtypes of ichthyosis. Caregiving experiences represented key transitions along the care continuum, including hospital and bereavement. Despite being grounded in different health cultures, needs clustered under two overarching competing themes: (i) provision of appropriate care for their affected child (information support needs, education and training for caregiver and healthcare professionals, formal and informal care support needs) and (ii) addressing their own personal needs (physical and emotional health care needs). Needs were dependent on the demands and resources of the caregiver, the caregiving situation and the timely recognition of potential triggers and barriers to caregiver identification. When supportive care needs remained unidentified, caregivers assertively assumed the role of vigilant protector, increasing burnout and perpetuating social isolation and stigmatization. Caregivers reported reduced participation when supports were provided after significant negative emotional responses. Significantly, a bidirectional relationship between caregiver and child psychological well-being was indicated in the findings. Development of a disease-specific self-administered caregiver needs assessment e-tool is justified, particularly with increasing emphasis on e-health. In the context of an ever-increasing demand on limited and valuable healthcare resources, findings imply that the concept of global burden as a health breach should be reconsidered within the construct of 'prevention is better than cure'. An accessible integrated solution-focused model of assessment would best serve to cultivate caregiver self-determination, facilitating caregivers to self-articulate their needs and choose their own solutions, providing clinicians with an opportunity to triage and/or identify self-reported unmet care needs.

B21

Global awareness, knowledge, and practice patterns of psychodermatology: a systematic review

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The topic of psychodermatology has long been under-represented in dermatological research and training, despite the prevalence of psychocutaneous diseases and the potential utility of increased knowledge and awareness among physicians. In better understanding the training gaps among dermatologists, as well as the interest in further psychodermatology education, targeted and effective changes can be made to current curriculums and continuing medical education (CME) around the world. The purpose of the current study was to report key

findings generated from an analysis of available literature on psychodermatology knowledge, awareness and practice patterns among dermatologists worldwide to better elucidate the educational needs and interests of practising physicians. To identify literature from inception to 23 December 2020, the following search strategy was used within the PubMed and Google Scholar databases: *psychodermatology OR psychocutaneous disorders OR psychodermatology practice patterns OR psychodermatology awareness OR psychodermatology attitudes OR psychodermatology knowledge*. Studies were excluded if they were reviews or book chapters, were not written in the English language, or had insufficient detail or an inadequate study design. Studies were included if they were identified as having collected data from a survey instrument assessing psychodermatology awareness, knowledge and practice patterns of dermatologists and dermatology trainees. Of 1347 records screened, a total of 12 cross-sectional studies were identified as having collected data from 2466 dermatologists in 18 countries worldwide. Results indicate that a majority of participants provide weekly psychodermatological care, with 54.6% of respondents reporting > 30 psychodermatology cases per week. However, only 12.9% of respondents reported feeling very comfortable treating patients presenting with psychocutaneous concerns and only 18.7% had a clear understanding of psychodermatology. Eighty-five per cent of dermatologists were unaware of any psychodermatology resources. Almost two-thirds of participants had no formal training in psychodermatology, and 72.3% reported an interest in CME activities with an emphasis on secondary depression and anxiety, trichotillomania and self-injurious skin lesions. Despite frequently treating patients with psychocutaneous diseases, many dermatologists may lack the knowledge and comfort necessary to provide quality psychodermatological care. Our findings highlight a considerable need for and interest in increased psychodermatology training among dermatologists worldwide. International variations in the most commonly encountered psychocutaneous diseases, reasons for psychiatric referral, and identified knowledge gaps necessitate a region-specific approach to creating a culturally relevant physician understanding of psychodermatology. As such, incorporation of psychodermatology curriculums into residency training programmes and CME activities should be considered.

B22

Assessment of eating attitude and psychiatric parameters in patients with acne vulgaris

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Acne vulgaris (AV) is a chronic disease that involves mainly adolescents and affects emotional well-being. AV is associated with psychological comorbidities such as anxiety, depression and body image dissatisfaction, which may contribute to disturbed eating. To our knowledge, there have been no studies exploring eating disorders in patients with AV so far. The aim

of the study was to determine whether there is a relation between AV and disordered eating attitudes. A cohort study was designed consisting of 100 patients with AV and 86 healthy controls aged between 17 and 40 years. A sociodemographic form, which was constructed by the authors and included all required data besides demographic features; Eating Attitudes Test-40 (EAT-40); Symptom Check List-90 Revised (SCL90-R) scale; and – for crosschecking and to identify the characteristics of possible eating disorder – the Eating Disorder Examination Questionnaire (EDE-Q) were applied to all participants. The mean (SD) EAT-40 score was significantly higher in the AV group [24.1 (17.4)] compared with controls [14.2 (9.0); $P < 0.001$]. A significantly higher proportion of patients with AV (27%) had an EAT-40 score ≥ 30 compared with controls (6.9%; $P < 0.001$). Total EDE-Q and each subscale scores were statistically significantly higher in AV group (all $P < 0.001$). EAT-40 scores were positively correlated with EDE-Q scores for both groups ($r = 0.749$; $P < 0.001$). When we compared patients with an EAT-40 score ≥ 30 , the number of patients with a score of ≥ 4 on the Restraint Eating and Weight Concern subscales of the EDE-Q was statistically significant compared with the control group ($P = 0.003$ and $P = 0.034$, respectively). There was no statistically significant difference in EAT-40 and EDE-Q scores between males and females with AV ($P = 0.432$ and $P = 0.839$, respectively). We also found that obsessive-compulsive and depression subscores of the SCL90-R in patients with AV who had EAT-40 scores ≥ 30 were statistically significantly higher compared with those had EAT-40 scores < 30 ($P = 0.030$ and $P = 0.006$, respectively). Dermatologists should be aware of possible emotional and psychosocial issues in patients with AV who may have variable problems related to each other. Clinicians are recommended to screen patients with AV for possible disordered eating behaviours with particular attention to related obsessive-compulsive and depression and, if necessary, should collaborate with psychologist or psychiatrists.

B23

An investigation into mood and neurodevelopmental disorder-associated traits in X-linked ichthyosis, ichthyosis vulgaris and psoriasis

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Previous literature has revealed increased rates of neurodevelopmental/mood disorders, and associated traits, in males affected by X-linked ichthyosis (XLI) and female carriers, as well as increased mood problems for adult males and females affected by ichthyosis vulgaris (IV) and psoriasis. The purpose of this study is to examine neurodevelopmental disorder-associated (NDDA) traits for adult males and females affected by IV and psoriasis, and to identify potential factors influencing mood across XLI, IV and psoriasis groups. Using an online self-report questionnaire distributed worldwide, we used the Adult ADHD Self-Report Scale (ASRS) and Autism Spectrum Quotient (AQ-10) to collect data on NDDA traits, and Kessler

10 (K10) and custom-designed scales to assess recent mood and factors influencing mood traits, respectively. Currently, we have data from adult males and females diagnosed with IV ($n = 69$) or psoriasis ($n = 104$), males diagnosed with XLI ($n = 43$) and female carriers of genetic variants associated with XLI ($n = 71$). Females with IV or psoriasis demonstrated significantly elevated attention deficit/hyperactivity disorder (ADHD)-related traits compared with matched general population samples, whereas males with these conditions did not. Autism-related traits were slightly elevated for males and females with IV, and males and females with psoriasis presented similar rates to general population samples. High levels of mood symptoms were seen across all groups. In males with XLI, mood problems were most strongly associated with bullying/stigma and the need to apply treatment. Across males and females with IV and psoriasis, mood symptoms were consistently strongly associated with pain, itching and discomfort. NDDA traits did not seem to be related to mood to any great extent. These data are consistent with recent findings demonstrating high rates of comorbidity between autoimmune conditions and ADHD, especially in females. They suggest that strategies designed to reduce bullying/stigma and alleviate discomfort in dermatological patients may be particularly effective in reducing associated mood problems.

E01

Prevalence of symptoms of body dysmorphic disorder in patients with dermatological conditions compared to healthy skin controls: results of the ESDAP-study-II

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Skin conditions often lead to noticeable changes in appearance. There is some debate as to whether such distress about appearance in people with skin conditions represents body dysmorphic disorder (BDD) or is a normative adjustment reaction. Several studies have found that BDD symptoms are more prevalent in patients with skin diseases vs. healthy controls. However, sample sizes in former studies were small and there has been no comparison of different skin conditions with BDD. Also, the association between sociodemographic, psychological, physical factors and the occurrence of BDD symptoms has not been investigated in a large cross-cultural sample. Therefore, this study compared the prevalence of BDD symptoms in patients with different dermatological conditions to the prevalence in healthy skin controls and investigated factors associated with BDD symptoms. In total, 5487 consecutive patients with different skin diseases recruited at 22 outpatient clinics in 16 European countries (56% female) were included in this observational cross-sectional study. In addition, 2808 healthy skin controls (66% female) were recruited. Sociodemographic and psychological factors, and physical conditions were self-reported. BDD was assessed by the Dysmorphic Concern Questionnaire, which is a self-report instrument used for BDD screening and validated for the assessment of BDD symptoms according to the Diagnostic and

Statistical Manual of Mental Disorders, 4th Edition. The dermatological condition was classified according to International Classification of Diseases, 10th Revision criteria by the attending dermatologist. BDD symptoms were five times more prevalent in patients with dermatological conditions vs. healthy skin controls (10.5% vs. 2.1%). Patients who had at least a fivefold increased risk of clinically relevant BDD symptoms vs. the control group were patients with hyperhidrosis, psychodermatological conditions, hidradenitis suppurativa, alopecia areata, vitiligo, other alopecias, acne, atopic dermatitis, metabolic/systemic diseases, psoriasis, urticaria and bullous diseases. The occurrence of BDD symptoms was significantly related to age, sex, self-rated health, depression and stress in patients with skin diseases and healthy skin controls (all $P < 0.05$). Among persons with dermatological conditions, anxiety, suicidal ideation and the visibility of flares were also associated with the occurrence of BDD symptoms (all $P < 0.05$). This study revealed that dermatological conditions are often associated with the occurrence of BDD symptoms. As such symptoms can lead to unhelpful treatment searching, the use of ineffective medical and surgical treatments and higher psychological stress in the patients, these results suggest that dermatologists should regularly screen for BDD or appearance-related concern and provide information about BDD to patients and, where necessary, refer patients for effective treatments (e.g. cognitive-behavioural therapy).

E02

Reaching our patients: the role of advertising in psychodermatology Plamena Papazova

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Psychodermatology has grown significantly in the last decade. Research in the field is being steadily generated and new practices are being set up. Yet the public remains largely unaware of the efforts of researchers and clinicians. Of particular concern are patients suffering from psychodermatological conditions who are not informed of the field's existence. This creates a complex issue. Firstly, healthcare services are not reaching those who need them. Secondly, clinicians in smaller areas that lack referral systems are only seeing a fraction of potential patients. This paper proposes solutions to those problems by putting forward advertising techniques employed by similar industries. Our team takes this one step further by combining the expertise of practitioners from the field of psychodermatology and experts in advertising to create guidelines for current and aspiring psychodermatological practices to advertise actively and effectively to their client populations.

E03

One-year data from a new national UK paediatric psychodermatology service A. Sears, R. Ali and S. Baron

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There is poor care provision for children and young people (CYP) experiencing psychological distress associated with skin disease and presenting with skin conditions due to psychological/psychiatric/neurodevelopmental disorders, which was highlighted in the recent Mind and Skin All Parliamentary Group 2020 report. These CYP rarely meet the threshold for Child and Adolescent Mental Health Services. To address these needs, a new monthly face-to-face secondary/tertiary multidisciplinary (MDT) paediatric psychodermatology service was established with a consultant dermatologist, paediatric clinical psychologist and paediatric liaison psychiatrist. We report our first-year data from February 2020 to February 2021. Consultations (60 min) have three stages: (i) the CYP/parent(s) jointly assessed by a dermatologist and psychologist, respectively; (ii) the CYP/parent(s) have individual consultations with the psychologist and dermatologist; and (iii) the CYP, parent(s) and clinicians jointly agree a psychological/clinical action plan. Owing to the COVID-19 pandemic, from April 2020 clinics were held virtually and the CYP and psychologist had an individual video session, while parents had a telephone consultation with the dermatologist. Twenty-one new CYPs [19 females, mean (SD) age 12 (3.4) years (range 3–17)] were seen. Referral sources were general paediatric dermatology ($n = 15$), tertiary severe eczema service ($n = 3$) and general practice ($n = 3$). Median distance from CYP home to clinic was 9.1 miles (range 1.4–105); five CYPs lived > 40 miles from the clinic. Eleven CYPs were discharged (seven after one appointment); one family declined care and the remaining nine continue with follow-up (mean 1.8 appointments to date). Seventy-one per cent have a primary psychological/psychiatric disorder: trichotillomania ($n = 8$); medically unexplained skin lesions (dermatitis artefacta; $n = 5$); and skin picking ($n = 2$). Nineteen per cent have a skin condition resulting in psychological comorbidities: acne with depression ($n = 1$); habitual scratching following scabies ($n = 1$); and severe atopic eczema with psychosocial comorbidity ($n = 3$). Two patients had overlap with severe atopic eczema and skin picking/depression, and significant depression/eating disorder, respectively. Psychological and social themes that emerged included bullying, grief, gender identity disorder, sexuality, body image disturbance and family-related stress. Existing data support the cost-effectiveness of adult psychodermatology MDT services. Our data also suggest this in children, with successful outcomes in a third of patients after one appointment. This simple virtual model resulted in no 'did not attend', and CYPs and parents liked it because of reduced loss of school/work time. Furthermore, CYPs are extremely comfortable in a virtual world, and were relaxed and engaged more freely at home. This virtual model could therefore facilitate improved access to psychodermatology MDT support for many more children and families nationwide.

Eo4**Defining, understanding and measuring the impact of dermatological conditions on patients' lives: a qualitative concept elicitation study for a new patient-reported impact of dermatological disease (PRIDD) measure**P. Rachael,¹ H. Rachael,¹ N. Trialonis-Suthakharan,² E. Chachos,³ M. Augustin² and C. Bundy¹¹Cardiff University, Cardiff, UK; ²University Medical Center Hamburg-Eppendorf, Hamburg, Germany; and ³Monash University, Melbourne, Australia

Dermatological conditions are reported to cause substantial pain, disfigurement, disability and stigma, and have a psychological, social and financial burden. Yet, the full impact is likely to be underestimated. Our recent systematic review found that no existing patient-reported outcome measure (PROM) used in dermatology comprehensively captured the full impact of living with dermatological conditions as most were developed without sufficient patient input. The Global Research on the Impact of Dermatological Diseases (GRIDD) project will develop a new Patient-Reported Impact of Dermatological Disease (PRIDD) measure. GRIDD is funded by the International Alliance of Dermatology Patient Organizations (IADPO, also known as GlobalSkin). Content validity is considered the most important measurement property of PROMs and is therefore fundamental to the development of a scientifically sound instrument. As the first step in the content validity phase of PRIDD, this qualitative concept elicitation study aimed to develop a conceptual framework of impact to build the new measure. We conducted a qualitative interview study combining face-to-face focus groups and online synchronous individual semi-structured interviews. Adults (aged ≥ 18 years) who either had a dermatological condition or were a dermatology patient organization representative were recruited through the IADPO's membership network. Interview questions were theoretically informed by the Common-Sense Self-Regulatory Model. Thematic analysis was conducted following a combined inductive and deductive approach. Sixty-three people (68% female) representing 29 dermatological conditions participated. Impact was captured across five key themes: (i) dermatological conditions impact at the individual, organizational and societal levels; (ii) degree of impact varies across individuals and time; (iii) impact can be both point in time and cumulative; (iv) impact is a multifaceted construct; and (v) dermatological conditions share common impacts. Five impacts common across conditions were discerned: (i) physical consequences; (ii) increased visibility; (iii) lack of awareness of dermatological conditions at the individual, organizational and societal levels; (iv) challenges to personal autonomy; and (v) increased pressure. Psychological and social impacts were generally considered to be the most important to participants. Impact is a multifaceted concept involving physical, psychological, social and financial functioning, as well as daily responsibilities and healthcare. The breadth of impact has not previously been captured as a unified construct using a single instrument. The data provide a basis for developing PRIDD's content. The next step in the

content validity phase is a Delphi study to seek consensus from a wider pool of people with dermatological conditions regarding what concepts of impact are most important and should be prioritized for inclusion in PRIDD.

Eo5**An analysis of qualitative responses from a UK survey on the psychosocial well-being of people with skin conditions and their experiences of accessing psychological support**M.-J. Wheeler,¹ S. Guterres,² A. Thompson^{1,3} and Anthony Bewley⁴¹Cardiff University/Cardiff & Vale University Health Board, Cardiff, UK;²All Party Parliamentary Group on Skin, London, UK; ³University of Sheffield, Sheffield, UK; and ⁴Barts Health Care NHS Foundation Trust, London, UK

Skin conditions can have a large emotional, psychological and psychiatric impact on the individual. It is important to understand this impact by gaining views from a large cohort of skin patients. Therefore the 'All Party Parliamentary Group on Skin' (APPGS) commissioned a largely qualitative survey in order to further understand people experiences of living with a skin condition and of accessing services. This survey was proposed as part of the underlying evidence that would inform the APPGS's Mental Health and Skin Disease report. A free-text electronic survey was widely distributed by professional bodies and skin-related charities. Responses were analysed using descriptive thematic analysis and descriptive statistics. Data for each question were classified and labelled, leading to the development of a coding frame. Inter-rater reliability was assessed using Cohen's kappa. In total, 544 participants (84% female) completed the survey. The majority of respondents had eczema (43%) or psoriasis (33%). The thematic analysis revealed five key themes associated with impact on mood; impact of intimacy; impact on activities of daily living; lack of recognition from others of impact; and lack of accessible services. The survey demonstrates that there is an urgent need to improve both awareness of the impact that skin conditions can have, and for the provision of psychological services to address this impact.

Eo6**Single-centre experience of setting up a psychodermatology clinic: making the most of what you have**

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The recent report from the All Party Parliamentary Group on Skin highlights the ongoing lack of dedicated psychodermatology services in the UK, despite a growing need. Establishing new services in psychodermatology in a climate of reduced funding, lack of specialists and capacity pressures is challenging. Here we present a single-centre experience of setting up a psychodermatology clinic with limited available resources yet providing a patient- and staff-valued service. The

psychodermatology clinic was set up under the direction of a consultant dermatologist with a specialist interest in psychodermatology. The first stage of service development required tariff negotiation with the Clinical Commissioning Group. The referral process has been kept broad to facilitate patient movement into the service. Currently, this means direct referral from primary or secondary care at a national level. Patients are seen in extended appointments in a dedicated clinic room by a single dermatologist and further multidisciplinary support is sought from local services directly based on clinical need. This has meant engaging local psychological services (e.g. child and adolescent mental health services, and psychological and psychosexual therapies) and navigating other mental health services via a single point of access system. Dermatology specialist nurses have also been upskilled to provide additional services (e.g. habit reversal and patient education). Clinic support staff follow a psychodermatology protocol when greeting patients that involves administration of approved questionnaires to help assess psychological health (e.g. Dermatology Life Quality Index and Hospital Anxiety and Depression score). Challenging cases are referred to a tertiary psychodermatology referral centre for added support. The service is subject to regular clinical governance that has demonstrated effectiveness. Patients have been satisfied with the service provided by the psychodermatology clinic in its current setup. Staff in the dermatology department have also benefited in key areas such as research, access to psychodermatology services and patient outcomes. Overall, setting up a psychodermatology service even with limited resources can be beneficial for both patients and staff. Establishing good working relationships with local services is key when planning psychodermatological care. In the situation of running psychodermatology clinics with reduced resources, utilizing options for a virtual multidisciplinary team meeting with relevant healthcare professionals may be an acceptable substitute to combined clinics. Less resourced clinics can also benefit from specialist guidance from regional centres via a newly established psychodermatology virtual multidisciplinary team, which unites several healthcare professionals in psychodermatology from a variety of centres.

E07

Tattoos in dermatology: demographics, motivations, tattooing practices

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Tattoos are very popular in today's world. People get tattoos for many different reasons and motivations. The aim of this study was to determine the demographics, the characteristics of tattoos, motivations for getting tattoos, tattooing practices and tattoo regret. This multicentre cross-sectional study was conducted among 302 patients having at least one tattoo attending dermatology outpatient clinics. A questionnaire including all required patient data, tattoo characteristics and possible reasons for obtaining tattoos was designed and applied to all participants. Possible reasons were scored by patients between 1 (not a reason) and 5 (very strong reason). Of 302 patients, 140 (46.4%) were female and 162 (53.6%) were male. Mean (SD) age was 28.3 (8.1) years [interquartile range (IQR) 16–62], while mean (SD) age at the time of getting a first tattoo was 21.8 (6.8) years (IQR 12–56). Fifty-three per cent of participants (n = 160) had at least one tattoo involving letters or numbers. Most of these tattoos were names, initial letters or meaningful dates regarding a loved one, and motivational quotes such as 'carpe diem'. Religious tattoos were the least common tattoos in the study group [n = 76 (25.2%)]. Eighty participants (26.5%) stated regret about at least one of their tattoos and 34 (42.5%) had their unwanted tattoo removed or camouflaged with a new tattoo. The most common reason for regret was 'not liking the tattoo anymore'. The most common motivations for having tattoos were 'to feel independent', 'to feel better about himself/herself' and 'to look good'. Women had higher scores than men regarding tattoo motivations of 'to be an individual' and 'to have a beauty mark'. Also, younger participants had significantly higher scores regarding tattoo motivations of 'being more rebellious' and 'taking risk'. Fifty per cent of participants had a university degree and they had significantly higher scores on motivation of 'to be an individual'. Fourteen per cent of participants (n = 42) reported active or previous substance use. Given the rates, tattoo regret is a significant issue and as motivations differ between genders, age groups and other demographic characteristics; tattoos are not just an ink or drawing on the body, but a tool for individuals to express themselves and construct self-identity. Younger participants like to engage in risky behaviour more and substance use was relatively high among participants. Thus, tattoos have deep symbolic meanings for emotions and they may be a clue to the behavioural patterns of individuals. Consequently, tattooing is a complex practice and a subject of psychodermatology.

E08

Investigating the number of patients diagnosed with delusional infestations (DI) in our regional psychodermatology clinic who have drug-induced DI

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Delusional infestation (DI) is characterized by a patient's fixed belief that his or her skin, body or immediate environment is infested by small, living (or less often inanimate) pathogens, despite the lack of any medical evidence for this. Drug-

induced DI is a recognized secondary type of DI. Common causes include illicit drugs such as cocaine and iatrogenic drugs such as opiates (Freudenmann RW, Lepping P. Delusional infestation. *Clin Microbiol Rev* 2009;22:690–732). The aim of this study was to evaluate the number of patients diagnosed with DI seen in our psychodermatology clinic who have drug-induced DI. We conducted a retrospective study looking at the documentation of the last 100 patients with DI seen in our regional psychodermatology clinic. We then reviewed the electronic records to see if patients had admitted in their history to taking drugs that could elicit DI, and we also reviewed the results of their toxicology screen. Of a 100 patient records reviewed, we were able to find 61 patients with documented toxicology screens in their electronic records. Ten of 61 patients had confirmed positive toxicology screens, three of whom admitted to taking illicit drugs. The two most common drugs detected on toxicology screen were cannabinoids ($n = 8$) and benzodiazepines ($n = 3$). Other drugs detected included amphetamines ($n = 2$), opiates ($n = 2$), methadone ($n = 2$), morphine ($n = 1$), monoacetyl ($n = 1$) and cocaine ($n = 1$). In the UK cannabis is the most prevalent drug used, followed by powder cocaine, MDMA (3,4-methylenedioxymethamphetamine), ketamine and amphetamine. Opioids and benzodiazepine are also described as commonly prescribed drugs in the UK (<https://www.gov.uk/government/publications/united-kingdom-drug-situation-focal-point-annual-report/uk-drug-situation-2019-summary>). Our study emphasizes the importance of enquiring and testing for drugs when seeing patients with DI. It is also important to note different drugs will cause different types of hallucinations.

E09

Relationship between alexithymia, attachment styles, childhood traumas and body-focused repetitive disorders

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Trichotillomania (TTM), skin picking disorder (SPD) and onychophagia are body-focused repetitive disorders (BFRDs) that are included in the category of obsessive compulsive disorder and related disorders according to the *Diagnostic and Statistical Manual of Mental Disorders*, 5th Edition (DSM-5). These diagnoses, which can also be conceptualized as self-injurious behaviour, are common areas of psychiatry and dermatology. It is known that those who were exposed to inadequate care, neglect or abuse in their childhood have a risk of self-harm, and traumatic experiences that occur during this period lead to the development of many psychosomatic and psychodermatological diseases. Some studies have reported that childhood traumatic experiences and alexithymia are high in BFRDs (Yalcin M, Tellioglu E, Yildirim D et al. Psychiatric features in neurotic excoriation patients: the role of childhood trauma. *Arch Neuropsychiatry* 2015;52:336–41). The aim of this study was to compare patients with BFRDs to healthy control groups in terms of alexithymia, attachment styles and childhood

traumas, and to understand their effects on disease severity. Patients with BFRDs ($n = 105$) and healthy controls ($n = 69$) were included. Patients were diagnosed with TTM, SPD or onychophagia, according to the DSM-5 criteria. Participants were given a sociodemographic data questionnaire, the Beck Depression Inventory (BDI), the Beck Anxiety Inventory (BAI), the Toronto Alexithymia Scale (TAS-20), the Experiences in Close Relationships – Revised (ECR-R) and the Childhood Traumatic Experiences Questionnaire (CTQ). Depression, anxiety, alexithymia, trauma and anxious and avoidant attachment scores were significantly higher in patients compared with healthy controls ($P < 0.001$). According to logistic regression analysis, years of education [$\beta = 0.191$, odds ratio (OR) 1.211; $P = 0.007$], BDI score ($\beta = -0.150$, OR 0.860; $P < 0.001$), presence of childhood trauma ($\beta = -1.830$, OR 0.160; $P < 0.001$) and anxious attachment score ($\beta = -0.027$, OR 0.973; $P = 0.048$) were significantly associated with BFRDs. In conclusion, it is thought that childhood traumas and insecure attachment styles may cause BFRDs. In establishing a therapeutic collaboration with these patients, it can be important to maintain a continuous and secure relation, and we should also keep in mind that there may be past traumatic events. Furthermore, we should support in recognizing and expressing the emotions of patients in the therapeutic approach.

E10

Severe self-mutilation in psychodermatology patients

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We present three cases of severe self-mutilation referred to tertiary psychodermatology clinic. Self-mutilation can be organic in nature, due to conditions such as Lesch-Nyhan syndrome and inherited sensory neuropathies, or they can be psychiatric in origin. They are often misdiagnosed, commonly as pyoderma gangrenosum, which can mimic self-induced dermatoses clinically and histologically. Some patients may have concurrent dermatological conditions, which may further delay diagnosis. All three patients were taking opioid analgesics for the pain caused by self-mutilation. Given the extent of their conditions, the pain they experienced was likely genuine and the analgesics justified. However, it can also be argued that their conditions were exacerbated, or allowed to continue, through the use of opioid analgesics, which may have helped them to tolerate the pain of self-mutilation. A 58-year-old woman presented with a 40-year history of ulceration on her left forearm. The ulceration had initially started on her left index finger, which had been amputated because of septic paronychia. She was treated as pyoderma gangrenosum with immunosuppressive agents until a diagnosis of dermatitis artefacta was made. Her pain was significant, requiring fentanyl patches, as well as co-codamol. Owing to the pain, she has had consultations with the orthopaedic surgeons for consideration of amputation, which surgeons did not advise.

A 50-year-old man with a background history of multiple sclerosis, dissociative seizures and chronic pain syndrome presented with a 21-year history of nonhealing ulcers on his right leg and right arm. He was on tapentadol, co-codamol and diazepam for the pain. The ulcerations on his right arm and leg became necrotic and required extensive repairs with the plastics team, with variable benefit. His wife, who was also his carer, described attacks where he picked and bit at his skin. The patient reported that he had little awareness of what happened during those times. A 48-year-old man presented with a 2-year history of bilateral leg ulceration, some of which were deep enough to expose the periosteum of the tibia. He described the pain in his legs as excruciating and was taking high doses of oral morphine sulfate. In addition to his leg ulceration, he had biopsy-proven bullous pemphigoid on his arms and trunk requiring several courses of prednisolone. His leg ulceration was initially treated as pyoderma gangrenosum with immunosuppressive agents, including infliximab, until the diagnosis of dermatitis artefacta was made.

E11

The psychodermatology diploma: comparing the online versus the face-to-face experience

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Since 2007, the European Society for Dermatology and Psychiatry (ESDaP) has been organizing biannual training courses in psychodermatology. At first, they were Fostering Courses for residents, offered by the European Academy of Dermatology and Venereology. Four courses were given. Then, the ESDaP organized training courses in Venice for 3 consecutive years, and for another 2 years in Brussels. In 2019, the ESDaP Psychodermatology Diploma was launched. This training consists of three levels, with the first two levels consisting of two workshops. The third level can be obtained through psychotherapeutic training in one of the well-recognized therapies (cognitive-behavioural, psychodynamic, humanistic or family therapy). The diploma is open to dermatologists, psychologists and psychiatrists. Owing to the COVID-19 pandemic the face-to-face courses that had already been organized for 2019 and foreseen for 2020 had to be cancelled. We decided to offer our courses online, using the Moodle Platform – a well-known platform for online teaching. We offered and completed three courses: part 1, levels 1 and level 2; and part 2, level 1. During 2021 four courses will be offered online on the Moodle Platform. A 30-h online supervision group is also offered to complete the training. We present a comparison of students' satisfaction of face-to-face vs. online training, and where participants are from. Four questions on satisfaction with the course were asked, with possible answers of 'very satisfied', 'satisfied', 'unsatisfied' and 'very

unsatisfied', scored from 4 to 1, respectively. For each question, the scores were added up, and mean values were transformed into a 0–100 scale. In 2019 and 2020, the scores were, respectively 95.8 and 95.3 for the statement 'I was well informed about the objectives of the course'; 91.7 and 93.8 for 'The workshop lived up to my expectations'; 93.8 and 96.9 for 'The content is relevant to my job'; 93.8 and 93.8 for 'The workshop objectives were clear to me'. The differences between the satisfaction scores of the face-to-face and the online courses were not significant. The number of participants increased from 18 to 34 (+72%). Participation from non-European countries in 2019 was 33% (India, Mexico, Russia, Singapore, USA). In 2020 it was 38% (Argentina, Australia, Canada, UAE, Mexico, Singapore, UK). We conclude that both the face-to-face and the online courses were similar according to the participants' scoring on level of satisfaction. The advantage of the online courses is to be able to reach people from more distant countries and therefore be able to increase the number of registrations.

E12

A cross-sectional study of psychosocial burden of Hansen disease in terms of anxiety, depression and Dermatology Life Quality Index (DLQI) and their association with various clinical and demographic factors at the Department of Dermatology of a tertiary care hospital

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The aim of this study was to investigate the psychosocial impacts of leprosy in terms of anxiety, depression and Dermatology Life Quality Index (DLQI) and their association with various factors. After obtaining institutional ethics committee approval, all patients diagnosed with leprosy attending the dermatology department of a tertiary care centre from December 2020 to February 2021 were included in the study. Patients who had already been diagnosed with a psychiatric illness prior to the diagnosis of leprosy and those aged < 18 years were excluded. After obtaining written consent from the patients, a detailed history of demographic and clinical factors were recorded, and the patients were subjected to the Hamilton rating scales for anxiety and depression along with the DLQI questionnaire. Appropriate tests were then applied using SPSS (IBM, Armonk, NY, USA) and the results analysed. Of the 40 patients included, 28 (70%) had either anxiety or depression, with anxiety (65%) being more common than depression (45%). DLQI was affected in 36 (90%) patients. The most common causes for psychological ill-being were social stigma and chronicity of the disease. Of various clinical and demographic factors, poor family support and the presence of reactional states were significantly associated with anxiety, depression and DLQI. Education levels were significantly associated with severity of anxiety, depression and DLQI. Female gender and the presence of deformities were significantly associated with anxiety only. Employment status and

marital status were not found to be significantly associated with anxiety, depression or DLQI. Leprosy is a neglected tropical chronic granulomatous infectious disease that principally affects skin and peripheral nerves, resulting in visible deformities if it remains untreated for a long time. Historically, it has been associated with social stigma and isolation, which persists in various parts of the world. Despite the availability of effective treatments, the psychosocial impact of this crippling disease is something that is not routinely investigated. This study highlights the dire need to address the psychological aspects of the disease. As the study suggests, it is of utmost important that the dermatologist offers effective counselling techniques while treating patients with leprosy and refer them to an expert whenever needed.

E13

Victims and villains: the negative narratives of skin disease

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This paper explores how representations of skin disease in the literature and media formats such as film and television have been used to tell negative narratives of those living with skin disease, varying from victimization of the sufferer to moral judgement of the sufferer, with skin disease denoting the 'villain'. The paper examines a wide range of these representations (fiction, television, film), and argues that they have an isolating effect on the sufferer, as the public are drawn towards misidentifying outer pathology with inner struggle and/or (im)morality. The recent censorship of psoriatic images from Instagram reflects this – intolerance towards imperfect skin has become exacerbated by social media; storytellers are not just those with a traditional broadcast platform, but everyone within their social networks. The paper examines the social repercussions from these representations, which promote a lack of sympathy and understanding, arguing that engagement with creatives to write sympathetic stories with sensitive depictions would provide a desirable change in the narrative. We need new stories, so that life, as Oscar Wilde said, might imitate art. Negative societal norms have influenced media, but positive stories may influence social norms in their turn.

E14

Social media and self-perception: a psychodermatological perspective

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Examining the significance of social media on self-perception with regard to the psychodermatology patient population has become necessary in order to develop effective evidence-based practices. The extent to which social media influences patient self-perception has already been studied; however, further work is required for specific populations such as

psychodermatology. Social media has a profound impact on the self-perception of psychodermatological patients. Various disorders in psychodermatology can be exacerbated and further complicated by social media. Social media can alter self-perception through various dimensions, including – but not limited to – creating unrealistic expectations and standards, providing inaccurate or misleading information, and exposing the individual to a potentially hostile environment. Intervention techniques that can aid the multidisciplinary team in addressing issues created by social media are proposed and discussed.

E15

Who's afraid of cortisone? 'Corticophobia' as a symptom of failing doctor–patient communication

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The term 'corticophobia' has been introduced to denote some patients' concerns about the use of topical corticosteroids (TCS), and to explain their subsequent nonadherence to TCS treatment. It designates such concerns about TCS that are not explainable by the properties and/or effects of TCS. As the term 'corticophobia' suggests, such concerns are widely regarded by clinicians as irrational. 'Corticophobia' is supposed to explain the following paradoxical issue: TCS efficacy has been pharmaceutically optimized and their adverse effects minimized over the last decades. However, patients increasingly worry about possible adverse effects of TCS, and hence adherence to TCS treatment is low. This paper presents a critical review of the literature on 'corticophobia'. In particular, it discusses the following questions: (i) Is the term 'corticophobia' adequate to describe patients' concerns about TCS? (ii) Does reference to 'corticophobia' (or patients' irrationality) explain the paradox of nonadherence to TCS? (iii) What is necessary for understanding the paradox, and improving adherence? Corticophobia is a misnomer. Patients' concerns about TCS do not qualify as a phobia according to the *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition/International Classification of Diseases, 10th Revision*. And inasmuch as patients have reasons for their concerns, they are not irrational. That patients' worries are called irrational by clinicians rather hints at there being some basic misunderstanding about what is rational or intelligible between clinicians and patients. Reference to patients' 'irrationality' does not explain the paradox: what reasons count as rational/irrational here depends on one's concepts of disease, treatment and TCS themselves, and on one's ways of reasoning and decision-making in these issues. The paradox arises as a result of a mismatch between patients' and clinicians' standpoints (first/third person), their concepts of disease and their source of beliefs about dermatological conditions and TCS. Adherence to TCS treatment cannot be improved unless patients and clinicians have found a common standpoint in each particular case. The first step in solving the paradox in TCS treatment consists of establishing a relation of trust between patients and doctors. The second step

involves finding a shared concept of disease. Finally, adherence to a particular kind of treatment presupposes agreement on therapeutic aims and means. What is necessary to solve the paradox is taking time to talk to one another, thereby establishing mutual trust, and to regard 'talking time' as not a waste of time and money, but a precondition for therapeutic success.

E16

A single-group experimental case series of a mindful parenting intervention for parents of children with skin conditions

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Parents of children with eczema or psoriasis may experience parental stress, which can negatively affect child well-being. We aimed to investigate the effectiveness, feasibility and acceptability of a mindful parenting intervention for children with eczema or psoriasis, and their parents. Seven parents of children with eczema or psoriasis took part in an 8-week mindful parenting group intervention. The mindful parenting intervention is an intensive intervention developed in the Netherlands, and has been used with families with other long-term conditions such as diabetes. A single-case experimental design was adopted, whereby parents completed daily idiographic measures of parental stress and acted as their own controls. Parental stress was assessed by two idiographic questions that were chosen by the participants and completed each day by text message. These questions represented areas of parental stress, associated with the child's skin condition, that parents wanted to address. Question 1 was decrease-framed [i.e. something the parent wanted to decrease; e.g. 'How stressed did you feel when you last applied treatment to (child)?'] and question 2 was increase-framed [i.e. something the parent wanted to increase; e.g. 'How calm did you feel with (child) during your last daily cream routine?']. Parents and children also completed standardized questionnaires measuring parental stress, depression, anxiety and quality of life (QoL), as well as child QoL, at four timepoints: baseline, preintervention, postintervention and 6-week follow-up. The intervention was provided by a qualified mental healthcare professional who had completed training provided by the intervention developers. Parents provided qualitative feedback at the end of the intervention. All parents completed the intervention and showed improvements in idiographic measures of parental stress from baseline to follow-up. Improvements in parental stress were larger at follow-up than postintervention, suggesting that the benefits of intervention continue beyond the intervention. Six of seven parent-child dyads showed

improvement in at least one of the well-being measures, from baseline to postintervention or follow-up. Feasibility was demonstrated through good participant retention, adherence to home practice and treatment fidelity. Acceptability was demonstrated through positive parent evaluations of the intervention. Mindful parenting may be an effective, feasible and acceptable intervention for parents of children with eczema or psoriasis. This is an intensive intervention and future randomized controlled trials should include economic evaluation.

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E17

Uraemic Pruritus in Dialysis Patient (UP-Dial): creation and validation of the Polish-language version

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End-stage renal disease-associated chronic itch (ESRDICI) is a common and burdensome symptom in patients undergoing haemodialysis. Although a significant negative impact of chronic itch on patient's quality of life has been proven, this problem is still often underestimated in clinical practice. Various instruments describing itch are in use, yet there is no specific tool designed particularly for dialyzed patients. Therefore, a multidimensional instrument to characterize uraemic pruritus is necessary. The aim of the study was to translate and to validate the Polish version of Uraemic Pruritus in Dialysis Patient (UP-Dial) questionnaire. A forward and backward translation was conducted from the original English version of the questionnaire to the Polish language according to international standards. The validation was performed on a group of 30 patients undergoing haemodialysis and suffering from uraemic itch. Respondents completed the questionnaire twice, with a 3–7-day interval. Patients were also asked to complete the Polish version of the four-item itch and ItchyQoL questionnaires, and also the Pittsburgh Sleep Quality Index and numerical rating scale (NRS) for convergent validity procedure. The Polish version of the UP-Dial questionnaire showed very good internal consistency (Cronbach α coefficient 0.90 for total score) and reproducibility, with an intraclass correlation coefficient of 0.90. Furthermore, UP-Dial correlates strongly with the four-item itch questionnaire ($r = 0.82$; $P < 0.01$), ItchyQoL ($r = 0.88$; $P < 0.01$) and NRS ($r = 0.74$; $P < 0.01$). The Polish version of the UP-Dial questionnaire showed high internal reliability, validity and reproducibility. This multidimensional instrument can be useful in daily clinical practice to evaluate the effects of itch therapy, as well as while conducting research by Polish-speaking clinicians.

E18

Burning mouth syndrome and mental disorders: temporary comorbidity or uniform disorder?P. Iuzbashian,¹ A. Tereshenko,² A. Lvov^{3,4} and D. Romanov^{1,5}¹I.M. Sechenov First Moscow State Medical University (Sechenov University);²Moscow Scientific and Practical Center of Dermatology, Venereology and Cosmetology of Moscow City Health Department; ³Central State Medical Academy of Department of Presidential Affairs; ⁴Medical Research and⁵Educational Center, Lomonosov Moscow State University; and ⁵Mental Health Research Center, Moscow, Russian Federation

Burning mouth syndrome (BMS) is a functional disorder characterized by unpleasant sensations on the normal-appearing oral mucosa (pain, burning, tingling, stinging, etc.) lasting at least 4 months. It may be associated with dysgeusia, paraesthesia, dysaesthesia and xerostomia. The disease is considered to be related to a complex of biological (neurophysiological), local, systemic and psychological (psychiatric) factors, such as depression, anxiety and personality disorders. We carried out a clinical and psychometrical evaluation of mental disorders in BMS. The study cohort [22 patients (21 female), mean (SD) age 59.5 (13.6) years] was examined by a dermatologist, neurologist and psychiatrist, both clinically and psychometrically, for anxiety [Generalized Anxiety Disorder 2-item (GAD-2)], depression [Patient Health Questionnaire-2 (PHQ-2)], personality disorders [Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II-PD)], somatoform disorders [Screening for Somatoform Symptoms-2 (SOMS-2)] and pain severity (visual analogue scale). In our sample, BMS was associated with a number of overlapping psychiatric symptoms: depressive, anxious, somatoform and personality dimensions. Symptoms of anxiety (GAD-2) and depression (PHQ-2) were observed in 65% and 35% patients, respectively. Comorbid personality disorders (by SCID-II-PD) were detected in 85% of patients. Seventy-five per cent of patients also suffered from somatoform symptoms (SOMS-2), mainly hyperventilation, dizziness, abdominal pain and headaches. Clinically, BMS patients met *International Classification of Diseases*, 10th Revision (ICD-10), criteria for somatoform disorders (F45) as a disease with physical symptoms that imitate a general medical condition but that is not fully explained by any of somatic disease. BMS was divided phenomenologically into two types. BMS of the first type meets the criteria for ICD-10 for somatization disorder (F45.0/F45.1), with multiple, frequently changing sensations in the oral cavity. BMS of the second type meets the ICD-10 criteria for persistent somatoform pain disorder (F45.4) with stable local painful sensations extending deep into the oral cavity. BMS is considered to be a functional disorder of oral mucosa. Given that there is an overlapping psychiatric comorbidity and phenomenology fulfilling ICD-10 criteria, BMS may be attributed to somatoform disorders.

E19

Suicidal behaviour reporting: how does this affect healthcare professionals in dermatology?K. Smith¹ and A. Ahmed²¹South Warwickshire NHS Foundation Trust, Warwick, UK; and ²Frimley Health NHS Foundation Trust, Windsor, UK

There is increasing recognition of an association between psychiatric illness and dermatological disease. This is a complex bidirectional relationship, and – at the most severe end of the spectrum – dermatology patients can present with suicidal behaviour. Completed suicide accounts for approximately one million deaths worldwide each year and is a leading cause of death in adolescents (https://www.who.int/mental_health/suicide-prevention/national_strategies_2019/en/). In this situation, not only do healthcare professionals need to know how to ask questions about suicidal behaviour, but also how to deal with the consequences, both for the patient and for themselves. Increased prevalence of suicidal behaviour in dermatology patients has been well documented in the literature and in our own clinical practice. However, the impact on the dermatologist and associated team is unknown. Here, we present data on suicidal behaviour in our psychodermatology clinic, the steps taken by the local team to manage patients presenting acutely with suicidal ideation and the reported effect on the healthcare professionals involved. Key areas in which healthcare professionals reported difficulty included issues with training, referral pathways for suicidal behaviour, medicolegal concerns and healthcare professional well-being. The majority of patients describing suicidal behaviour scored highly on the Dermatology Life Quality Index ('very large' or 'extremely large' effect of their dermatological condition on their quality of life). All patients (100%) reporting suicidal behaviour had self-reported psychiatric comorbidity. Patient reporting of a previous traumatic event was also common in the group of patients with suicidal behaviour (81%). Suicidal behaviour needs to be routinely screened for in dermatology clinics, particularly in patients with a psychiatric comorbidity. However, healthcare professional training in this area requires development, from asking the first question to dealing with the outcome of patient-reported suicidal behaviour, particularly when this affects staff well-being.

E20

Trigeminal and cervical trophic syndrome: a pregabalin-sensitive spectrumR. Barlow,¹ P. Mohandas,² M. Verma,² R. Patel² and A. Bewley²¹University Hospital Coventry and Warwickshire, Coventry, UK; and ²Barts Health NHS Trust, London, UK

Trigeminal trophic syndrome (TTS) occurs secondary to trigeminal nerve injury. A similar entity – cervical trophic syndrome (CTS) – arises from cervical degeneration. In both cases, the resultant dysaesthesia drives skin picking with resultant self-mutilation and chronic ulceration in a dermatomal distribution. It is important to recognize this spectrum of disorders to ensure correct management and avoid prolonged

morbidity. We present four patients with TTS and CTS from two centres under the care of a multidisciplinary team (MDT) psychodermatology service. The first patient was an 83-year-old white female with Alzheimer dementia who presented with ulceration to the left nasal alar fold and cheek secondary to picking. Previously, she had been in a road traffic accident and suffered a cerebellar stroke. Biopsy showed nonspecific ulceration with negative viral screening. Magnetic resonance imaging (MRI) demonstrated vascular changes in the posterior lobes. She was successfully treated for TTS with mirtazapine, pregabalin and supervised dressing changes. The second and third patients, a 38-year-old and a 73-year-old white female, respectively, presented with bilateral facial ulceration and scarring. Neither patient had an identifiable cause for trigeminal pathology. MRI demonstrated an incidental pineal cyst in the second patient. Both were successfully treated: the former with pregabalin, doxycycline and aripiprazole alongside habit reversal therapy, and the latter with topical treatments and supervised dressings alone. The fourth patient – a 58-year-old white female – presented with a large eroded area confined to C4–C6 on the left side of her neck secondary to chronic irritation and picking. Her background included anxiety, depression and irritable bowel syndrome. MRI confirmed exit foramina stenoses at C5/6 and disc protrusion at C4/5. Biopsy showed nonspecific ulceration. A diagnosis of CTS was made and she is recovering with pregabalin, risperidone, mirtazapine, minocycline and topical therapy in conjunction with cognitive-behavioural therapy and supervised dressing changes. The underlying aetiology of TTS remains to be solved, but it is certainly more prevalent than CTS. This phenomenon may be secondary to the trigeminal nerve anatomy (Fischer AA, Adelson DM, Garcia C. Cervical trophic syndrome: a distinct clinical entity? *Cutis* 2014;**93**:E6–7). A holistic integrated management stratagem as delivered through psychodermatology MDT clinics is crucial for successful treatment. Our experience suggests an important role for pregabalin in this spectrum of disorders.

E21

Occupational dermatoses during the second COVID-19 pandemic wave: an audit of 732 healthcare workers

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Healthcare workers (HCWs) assessed by dermatologists during the first wave of the COVID-19 pandemic had high rates of irritant hand dermatitis, facial dermatitis and acne triggered by the wearing of personal protective equipment (PPE). Staff occupational dermatology clinics appeared effective in ensuring the well-being of frontline staff (Ferguson FJ, Street G, Cunningham L et al. Occupational dermatology in the time of the COVID-19 pandemic: a report of experience from London and Manchester, UK. *Br J Dermatol* 2021;**184**:180–2). We report updated data from a tertiary National Health Service trust during the second COVID-19 wave in the winter of 2020–21. At its peak, the trust had 835 COVID-positive

inpatients and 263 intensive care unit (ICU) beds – one of the largest ICUs in Europe. Building on the published experience of dermatology units, we ran dermatology pop-up clinics over 6 weeks in allocated rest areas across the trust from 18 January 2021. In total, 732 HCWs were assessed: 611 females and 120 males (mean age 35.6 years). The most frequently seen occupation was nursing [$n = 242$ (33.1%)] followed by doctors [$n = 118$ (16.1%)]. On average, staff spent 9.4 h in PPE per shift. The most common diagnosis was irritant hand dermatitis [$n = 359$ (49.0%)]. There was an increased incidence of acne [$n = 316$ (43.2%)] vs. the first wave, where reported incidence was 17% in a multicentre study (O'Neill H, Narang I, Buckley DA et al. Occupational dermatoses during the COVID-19 pandemic: a multicentre audit in the UK and Ireland. *Br J Dermatol* 2021;**184**:575–7). Less common in the second wave was facial eczema [$n = 98$ (13.4%)] and pressure injury [$n = 48$ (6.6%)]. Mean Dermatology Quality Life Index score was 8.5, suggesting at least a moderate impact on life. Fifty-eight (16.2%) of the HCWs with hand dermatitis required a prescription of potent topical corticosteroids. It was rare for HCWs to require formal referral [$n = 13$ (1.8%)]. In our cohort, at least 12 (1.6%) HCWs required time off work because of their skin. Preliminary feedback completed by 24 HCWs showed that 19 (79%) felt the clinics improved their well-being. Our data support previous reports of increased occupational dermatoses in HCWs during the COVID-19 pandemic. We received promising feedback on improving staff well-being. We highlight the sheer scale of the issue with 732 HCWs seen in 6 weeks in one trust. Compared with our experience during the first wave, acne exacerbated or precipitated by masks is increasingly common, which may be due to emollient use to prevent facial eczema or injury when wearing masks.

E22

The impact of the COVID-19 pandemic on psychodermatology patients

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To review the impact of the COVID-19 pandemic on patients with dermatoses relating to psychodermatology. A literature search was performed on 17 February 2021, searching the key terms 'Coronavirus Infections', 'COVID-19', 'SARS-CoV-2', 'psychodermatology', 'delusional infestations', 'parasitosis', 'Morgellons', 'body dysmorphic disorder', 'trichotillomania', 'obsessive compulsive and related disorders' and 'Dermatitis artefacta'. Search engines used included Cochrane Library, Ovid, MEDLINE, Embase, Emcare; the National Institute for Health and Care Excellence's Evidence Search, PubMed, ProQuest and PsychInfo. Other sources included Google; Google Scholar; LitCovid; the World Health Organization's COVID-19 global literature on coronavirus disease; and medRxiv. Literature published in the English language from January 2019 onwards were included. Twenty-eight articles were identified from the literature search; six articles were excluded as they

were not relevant. The majority of the articles found were literature reviews ($n = 7$) or questionnaire-based studies ($n = 5$), which relied on patients self-reporting their symptoms. The major psychosocial burden imposed by the pandemic is well documented and has been related to increased stress, anxiety, depression and post-traumatic stress disorder. This impact was displayed in healthcare workers and patients. Dermatoses such as atopic dermatitis, chronic urticaria, telogen effluvium and trichodynia can be exacerbated in high-stress states. Many anxious enquiries have been made in relation to dermatological manifestations of COVID-19, such as pernio lesions being mistaken for reported 'COVID toe', which can cause significant obsession and hypochondriasis in the public (Hafi B, Uvais NA, Jafferany M et al. Palliative psychodermatology care during COVID-19 pandemic. *Dermatol Ther* 2020;**33**:e13732). Obsessive-compulsive disorder (OCD) and OCD-related disorders such as trichotillomania and skin picking also reportedly worsened during the pandemic. There were case reports of patients with delusional infestations and dermatitis artefacta exacerbated by COVID-19 infection. During the pandemic many dermatologists shifted from seeing patients face to face to virtual or telephone consultations. A virtual regional paediatric psychodermatology service highlighted the challenges in building rapport and effective consultations with children and their families [Sears A, Ali R, Baron S. The challenges and opportunities of establishing a new paediatric psychodermatology service during COVID 19. *Pediatr Dermatol* 2020;**37**(Suppl. 1):15–16]. Further improvements are needed in the development of robust online therapies via smart phone apps. More studies on the long-term impact of the pandemic would be useful.

E23

Effect of lockdown on mental health of patients with psoriasis: a web-based survey

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Chronic skin diseases like psoriasis affect patients' physical, psychological and social functioning and well-being, i.e. their health-related quality of life. The lockdown had a negative impact on the mood and psychological aspects of people. Some lost their jobs and many were in a state of financial uncertainty, which could further act as a cofactor in worsening the natural course of chronic skin diseases like psoriasis. We carried out an assessment of the mental health of patients suffering from chronic plaque psoriasis during the COVID-19 lockdown in India. A questionnaire with open-ended and closed questions was prepared after consulting experts from the fields of dermatology and psychiatry. Links to the questionnaire were shared through messenger applications to patients with psoriasis. Approximately 700 patients aged ≥ 18 years suffering from chronic plaque psoriasis for > 6 months were approached. Consent was taken to fill a pre-designed Google form and 206 completed the proforma. A

total of 181 valid questionnaires were collected. Of the 181 valid responses, 124 (68.5%) were from males and 57 (31.5%) from females. The average age of the responders was 37.7 years (median age 35). Ninety-eight (54.1%) patients were graduates and above. Twenty-one (11.6%) were unemployed. One hundred and four (57.4%) patients had suffered from psoriasis for > 5 years. Sixty-five (35.9%) patients reported worsening of disease during lockdown. Twenty-nine (16.0%) patients stopped taking the prescribed medicines, 30 (16.6%) patients shifted to alternative therapies. Sixty-five (35.9%) patients were feeling anxious/depressed, 30 (16.6%) patients were feeling stressed. Twenty-four (13.3%) reported increased sleep and 45 (24.7%) reported decreased sleep. Forty-four (24.3%) patients reported decreased duration of physical activity and 42 (23.2%) stopped all forms of physical activity. Twenty-seven (14.9%) patients ate more than normal. Seventeen (9.4%) patients stopped smoking. Eleven (6.1%) patients drank less alcohol and 23 (12.7%) patients stopped drinking alcohol. Financial/income loss due to lockdown was reported by 108 (59.7%). Twenty-nine (16.0%) patients were tested for COVID-19, of whom four (14%) tested positive. The findings of our study suggest that the prevalence of depressive symptoms was high during the COVID-19 lockdown. Individuals with financial stress/job loss/unemployment reported a greater burden of depressive symptoms and exacerbation of psoriasis.

E24

Relaxation therapy in the management of psoriasis

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Many psychiatric and psychosocial factors play a key role in psoriasis. Stress has been found to be an important precipitating factor for psoriasis. Anxiety and depression are the common comorbidities. The primary objective of the study was to assess the effect of relaxation therapy on Psoriasis Area Severity Index (PASI) score. The secondary objectives were to assess the effect of psoriasis on quality of life (QoL), stress level, and comorbid anxiety and depression. A specific questionnaire was designed to collect the baseline characteristics of patients. These patients were assessed for stress factors using the Perceived Stress Scale; anxiety and depression using the Hospital Anxiety and Depression Scale (HADS); the effect of disease on QoL using the Dermatology Life Quality Index (DLQI); and the severity of the disease using PASI score. Patients with chronic plaque psoriasis and stress and on methotrexate were divided into two groups (40 cases and 35 controls). There were 10 dropouts from the case group and five from the control group, giving a total of 30 cases and 30 controls as cases and pair-matched controls. The first group was given relaxation therapy in addition to standard dermatology treatment on days 1, 3 and 7 by the investigator. The

patients were then advised to do this by themselves for 2 months with the help of a recording given to the patients; the control group was given only standard dermatology treatment. Patients were followed-up for 2 months and the scores were reassessed on the first week, second week, first month and second month. Cases and controls were comparable with respect to all variables at the start of the study. Twenty-one cases (70%) achieved a 50% or greater reduction in PASI at the end of 2 months, while only four (13%) in the control group achieved the same at the end of the study. There was statistically significant difference in PASI, DLQI and HADS scores between cases and controls (all $P = 0.0$) at the end of the study. However, there was no statistically significant difference in perceived stress score between cases and controls. Psoriasis has a significant impact on the QoL of patients. The majority of patients with psoriasis experience stress, anxiety and depression. Psychological interventions like relaxation therapy can reduce stress and psychiatric morbidity and thus help to decrease severity and improve QoL.

Po1

Stability of type D personality in patients with psoriasis and its relationship with psychological comorbidities: prospective study of 130 patients

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Psoriasis is a systemic autoinflammatory disease that is related to an increased risk of organic and psychological comorbidities. Type D personality (tDp) has been related to worse physical and psychological health in various diseases. It is postulated that tDp is a stable personality trait in healthy subjects; however, there are no data on stability in patients with moderate-to-severe psoriasis who may experience changes in the presence or absence of the disease over time. Whether patients with psoriasis and tDp have an increased risk of organic or psychological comorbidities (physical or mental), or a worse ability to adapt to the disease is unknown. The aim of this study was to assess the stability of tDp in patients with moderate-to-severe psoriasis, and to assess the influence of tDp on anxiety and depression. This was a prospective cohort study in which 40 patients with psoriasis with tDp and 66 patients with psoriasis without tDp were included. Participants completed the DS14 test and Hospital Anxiety and Depression Scale (HADS) at baseline and 4 years later. At baseline, the prevalence of tDp was 37.7% and at week 208 it was 27.3%. Forty-seven per cent of patients had tDp. The stability of tDp was higher in patients with an incomplete education and in those who were separated/divorced or widowed. During follow-up, 15% of patients developed tDp. Male sex, having topical treatment, the presence of previous depression, anxiety and high levels of negative affectivity at baseline increase the risk of developing tDp. tDp was associated with a

higher risk of developing anxiety, and rates of anxiety and depression were consistently higher in patients with tDp. The presence of tDp varies over time in patients with psoriasis. Therefore, tDp is possibly more a state than a trait phenomenon, modified by environmental factors. tDp is associated with a higher risk of anxiety. tDp may represent a frequent personality profile in patients with psoriasis that could identify those who are more vulnerable to psychological comorbidity and could benefit from cognitive-behavioural treatment.

Po2

An open-label, multicentre, 24-week, exploratory study to assess the efficacy and safety of dimethyl fumarate in patients with moderate plaque psoriasis: patient baseline characteristics

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Novel systemic therapies in psoriasis are usually trialled in patients defined by arbitrary thresholds of outcome measures such as a Psoriasis Area and Severity Index (PASI) score ≥ 10 . There is a scarcity of clinical trial data from patients with psoriasis with a disease severity below this level. Many countries restrict the use of treatment based on these thresholds, preventing on-label use. Dimethyl fumarate represents a new oral treatment option for moderate plaque psoriasis. To address this data gap the aim of this exploratory open-label study was to investigate the efficacy and safety of dimethyl fumarate in moderate plaque psoriasis, defined as body surface area (BSA) ≥ 5 , a PASI of 5–10, a Dermatology Life Quality Index (DLQI) ≥ 5 and a Static Physicians Global Assessment (sPGA) score of 3. Patients were treated for 24 weeks and received a starting dose of 30 mg once daily, which was gradually increased to achieve clinical efficacy up to a maximum dose of 720 mg daily. Flexibility of dose adjustments was permitted in order to mitigate adverse events. This preliminary analysis describes the baseline characteristics of patients with moderate psoriasis who enrolled in this study. A total of 100 patients were enrolled [64 males and 36 females; mean (SD) age, weight and body mass index were 44.2 (13.9) years, 90.7 (18.0) kg and 29.8 (5.7) kg m⁻², respectively]. Mean (SD) disease duration was 17.3 (11.7) years, with 72% of patients receiving prior topical treatment, 43% receiving prior phototherapy and 39% receiving prior systemic treatment. Common prior systemic therapies included methotrexate ($n = 14$), acitretin ($n = 13$) and ciclosporin ($n = 6$). The most prevalent medical conditions were hypertension (22%), depression (17%) and asthma (9%). Other

comorbidities included hypercholesterolaemia (6%), obesity (5%), type 2 diabetes (3%) and abnormal liver function tests (1%). The most frequently taken concomitant medications were analgesics (24%), psychotropic medications (18%), systemic antibacterials (16%) and drugs for obstructive airway diseases (13%). At baseline, the following mean (SD) psoriasis scores were reported: PASI 7.7 (1.3); BSA 10.7% (6.7%; minimum BSA score 5%, maximum BSA score 44%); and DLQI 14.5 (6.2). Mean (SD) baseline sPGA*BSA score was calculated to be 32 (20.2). In conclusion, this study featured a patient population with moderate psoriasis. It demonstrates that the quality of life of patients with moderate plaque psoriasis is significantly affected and highlights the need for this patient population to be treated appropriately.

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Po3

Do patients with anogenital warts have higher risky sexual behaviours?

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Anogenital warts (AW), resulting from human papilloma virus (HPV) is one of the most common sexually transmitted diseases (STDs) worldwide. Numerous studies have reported that people with STDs engage in high-risk sexual behaviours, including having multiple partners, having concurrent partners or inconsistent use of condoms. We aimed to determine whether risky sexual behaviours increase in patients with AW vs. a control group. This prospective case-control study was conducted in our outpatient dermatology clinic, involving 80 patients with AW and 80 age- and sex-matched healthy controls during the 1-year study. People < 18 years of age, > 50 years of age, with any psychiatric disease or using any psychiatric medication were excluded from the study. The sociodemographic data form, which included questions related to sexual orientation; the Sexual Risk-Taking Scale (SRTS) aimed at collecting information about the risky sexual behaviours experienced by the individual; and the Sexual Sensation Seeking Scale (SSSS), which measures the 'propensity to reach optimal levels of sexual excitement and engage in new sexual experiences', were applied to all participants. There was no statistically significant difference between the demographic characteristics of both groups ($P > 0.05$ for all comparisons), except for education level. The mean education level of patients was significantly lower compared with controls ($P = 0.048$). The mean (SD) score of the SRTS of the patient group [4.69 (2.52)] was significantly higher compared with the control group [3.09 (2.25); $P < 0.001$]. The mean SSSS score was significantly lower in patients with AW [20.3 (5.8); $P = 0.005$]. In both groups, the mean SRTS and SSSS scores of single partners were significantly lower compared with the patients with

multiple partners. Age was the most significant factor in the linear regression model for factors affecting higher SRTS scores in the patient group ($\beta = 0.455$; $P < 0.001$). There was a statistically significant negative correlation between the SRTS and age in the patient group (Spearman's correlation analysis: $r = -0.505$; $P < 0.001$). In conclusion, the higher mean SRTS scores indicate that patients with AW showed that they do not have sufficient knowledge and awareness of predicting and managing risky sexual behaviours and taking appropriate precautionary measures. These risk-taking behaviours may arise from the low education level of the patient group. On the contrary, sensation seeking in sexual behaviours was not increased in patients with AW. Adopting sexual education and prevention public health programmes could enhance efforts to reduce the likelihood of new HPV transmissions.

Po4

United Kingdom psychodermatology services in 2019: service provision has improved but is still very poor nationally

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Psychodermatology is an emerging subspecialty of dermatology. Psychodermatology clinics use a multidisciplinary approach to deal with psychological or psychiatric elements related to skin disease. Two previous studies in 2004 and 2012 highlighted a deficiency of psychodermatology services in the UK, despite evidence that these services are in high demand and cost-efficient. The aim of this study was to reassess psychodermatology service provision in the UK and outline the developments that have been made. In conjunction with BBC Radio 5 live, a survey questionnaire was distributed via email to the UK membership of the British Association of Dermatologists (BAD) and Psychodermatology UK. The survey consisted of 13 questions regarding the availability of psychodermatology services. Basic percentages were used to analyse quantitative data, and content analysis was used for qualitative data. Our results showed that less than a quarter of the respondents (24%) have access to a nearby dedicated psychodermatology service. Additionally, psychodermatology units do not have a unified configuration and the clinical provision model differs nationally. Only around 5% of the clinicians have access to a clinic that provides psychodermato-oncology service, and even fewer have access to a paediatric psychodermatology service (5%). Engagement in psychodermatology research was reported by around 12% of the participants. Psychocutaneous services in the UK have improved to some extent over the last decade. The service has become more widely available nationally. However, it is still insufficient and unable to fulfil patient demand, especially vulnerable individuals like children and dermato-oncology patients.

Po5**Personality Assessment Inventory for detecting psychological burden in patients with psoriasis and melanoma: preliminary results**

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The psychological burden of dermatological illnesses can be substantial and this topic is gaining more scientific and clinical interest. Psoriasis is considered to be strongly associated with different psychological and psychiatric disorders. However, melanoma is a highly malignant disease that can significantly affect a person's psychological status, contributing to anxiety, depression and post-traumatic stress disorder. Considering these previous findings, this study aimed to explore the usefulness of the Personality Assessment Inventory (PAI) for detecting psychological burden in patients with psoriasis and melanoma, and to compare these groups of common dermatological patients. We present the preliminary results of an ongoing study that included 15 patients with psoriasis and nine with melanoma. The inclusion criteria were severe psoriasis treated with biological medications (Patients Self-Assessment score >10, Dermatology Life Quality Index score > 10, Brief Symptom Inventory score > 10), and a melanoma of 1–3.5 mm in size. Patients suffering from verified psychiatric illness, diabetes, autoimmune, severe cardiovascular and other malignant diseases were excluded. All participants completed the PAI, which is a self-report multiple-scale inventory assessing personality functioning and psychological disorders. It consists of 344 questions answered on a 4-point Likert scale, and provides a profile on 22 nonoverlapping scales, including clinical, treatment and interpersonal scales. Statistical analyses were conducted in SPSS (IBM, Armonk, NY, USA), and differences between patients with psoriasis and patients with melanoma were tested using a one-way ANOVA. Significant differences were found on the somatic complaints scale ($F = 4.131, P = 0.05$), including the health concerns subscale ($F = 6.880, P = 0.02$). Participants did not differ in regard to age and education. When compared to melanoma, patients with psoriasis reported they were more focused on preoccupation with health matters and somatic complaints, and more strongly believed they were in bad health, meaning that numerous health-related issues disturbed their everyday functioning. Interestingly, no particular psychological disorders were found in patients with melanoma. These results are in line with other findings that show how chronic and mostly visible dermatological illnesses, such as psoriasis, hold a greater psychological burden than illnesses that are objectively more threatening, such as melanoma. The greatest limitation of these results is the current small sample size, making it sensitive to outliers. Nevertheless, these results indicate that the PAI might be useful for an in-depth assessment of personality functioning and psychological disorders in patients with psoriasis and patients with melanoma, and can contribute to a better understanding of the psychological burden in dermatological illness.

Po6**A rare case of drug-induced delusion of shrimp infestation**

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Delusional infestation (DI) is characterized by a fixed, false, unshakeable belief of being infested with living or inanimate pathogens, despite a lack of medical evidence for such an infestation. Owing to its overlap with other primary psychiatric disorders, it is often misdiagnosed. We present a case of drug-induced tactile and visual hallucination in an 86-year-old man with multiple medical comorbidities, i.e. dyslipidaemia, coronary artery disease, diabetes mellitus type 2 and atrial fibrillation. He was brought in by his family to our clinic with the complaint of irritation and stinging sensation around his fingertips, which gradually progressed into seeing shrimps appearing from the area and other parts of his body, leading him to believe that they were the cause of his abnormal sensation. He was initially diagnosed with primary DI and planned to start aripiprazole by psychiatry; however, his family refused to start him on it. A detailed review of the patient's medications revealed that some had already been reported to cause hallucinations as a side-effect, i.e. metoprolol, clopidogrel and esomeprazole. After some discussion with doctors involved in his care, esomeprazole was stopped first, with no change observed. Despite this, we moved on to clopidogrel. It was not as easy to stop as the cardiologist did not believe that it was the cause of the DI, and was considered to be life-saving owing to the patient's cardiac history and the six stents he has. After much convincing, they finally agreed to stop the clopidogrel. Within the first 2 weeks the patient's family noticed an improvement – he was 80% back to his normal self. He continued to improve in the following 4 months. Unfortunately, the clopidogrel was resumed, which coincided with the recurrence of the condition, further confirming the suspected causality. To the best of our knowledge, clopidogrel-induced hallucination has so far been reported twice in the literature. Our patient developed symptoms after many months of being on clopidogrel, whereas the reported cases developed symptoms within days of starting it. With this case, we aim to raise awareness of DI and the rare side-effect of this drug as a potential cause of hallucination. Furthermore, we would like to highlight the importance of interspeciality collaboration to achieve the best patient care and management.

Po7**Cutaneous pain as a sole symptom of dysaesthetic syndromes**D. Dimitrov¹ and M. Elsabbahy²¹MOPA/SKMC, Abu Dhabi, UAE and ²SKMC, Abu Dhabi, UAE

The relationship between scalp dysaesthesia and an underlying psychiatric condition is well established. Usually, patients complain of various sensations such as burning, tingling, itching or prickling, or characterize their complaint as pins and

needles or an electrical pulse. Real, frank pain as a sole symptom is usually not reported unless in combination with the abovementioned symptoms. Independent of patients' complaints, all cases are characterized by the absence of objective dermatological findings. A 45-year-old woman attended our clinic with complaints of pain over the skin at the temporoparietal scalp. She also complained of hair loss. Physical examination did not reveal visible changes over the scalp, including lack of hair or decreased hair density. There were no other health problems that may have explained these symptoms. However, detailed history revealed that the patient experienced psychological problems. After discussion, she admitted to being seen by a psychiatrist. During the following consultation with psychiatrist, the patient revealed that 7 months earlier she experienced excessive hair falling and later developed feeling of sadness, increased appetite, poor sleep and excessive thinking about death, feeling that her life was not worth living but having no suicidal thoughts. Based on the psychiatric consultation, a diagnosis of major depressive disorder, recurrent, moderate [International Classification of Diseases, 10th Revision (ICD-10)-CM F33.1] and anxiety (ICD-10-CM F41.9) was made, in addition to scalp dysaesthesia. Treatment with oral bromazepam 1.5 mg at bedtime and extended-release oral paroxetine 25 mg once daily were initiated. Within the next 3 weeks the patient reported feeling better with regard to her scalp pain, as well as her mood, self-expression and sleep. After 8 weeks the symptoms disappeared and she was kept on extended-release oral paroxetine 25 mg daily as a maintenance therapy for 18 months, and the medication was gradually withdrawn. At present, she is off medication with no further complaints. Our search of the English literature could not find a report of pain without any other sensation on the skin of the scalp associated with depression and anxiety, and successfully treated with a combination of paroxetine and bromazepam.

Po8

Am I in control of my skin? A pilot study examining patients' perceived locus of control and eczema treatment success

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There is an innate motivation to apportion causes for events, including disease states. Where these are attributed to outside causes, it is termed external attribution. Where attributed to something internal/endogenous, it is termed internal attribution. This overlaps with the concept of locus of control; individuals with a strong internal locus of control believe life events and disease states are chiefly a result of their own actions or at least within their own control, whereas those with a more external locus attribute them more to external factors. Although there is some evidence that individuals with a strong internal locus of control have better health in relation to conditions with a strong lifestyle component (e.g. obesity), there has been

minimal research on the relationship between this concept and common skin diseases. This pilot study aimed to evaluate any relationship between patients' perceived locus of control and (i) their overall healthcare outcomes plus (ii) their adherence to treatments for established patients with moderate-to-severe atopic eczema (defined as being under the continuous care of a dermatology specialist for at least 1 year). All patients who fulfilled the above criteria and attended the authors' dermatology clinics over a 2-week period in January 2021 were asked to complete (i) the 29-item Rotter's Locus-of-Control Scale and (ii) the Morinsky Medication Adherence Scale. Disease severity at the time of the clinic visit was gauged using the Physician Global Assessment scale. Scores of 0–2 were categorized as well controlled, whereas scores of 3–4 were classified as poorly controlled. In total, six patients met the above criteria and also completed both the above scales. Of these, three had well-controlled disease, whereas three had poorly controlled disease. The median RLCS for those with well-controlled disease was 10 (high internal locus) vs. 17 (moderate external locus) for those with poorly controlled disease ($P > 0.05$, Mood test). The median Morinsky Medication Adherence Scale (MMAS) score for those with well-controlled disease was 8 (high adherence), while for those with poorly controlled disease, the median MMAS was 7 [moderate adherence; $P > 0.05$ (Mood test)]. While statistical significance was not attained in this small pilot study, these results indicate a trend towards patients with a more internal perceived locus of control tending to have better-controlled skin disease. It is not possible to conclude from this retrospective study whether it is a confounding or independent factor, although previous studies for other conditions have suggested it can be an independent factor. It is helpful for dermatologists and patients alike to have an awareness of the concept of locus of control and its impact on skin disease, as it is modifiable on an individual level.

Po9

Pseudopsychodermatology: the consequences of wrong psychiatric diagnosis

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Dysaesthetic syndromes is an umbrella term that encompasses a variety of neurocutaneous disorders that result in an unpleasant abnormal skin sensation. As a result, patients experience stinging, burning, itching, prickling and sometimes frank pain. In the current literature, aggregates of data demonstrate the multiple presentations of dysaesthetic syndrome based on the anatomical involvement (i.e. notalgia paraesthetica, trigeminal trophic syndrome and scalp dysaesthesia), and they all conclude that it is an exhausting conundrum for affected patients. Herein, we present the case of a 50-year-old woman who was referred to our clinic with a diagnosis of delusional infestation (DI) and dermatitis artefacta. The patient was previously seen by several dermatologists who made the aforementioned diagnosis and referred her to our psychodermatology clinic. During

the consultation, further assessment revealed that the diagnoses had to be revised. The patient's chief complaint was a combination of uncomfortable sensations within her skin, which she tries to relieve by scratching. The scratching tends to be so severe that it eventually produces erosions. The patient made no attempt to hide the fact that her lesions were induced. There were also no statements or complaints to support the diagnosis of DI, despite our detailed questions. After careful consideration, based on the detailed history and physical examination, a diagnosis of dysaesthetic syndrome was made. Our emphasis in this case report is the significance of a greater understanding among dermatologists of psychodermatological conditions. Consequently, diagnosing a nonexistent psychiatric condition could not only wrongly direct the management plan, but could also lead to stigmatization of and distress in the patient and their family.

P10

Cosmetic Procedure Screening Questionnaire (COPS): creation and validation of Polish-language version

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Body dysmorphic disorder (BDD) is a disabling mental disorder characterized by a preoccupation with concerns about appearance. In trying to fix imagined defects, many individuals with BDD search for aesthetic dermatology treatments. By omitting a preliminary evaluation for BDD in patients undergoing cosmetic procedures and with the lack of proper diagnostic tools in this group of individuals, the results of such interventions may be faced with their disapproval and disappointment. The aim of this study was to translate and validate the Polish version of a Cosmetic Procedure Screening Questionnaire (COPS) – a tool that can be used in a cosmetic procedure setting to screen patients suspected to be suffering from BDD. In our study, we performed both forward and backward translations of the original English version of the questionnaire to Polish, in accordance with international standards. The validation was conducted with 33 individuals undergoing aesthetic procedures, who completed the questionnaire twice with an interval of 3–6 days. Moreover, the patients were also asked to complete the Polish versions of the Body Image Quality of Life Inventory (BIQLI) and the Hospital Anxiety and Depression Scale (HADS) for convergent validity. The Polish version of COPS demonstrated good internal consistency (Cronbach α coefficient = 0.76) and reproducibility (intraclass correlation coefficient 0.79). COPS correlated strongly with BIQLI ($r = -0.66$; $P < 0.01$), as well as with both the depression and anxiety subscales of the HADS [$r = 0.68$ ($P < 0.01$) and $r = 0.66$ ($P < 0.01$), respectively].

The Polish version of the COPS questionnaire showed sufficient internal consistency and reliability. It can be used for BDD screening in Polish-speaking patients undergoing aesthetic dermatology procedures.

P11

Fear of COVID and trichotillomania: a case report

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The current outbreak of COVID-19 is impacting heavily on mental health, causing problems such as stress, anxiety, depressive symptoms, insomnia, anger and fear. Trichotillomania is a psychodermatological disorder characterized by an uncontrollable urge to pull one's own hair; it is usually associated with depression and obsessive-compulsive disorder. We report the clinical case of a 12-year-old girl, without a previous psychiatric history, who was referred to the paediatric outpatient service presenting with new-onset parietofrontal alopecia. She denied pulling her own hair, and a differential diagnosis was made between diffuse alopecia areata and trichotillomania. After therapy, she admitted to pulling out her hair because of the fear of COVID-19; pulling her hair provided relief from the worry. After treatment with minoxidil 2%, n-acetyl cysteine and cognitive-behavioural therapy, her level of psychological suffering is much improved. Some alopecia plaques and agoraphobia are yet to be improved.

P12

The social and psychological consequences of sarcoidosis and the importance of psychological support and self-help groups

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Sarcoidosis is a multisystemic disease of connective tissue. Owing to its multiorgan manifestations, it is referred to as the 'chameleon' of systemic diseases. The aetiology is unclear, and diagnosis and therapy are inconsistent. While some studies highlight the relevance of psychosocial factors in determining the quality of life (QoL) of individuals affected by sarcoidosis, these factors have not been adequately identified, especially not with regard to their relatives (Grunewald J, Grutters JC, Arkema EV et al. Sarcoidosis. *Nat Rev Dis Primers* 2019;**5**:45). Furthermore, it is important to illustrate the psychosocial consequences of the disease for these individuals and their environment, as well as to identify the role psychotherapeutic support and self-help groups have in patient well-being. Patients diagnosed with sarcoidosis and their relatives were recruited from a dermatological university clinic and through a national sarcoidosis society. Participants were from different regions, including rural and urban areas, to widen the scope of analysis. Qualitative semi-structured interviews

were conducted between October 2019 and February 2020. These interviews were recorded, transcribed verbatim and analysed using qualitative content analysis. Deductive hypotheses based on selected categories were formed from the transcripts. The results presented in this abstract refer only to the categories 'symptoms', 'psychological support' and 'everyday activity'. Participants reported a reduced QoL due to sarcoidosis. In particular, fatigue, symptom fluctuations and reduced resilience were identified as burdens on daily life. Furthermore, participants reported limited daily activity and thereby a reduction in social contact. Patients discussed feelings of misunderstanding and rejection in their social circles because of the invisible nature of the disease. Nevertheless, most of the interviewees stated that the disease had no influence on intimacy with their partners. Additionally, patients, as well as their relatives, perceived the unknown cause of the disease and the associated fear of uncertainty as psychological burdens, as those affected cannot avoid any particular triggers to prevent a new relapse. Although some of the participants reported depressive symptoms no therapeutic options were recommended to them. Access to psychotherapy was considered difficult by most of the respondents. Self-help groups play an important role in daily life and in coping with the disease, especially through the exchange and gathering of information with other affected persons. In conclusion, individuals affected by sarcoidosis report a reduced QoL and changes in their social environment. Self-help groups play a crucial role as supportive elements in improving psychosocial well-being and in raising disease awareness.

P13

Success with habit reversal as a monotherapy

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Habit reversal training (HRT) is a behavioural modification technique initially used to manage the habitual scratching associated with atopic dermatitis (AD). In 1996, Dr Christopher Bridgett adopted a manual for practitioners that further explored this topic. They suggested 'the combined approach', which used both topical steroids and behavioural modification to treat chronic atopic eczema successfully in 4–6 weeks (Bridgett C. *Atopic Skin Disease: A Manual for Practitioners*. Stroud: Wrightson Biomedical Publishing, 1996). At our practice, we have successfully implemented HRT in many cases of AD, with great results. It has also been proven to be effective for many other conditions, such as acne excoriée, trichotillomania, trichoteiromania, onychophagia, dermatotillomania, psychogenic excoriation, lichen simplex chronicus, prurigo nodularis and pruritis ani (Bewley A, Taylor RE, Reichenberg JS, Magid M. *Practical Psychodermatology*. Nashville, TN: John Wiley & Sons, 2014).² Therefore, we initiated the use of HRT in all cases where positive results could be expected. Behavioural therapy, in general, is challenging to implement owing to the relatively unconscious nature of the habitual behaviour. It requires time to introduce and adhere to. We found that in

a certain subgroup of patients, HRT can be very successful when used as monotherapy. Appropriate patient selection is important. HRT works best with patients who are highly motivated to change their behaviour and are dedicated to the treatment plan. We take into consideration the behaviours and feelings of patients and their families (significant others or sometimes parents), as their support and adherence are necessary for the treatment plan to be successful. Cultural and social factors are also important to consider. We present three of our cases (AD, a combination of onychophagia and dermatotillomania, and trichoteiromania) where HRT was successful when used as monotherapy. We incorporated methods and techniques outlined in Dr Bridgett's manual. Starting with acknowledging the undesirable behaviour, followed by the patient monitoring of the behaviour at home (noting down every time it happened, where it happened and how long the behaviour lasted). Using HRT alone, our patients were able to decrease significantly the frequency of the unwanted habits in a matter of weeks, and continue to demonstrate improvement, reaching the point of being free from both pathological skin changes and behaviours.

P15

Suicide and suicidality in children and adolescents with chronic skin disorders: a systematic review

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Suicide in children is rare, although there is a steady rise towards the end of adolescence. It is the leading cause of death in young adults in several countries worldwide. Skin disorders carry a high prevalence of psychiatric and psychological comorbidity. Literature on suicidal behaviour in adolescents and children with skin disorders is sparse. A systematic review was carried out to identify the prevalence and associated risk factors of suicidal behaviour in children and adolescents aged < 18 years with chronic skin disorders. MEDLINE, PsycINFO, Embase, CINAHL and the Cochrane databases were searched from inception to April 2020 for outcomes of suicide or attempts in patients aged < 18 years with chronic skin disorders. The protocol was registered on PROSPERO (CRD42020083528). Returned texts were reviewed independently by two authors. Bias was assessed according to the Cochrane Risk of Bias Tool. Five studies met the inclusion criteria: four cross-sectional surveys and one retrospective matched-cohort study. A total of 31 641 patients with acne, atopic dermatitis (AD), body dysmorphic disorder (BDD) and psoriasis were identified. The prevalence of suicidal ideation ranged from 0.4% in patients with psoriasis up to 67% in patients with BDD (Albertini RS, Phillips KA. Thirty-three cases of body dysmorphic disorder in children and adolescents. *J Am*

Acad Child Adolesc Psychiatry 1999;**38**:453–9). The prevalence of suicidal attempts ranged from 0.1% in psoriasis to 21.9% in acne (Purvis D, Robinson E, Merry S, Watson P. Acne, anxiety, depression and suicide in teenagers: a cross-sectional survey of New Zealand secondary school students. *J Paediatr Child Health* 2006;**42**:793–6). Statistically significant increased odds ratios were noted for patients with AD and acne. Meta-analyses were unable to be performed owing to insufficient data within subsets of skin disorders. Additionally, a heightened risk of suicidal behaviour was noted in females that overestimated their bodyweight in the context of AD, and adolescents who had at least one tattoo or piercing. The five included studies demonstrate the broad complex spectrum of suicidal risk in skin disorders among adolescents and children aged < 18 years. Importantly, the suicidal risk remained after adjusting for depression, suggesting further work needs to be done to investigate alternative mechanisms. These findings emphasize the necessity of a thorough skin examination combining observed pathology and body modification, in conjunction with a holistic assessment of the child or adolescent to gain an insight into the overall risk of suicidal behaviour. Dermatologists are in a uniquely advantageous position whereby examination can directly identify some of these signs, which may otherwise be missed.

P16

Dermatitis artefacta in a child with agenesis of the corpus callosum: a multidisciplinary approach

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Dermatitis artefacta (DA) is a factitious dermatological disease characterized by intentional, self-directed but denied damage to the skin. It counts among the more difficult dermatological conditions to diagnose and manage. The condition is rare and may present in various forms and severity making the pattern of skin lesions difficult to identify. There is preponderance towards females and is usually mild or transient in children and adolescents. Precipitating factors include a psychopathological reaction to chronic medical symptoms, abuse, anger and frustration that is framed on a backdrop of the perception patients hold of their skin. It is of particular importance to diagnose it swiftly in children and young adults owing to the impact on emotional and psychological development and well-being. Management relies on a holistic, multidisciplinary approach, including building good rapport, general dermatological care and psychiatric evaluations, all done within an environment of support, empathy and a nonjudgemental approach. We report an interesting case of a 12-year-old child of South Asian ethnicity who presented to the paediatric dermatology clinic with an 18-month history of an erosion on the left side of her face near the lateral canthus. The lesion worsened immediately before being asked to attend school and tended to improve during holidays from school. The parents therefore allowed her to be absent from school.

Eventually, child protection services became involved and a 'back-to-school' programme was initiated. However, the skin lesion deteriorated whenever school attendance was made mandatory. Her medical history included microcephaly, agenesis of the corpus callosum and learning difficulties due to global developmental delay. She was the first of four children and has consanguineous parents. On clinical examination, a hyperpigmented, excoriated 2 × 4-cm erosion was present with central ulceration, crusting and the edge followed by a clear margin adjacent to normal skin on the lateral canthus. Skin biopsy showed hyperkeratosis and nonspecific inflammatory changes consistent with DA. The patient was started on emollients, topical steroids and antibiotics. We explored the relationship between the self-induced skin disease and the psychosocial reasons by providing counselling with the local Child and Adolescent Mental Health Services team and child protection services. After several months of undergoing tailored counselling, the patient improved and the lesion resolved. This case highlighted the importance of a multidisciplinary approach that ensures psychosocial and dermatological management. We insisted upon a nonjudgemental approach, attendance at school, parental and patient education, and managed our patient's cutaneous and emotional needs with dermatological therapy in addition to appropriate supportive and developmental care.

P17

Mindfulness in paediatric and adolescence psychodermatology: itch discomfort as a challenge

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Atopic dermatitis (AD) is a chronic recurrent inflammatory skin disease, most common among children and adolescents. In most cases, the itch is the main and most unpleasant symptom of AD, along with a significant negative influence on the quality of the patient's life. The psychological factors have a significant influence on the course of AD. Moreover, AD itself increases patients' stress and anxiety levels. Precisely for this reason, in recent years, psychological techniques such as mindfulness are added to AD treatment. The main intention of the mindfulness programme for children and adolescents suffering from AD, 'Itch discomfort as a challenge', is to decrease the itch intensity and the disease's effect on everyday life. The programme consists of eight 1-h mindfulness workshops. The workshops are held once a week. Between workshops, the participants practise the exercises taught in the workshops. Throughout the workshop, both elements of cognitive therapy and psychoeducation are applied. It begins with exercises of noticing external stimuli (observing, listening, tasting, touching and smelling), then goes on to breathing exercises and awareness of body parts, and, finally, focusing on thoughts, feelings and body sensations. During the exercises, the itch is observed as a body sensation, with an urge to scratch. We practice observing the itch, while delaying the urge to scratch. Ten children and adolescents with AD (mean age

13.7 years) attended the pilot mindfulness programme in two groups (group 1: 11–14 years; group 2: 15–18 years). Measurement of the patient's itch level was assessed with a 10-cm visual analogue scale and the impact of AD on the patient's quality of life (QoL) using the Children's Dermatology Life Quality Index. Results showed a decrease in itch (from 8/10 to 4/10) and a reduced effect on patients' QoL (from 16.7 to 6.1). Throughout the workshops, the patient's relationship with the itch changes, and this itself changes the experience of itching. Moreover, the act of scratching is delayed, which in time decreases the itch intensity and allows the patient to control it better. Mindfulness helps patients with AD better confront the disease and reduce its influence on their QoL.

P18

Stigmatization in dermatology

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Skin conditions, especially with regard to their aesthetic aspect, are frequently a reason for social rejection, which has a negative influence on the personal and social lives of patients. Skin plays an important role in establishing interpersonal relationships, and thus cutaneous disorders, which have a significant impact on physical appearance, influence other people's attitudes. Visible skin changes may arouse fear, disgust, aversion or even intolerance, and other people may be afraid of the possible contagious character of the disease. Nowadays, stigma is defined as a discrediting mark (biological or social) that sets a person off from others and disrupts interactions with them. The experience of stigmatization has been studied in dermatological conditions and seems to be a common and important problem in dermatology. Our review of the English literature found that stigmatization has been studied most frequently in individuals with psoriasis. In fact, one-third of the research about stigmatization experience in patients with skin problem related to psoriasis. However, some rare conditions, such as haematidrosis, were also described. The results from our research have indicated that visibility of skin lesions and cultural factors are among the main ones that contribute to the stigmatization experience. The attitude to people with skin problems can vary in different countries and cultures. In certain cultures, the fear of stigmatization due to skin disorders can be devastating. Bearing in mind the complex impact of one's life of the stigmatization experience, for many patients, their skin disease might be considered as a life-ruining condition. Our research ascertained that stigmatization seems to be a common and important problem among dermatological patients. A large, observational, cross-sectional multicentre study has been carried out across 16 European countries comparing stigmatization and body image in patients with skin disease. However, the literature on stigma in different dermatoses is very limited. Moreover, several different instruments were used to evaluate the stigmatization level by different research groups, which limits the possibility of making a direct comparison between

the studies. Dermatological patients require a holistic therapeutic approach with antistigma strategies included. There is a need for more research in the field of stigmatization in dermatological disorders.

P19

Comorbid mental disorders in patients with psoriasis with pruritus

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Pruritus is a subjective symptom associated with both skin and systemic diseases. Psoriasis is a chronic systemic inflammatory disease that can be accompanied by an itching symptom. According to our data itching in psoriasis occurs in > 65% of cases. A variety of factors can influence the intensity of itching. Itching in psoriasis can be intermittent or continuous, often worse at night and interferes with the patient's sleep. Most patients with psoriasis consider itching to be the most aggravating symptom of their disease. Therefore, identifying the causes of pruritus and the trigger factors for its intensification is an urgent requirement. This will enable us to determine effective therapies. Psychological distress can play an important role in modulating itching. However, to date, only a few studies have been devoted to the psychological aspects of pruritus in general, and even less in psoriasis. Psychiatric disorders in psoriasis are insufficiently studied and limited to data on the correlation with anxiety and depressive disorders. The aim of our study was to identify comorbid mental disorders in psoriatic patients with pruritus, and their clinical and psychometric assessment. The study included 19 patients (six men and 13 women; aged 18–63 years) with moderate-to-severe psoriasis. All patients complained of itching of varying intensity. The patients underwent clinical and psychometric examination by dermatologists and psychiatrists for anxiety (Generalized Anxiety Disorder 2-item), depression (Patient Health Questionnaire-2), personality disorders [Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II-PD) and Beck questionnaire], somatization scale (Screening for Somatoform Symptoms) and a pruritus visual analogue scale. According to the psychometric assessment, 53% of patients showed signs of anxiety (47%) and/or depression (32%). Comorbid personality disorders (SCID-II-PD and clinical evaluation) were detected in 63% of cases (n = 12): schizotypal (n = 4); histrionic (n = 5); paranoid (n = 2); avoidant (n = 1). As psoriasis is a chronic disease that significantly reduces the quality of life of patients, we also clinically assessed behaviour in the disease. Fifty-three per cent of patients exhibited pathological hypochondriacal behaviour by the type of avoidance, hypothyroid nosogenic reaction or

overvalued hypochondria. The results obtained indicate that patients with psoriasis prevalently demonstrate anxious nosogenic reactions to the disease. Hypothymic nosogenic reactions to the disease and manifestations of amplified itching were also revealed.

P20

The association between psoriasis and anxiety disorders

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The association between psoriasis and anxiety may be considered from two standpoints: anxiety leads to psoriasis, and psoriasis promotes the development of anxiety. Anxiety may occur in patients with psoriasis as a result of chronic pruritus, cosmetic issues and chronic skin disease-associated stigmatization. The pathophysiological interplay between psoriasis and psychological disorders includes various disturbances in the peripheral nervous system, hypothalamic–hypophyseal–adrenal axis (HHAA), sympathoadrenal system and immune-mediated pathways. The objective was to study the hormonal profile and anxiety and β -endorphin level association in patients with psoriasis. One hundred and seventy-nine patients with psoriasis were included and divided into two groups: patients with severe psoriasis [Psoriasis Area and Severity Index (PASI) > 10, n = 85; group 1]; patients with mild and moderate psoriasis (PASI < 10, n = 94; group 2). Cortisol level, adrenocorticotropic hormone (ACTH), interleukin (IL)-6, tumour necrosis factor (TNF)- α , β -endorphin, and the Spielberg–Hanin test for the assessment of personal (PA) and reactive (RA) anxiety were evaluated in all patients. Mean (SD) cortisol levels were reduced regardless of the severity of psoriasis: 9.03 (0.48) $\mu\text{g dL}^{-1}$ in group 1 ($P < 0.001$) and 10.12 (0.67) $\mu\text{g dL}^{-1}$ in group 2 ($P < 0.001$) [control range 14.08 (1.05) $\mu\text{g dL}^{-1}$]. ACTH was elevated in all patients with psoriasis; however, patients from group 1 had higher mean (SD) levels of ACTH than those in group 2: 25.7 (1.56) pg mL^{-1} ($P < 0.001$) vs. 20.8 (1.32) pg mL^{-1} ($P < 0.001$) [control range 13.6 (1.04) pg mL^{-1}]. The highest levels of IL-6 and TNF- α were observed in group 1. Mean (SD) β -endorphin levels were reduced in all patients: 3.42 (0.29) $\mu\text{g mL}^{-1}$ in group 1 ($P < 0.001$) and 4.87 (0.32) $\mu\text{g mL}^{-1}$ in group 2 ($P < 0.001$). Spielberg–Hanin test results showed markedly increased levels of PA and RA in both groups, yet in group 1 the evaluated parameters were significantly higher compared with group 2 {mean [SD] PA levels: 56.74 [5.23] in group 1 and 28.90 [2.48] in group 2 [control scores 16.56 (3.3)] [$P < 0.001$]; RA levels: 58.56 [6.23] in group 1 ($P < 0.001$) and 31.71 [2.54] in group 2 [$P < 0.001$]}. The hormonal profile of patients with psoriasis is characterized by the dysregulation of the HHAA, specifically elevated ACTH and reduced cortisol. Hormonal disbalance is most prominent in patients with severe forms of psoriasis. These changes in the HHAA promote cytokine production, which explains stress-

induced psoriasis relapses. Our results demonstrate the presence of pronounced psychoemotional disorders in patients with various clinical types of psoriasis, related to reduced β -endorphin levels.

P21

Blue palms: a case report

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In pure psychogenic dermatoses, the psychiatric disorder is the primary aspect and somatic findings arise secondarily. In dermatology, there are four main disorders with a psychiatric genesis: (i) self-inflicted dermatitis (dermatitis artefacta, dermatitis para-artefacta, malingering); (ii) dermatoses due to delusional disorders and hallucinations; (iii) somatoform disorders; and (iv) dermatoses due to compulsive disorders (Harth W, Gieler U, Kusnir D, Tausk F. *Clinical Management in Psychodermatology*. Heidelberg: Springer, 2009). A 28-year-old previously healthy woman presented with a blueish discoloration of the bilateral palms distributed on the thenar eminence and distal fingers. Onset was a few hours previously and was abrupt. The symptoms were stable and not alleviated by warming. There was no associated pain or burning. Pigmentation was not present elsewhere and no previous attacks were described. The patient reported chest discomfort without shortness of breath. Otherwise, a systemic evaluation was negative. There was no history of skin disease. The patient did not have any significant past medical or surgical history. Of note, the patient was not on medications, including the oral contraceptive pill. She had recently married and moved into her in-laws house, and is currently unemployed. The patient denied smoking or illicit drug use. On examination, her pulse was 90 beats per min, her respiratory rate was 6 breaths per min, her blood pressure was 130/80 mmHg, her oxygen saturation was 99% and her body mass index was 35 kg m^{-2} . There was no cyanosis of her lips, oral mucosa or tip of the nose. Her chest was clear on auscultation. Her capillary refill time was < 2 s. Multiple differentials were discussed, including thromboembolic diseases, Raynaud phenomenon, arterial insufficiency, drug-induced pigmentation and connective tissue diseases. While we were discussing what investigations to be ordered, one more differential diagnosis was considered and a quick test to prove it was performed. Ten minutes of wiping the area with alcohol completely removed pigmentation. The patient was diagnosed as a malingerer and the laboratory tests were cancelled. It may be relatively easy for dermatologists to recognize cutaneous artefacts because the idea is well established in dermatology. Nevertheless, occasionally the difficulty is that the patient is doing everything possible to mislead you. We have become accustomed to the habit of believing that every patient comes to us hoping to get well. However, this kind of patient has no wish to get well and is, in fact, desperate to hold on to her illness (Lyell A. Cutaneous artifactual disease. A review, amplified by personal experience. *J Am Acad Dermatol* 1979;1:391–407). Owing

to a lack of motivation for therapy, malingering is difficult or impossible to treat psychotherapeutically. Structuring of the doctor–patient relationship is primary, with clear, often purely somatic, reports and confrontation. Special attention should also be paid to depressive or suicidal tendencies.

P22

A systematic review of psychosocial needs assessment tools for dermatological caregivers of children

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Even though skin disease is one of the leading causes of global disease burden, identifying and implementing appropriate dermatology assessment tools remains a challenge, with key gaps in the care coordination evidence base. Existing international policy and guidance recommends that informal dermatological caregivers of children should have access to regular and appropriate assessment of their psychosocial needs. Healthcare professionals need to be able to access relevant, high-quality, accessible and up-to-date information on available, validated and useful needs assessment tools in order to triage, identify and support the unmet psychosocial needs of these caregivers. This comprehensive systematic review aimed to assess the availability and usefulness of skin disorder psychosocial needs assessment tools validated for use among dermatological family caregivers. Electronic databases, including Embase, PsycINFO, MEDLINE (in Ovid SP), Cochrane and CINAHL EBSCO, were searched (2000–2019). To enhance the sensitivity, forward searches were conducted in U Search, Web of Science and several trial registers. Title, abstract and full screening, and data abstraction, were done in duplicate. Eighty-five full-text articles were examined from a total of 8796 records and 11 assessment tools were included in this review. In contrast to the high number of dermatology and disease-specific needs assessment tools identified, limited evidence supports the quality of their methodological and measurement properties. The tools generally quantified patient outcome measures or were generic quality of life tools, which are not recommended by Cochrane Skin Centre of Evidence Based Dermatology. Although many of the reviewed tools quantify similar constructs, none directly measured caregivers' need in terms of both problems and supports, but instead utilized measures of other constructs as a proxy for caregivers' need. No dermatology-specific or disease-specific caregiver psychosocial needs assessment e-tool exists. Recommendations for the use of disease-specific caregiver assessment tools for healthcare settings must be made with caution because of their limitations in terms of methodology and practical usefulness. With an ever-increasing emphasis on e-health and existing demand on limited and valuable healthcare resources, dermatological caregiver needs assessment tools need to be reconsidered within the construct of 'prevention is better than cure' whereby needs are directly assessed on two levels: problems and interventions. This review highlights the need to develop

an accessible integrated solution-focused model of dermatological caregiver assessment that provides healthcare professionals with an opportunity to triage and/or identify unmet care needs and facilitates dermatological caregivers to both self-report their needs and choose their own solutions.

P23

Efficacy of dupilumab in patients with immune checkpoint inhibitor-related pruritus

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Immune checkpoint inhibitors have dramatically improved the prognosis for many cancer patients. Immune checkpoint inhibitors are associated with various immune-related adverse events (irAEs), of which cutaneous AE (ircAEs) are the earliest and most prevalent. ircAEs occur in 72% of patients treated with immune checkpoint inhibitors. The severity of ircAE varies from grade 1 pruritus to grade 4 Stevens–Johnson syndrome. Pruritus is one of the most prevalent and early ircAEs associated with anti-programmed cell death protein 1 (PD-1)/programmed death ligand 1 (PD-L1) treatment and may develop before or concomitantly with other ircAEs. There are limited data on the management of ircAEs with biological drugs; however, they may be considered an alternative to systemic steroids. The objective was to assess the efficacy of dupilumab in patients with immune checkpoint inhibitor (anti-PD-1)-associated pruritus. Five patients with ircAEs (two patients received nivolumab and three received pembrolizumab) were included. All patients had grade 2–3 pruritus according to the Common Terminology Criteria for Adverse Events (CTCAE) version 4.03. Three patients treated with pembrolizumab had a concomitant rash (two had a maculopapular rash and one had a bullous rash), while two patients receiving nivolumab had pruritus only. All patients reported having episodes of atopic eczema before their cancer diagnosis. Anti-PD1-associated pruritus was unsuccessfully treated with topical steroids, antihistamine drugs, gabapentin and prednisone 10 mg in these patients. The anti-interleukin (IL)-4/IL-13 drug dupilumab was prescribed to manage ircAEs: 600 mg as the initial dose followed by 300 mg every other week as a maintenance treatment. Eosinophilia and elevated IgE levels were detected in all patients, with the largest increase in those with pruritus and grade 3 ircAEs. Pruritus and rash grade reduction according to CTCAE version 4.03 was detected in all patients after the initial dose of dupilumab (week 0 vs. week 2: 2.37 vs. 1.35). After the third dose of dupilumab, both pruritus and rash almost entirely resolved (week 0 vs. week 6: 2.37 vs. 0.47; $P < 0.001$). A multidisciplinary approach for diagnosing and managing immune checkpoint inhibitor-related ircAEs improves patients' quality of life and allows a life-saving treatment to be continued. Although systemic steroids are the mainstay of treatment for

grade 2–3 ircAEs, they sometimes show no clinical effect and may affect the anticancer treatment. We report the successful management of ircAEs with anti-IL-4/IL-13 monoclonal antibody dupilumab in five patients with anti-PD1-associated pruritus and ircAEs. Further research is required to assess the efficacy and safety of dupilumab in patients with ircAEs.

P24

Mental disorders in patients with alopecia

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Hair loss is associated with different psychological conditions (e.g. distress, health and beauty anxiety). However, there are sparse data on mental disorders related to alopecia. Our aim was to identify psychiatric disorders (PDs) in patients with different types of alopecia. Dermatology outpatients [n = 103; 83 females, mean (SD) age 34.2 (13.0) years] with diagnoses of alopecia areata [AA; L63 in the International Classification of Diseases, 10th Revision (ICD-10), n = 28], androgenic alopecia (AGA; L64 in ICD-10, n = 39) and telogen effluvium (TE; L65.0 in ICD-10, n = 36) were screened for anxiety and depression with the Hospital Anxiety and Depression Scale (HADS). Then patients who positively screened for anxiety and/or depression (HADS score > 7) were examined by a psychiatrist for ICD-10 mental disorders. As a result of HADS screening, anxiety and/or depression were identified in 40.8% (n = 42) of patients with alopecia: 15 with AA, 12 with AGA and 15 with TE (P > 0.05). In patients who screened positively with HADS, PDs were presented according to two groups of disorders: adjustment disorders [ADs; i.e. psychogenic (nosogenic) reactions caused by alopecia symptoms (F43 in ICD-10, n = 39)] or mood (affective) disorders (F3 in ICD-10, n = 7). More frequently, ADs (54.8% of PDs, n = 23) were related to appearance fears and overvalued ideas: (i) the fear of disclosing of a cosmetic hair defect to others (the sociophobic fear, n = 8); (ii) the idea of saving/restoring the hair beauty ('Dorian Gray syndrome' or 'hypochondriasis of beauty', n = 11); (iii) the idea of alienation – the patient's own hairless appearance perceived as 'another person's outlook' (dissociation of perception of own appearance, n = 4). Less frequently, ADs (19.0% of PDs, n = 8) were related to health anxiety and somatization: the fear of alopecia being a sign of an undiagnosed internal disease with 'doctor shopping/hopping' to find a cause for the hair loss. It may be accompanied by functional sensations on a typically asymptomatic hair-losing skin area: tingling, burning, itching, etc. Mood (affective) disorders were identified in 17% of cases (n = 7) and represented by recurrent depressive disorder (F33 in ICD-10, n = 3), another episode of which

coincided with the symptoms of hair loss, and dysthymia (F34.1 in ICD-10, n = 4), the manifestations of which were not associated with and preceded the alopecia but negatively affected the patient's emotional status. There were no significant differences in the distribution of PDs between the three types of AA (P > 0.05). According to our results, alopecia is accompanied by a high frequency of comorbid PDs that require intervention. A consulting psychiatrist could be useful in dermatological clinics and specialized settings for patients with hair loss.

P25

Major life changing decision profile: creation and validation of the Polish-language version

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Chronic diseases can affect individuals' life course and have long-term consequences. The Major Life Changing Decision Profile (MLCDP) is an exceptional tool that provides insight into the longitudinal influence of disease by establishing its impact on important life decisions. The aim of this study was to create the Polish-language version of the MLCDP. A standard forward and backward translation procedure was conducted to convert the original English version of MLCDP into Polish. Psychometric evaluation of the Polish version was performed in a group of 32 dermatology and nephrology ward inpatients. All respondents were asked to complete the questionnaire twice, with an interval of 5 days. To assess the properties of the questionnaire, statistical analysis of the results obtained was carried out. Very good internal consistency of the Polish version of the MLCDP was established, with a Cronbach alpha coefficient of 0.84. The questionnaire demonstrated excellent test-retest reliability, calculated with an intraclass correlation coefficient of 0.97. The Polish version of MLCDP proved to be reliable tool and can be used constructively to study the cumulative impact of the disease by estimating the number of major life decisions affected by chronic disease.

P26

Towards an understanding of the psychosocial impact of psoriasis

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Psoriasis is associated with significant psychosocial disability. Owing to the visibility of skin lesions, patients with psoriasis commonly report experiences of stigmatization and public rejection. This study aimed to explore how patients experience the reactions of others to their psoriasis, their management of these interactions and the long-term impact on social functioning. Qualitative, semi-structured interviews were used to elicit the views and experiences of patients with psoriasis ($n = 24$). Data were analysed using inductive thematic analysis. Patients cited the psychosocial impact of psoriasis as the most significant aspect of living with psoriasis, and preoccupation regarding its visibility to others was substantial. Analysis produced four overarching themes: (i) 'varied experiences of psoriasis-related interactions'; (ii) 'threat to sense of self'; (iii) 'preserving social connections'; and (iv) 'wasted opportunities for positive interactions'. Patients experience a wide range of responses to their skin from others. The general public's lack of understanding of psoriasis was thought to contribute to negative encounters for patients, highlighting the importance of wider educational initiatives. Although overtly negative reactions were rare, even supportive comments were appraised negatively by patients as an unwanted reminder of the condition's visibility. Patients' behaviours within social situations were motivated by desires to minimize further attention, preserve self-identity and protect existing social relationships. However, patients acknowledged that sometimes their behaviour derailed social situations, usually stemming from their overwhelming fear of negative evaluation. The fluctuating nature of the disease, together with high levels of stigmatization experienced, presents unique psychosocial challenges for patients which are only partially remedied by improvement of skin appearance. Periods of social avoidance contributed to a damaged sense of self and decreased confidence in communication skills. Psychological therapies such as acceptance and commitment therapy and social skills training may be beneficial, especially when tailored to the specific underpinnings of psychosocial difficulties in psoriasis.

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P27

Anxiety in patients with hirsutism: a systematic review and meta-analysis

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Hirsutism, defined as excessive terminal hair growth on a female body in a typical male distribution, has been associated with considerable psychological distress in affected patients (Rittmaster RS, Loriaux DL. Hirsutism. *Ann Intern Med.* 1987;**106**:95–107). However, the magnitude of this proposed association is largely unknown. This meta-analysis aimed to summarize the current evidence assessing differences in measures of anxiety between patients with and without hirsutism. We performed a systematic literature search on PubMed/MEDLINE, Embase and PsychInfo from database inception to 22 December 2020. English-language studies comparing quantitative measures of anxiety in women with hirsutism to nonhirsute controls were included. Two independent reviewers screened records for inclusion and undertook data extraction and quality assessment using the Newcastle–Ottawa Quality Assessment Scale (NOS). The inverse variance method based on a random-effects model was used to analyse the data. Publication bias was estimated using the Egger regression asymmetry test. Statistical tests were performed in Stata 16.1 (StataCorp, College Station, TX, USA). Initial searches yielded 508 articles, of which six eligible comparative studies (one cross-sectional and five case–control) were included in the meta-analysis. On a scale of 9, NOS scores ranged from 5 to 8, indicating studies to be of fair-to-good quality. Using six independent samples encompassing 591 participants (309 hirsute, 282 controls), meta-analysis demonstrated significantly higher anxiety scores in patients with hirsutism than those without (standardized mean difference 0.29, 95% confidence interval 0.05–0.54; $P = 0.02$). No significant publication bias was detected ($P = 0.43$). This review found that those with hirsutism experience greater anxiety than nonhirsute individuals, suggesting that medical professionals should consider routine assessment for anxiety and possible referral to appropriate providers when caring for hirsute patients. However, the results should be read with caution given the limited number of controlled studies identified and their relatively small sample sizes. Further studies with larger sample sizes are warranted to study this relationship in greater detail.

P28

Itch-related psychosocial burden of basal cell carcinoma

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Basal cell carcinoma (BCC) is the most common malignancy in humans. The aim of this study was to analyse the psychosocial status of patients with BCC and influence of itch on patient well-being. This study evaluated itch in 180 patients

with BCC. Itch intensity was assessed with numerical rating scale (NRS) and 4-Item Itch Questionnaire (4IIQ). Quality of life (QoL) in BCC was assessed with the 36-item Short-Form Health Survey (SF-36), Dermatology Life Quality Index (DLQI), 6 Item Stigmatization Scale (6-ISS) and Beck Depression Inventory (BDI). The mean (SD) maximum intensity of itch was assessed as 3.4 (1.8) points in the NRS and 4.3 (2.4) points in the 4IIQ. The mean (SD) SF-36 for the whole studied population was assessed as 71.38 (15.77) points [Mental Health Component 77.53 (15.28) points and Physical Health Component (PHC) 68.09 (23.04) points]. According to the SF-36, patients with itch and without itch did not have significant differences in the total SF-36 score [70.38 (15.77) points and 71.67 (15.9) points, respectively]. The intensity of itch in the 4IIQ correlated negatively with PHC ($r = -0.50$; $P = 0.001$). The mean (SD) DLQI in our group was 2.0 (2.0), while the mean SF-36 was assessed as 71.38 (15.77) points. The intensity of itch assessed with 4IIQ correlated negatively with SF-36 ($r = -0.48$; $P = 0.003$). The prevalence of depression among our patients was 16.3%, and the mean (SD) BDI score was 6.16 (5.72) points. BDI scored positively correlated with patient's age ($r = 0.2$; $P = 0.01$). The mean (SD) score of the 6-ISS was 0.66 (1.24). Our study found slight impairment of the disease on QoL; however, the presence of itch and its intensity may reduce the QoL of affected individuals.

P29

Potential utility of eye movement desensitization and reprocessing and the flash technique in psychodermatology

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Eye movement desensitization and reprocessing (EMDR) has primarily been used to treat post-traumatic stress disorder. Its use has been extended into other psychological presentations, such as depression, obsessive-compulsive disorder and anxiety. It has also been employed within specialist medical areas, including oncology and cardiology. There has been one report (four patients) on the use of EMDR in dermatology [Gupta M, Gupta A. Use of eye movement desensitization and reprocessing (EMDR) in the treatment of dermatologic disorders. *J Cutan Med Surg* 2002;6:415–21]. EMDR can target disturbing memories that would not reach the threshold for 'traumatic experiences' but nevertheless have contributed to currently held negative beliefs about the self, world or other people, or negative emotional or physiological states. For dermatology patients, such memories may include instances when they first recognized that there is something different about their skin, episodes of bullying, or the experiences of pain and overwhelming itch during a skin infection. The underlying theory of EMDR posits that such memories, if unprocessed, can lead to difficulties when triggered by current experiences. The flash technique offers a rapid means of reducing distress associated with these memories prior to using EMDR. It requires the

client to only briefly think about the memory, and therefore works well with highly distressing memories, or where there is concern about worsening current functioning by 'opening up' the memory. Transformational change in the disturbing memory has been found after just a few minutes of the flash technique (Manfield P, Lovett J, Engel L, Manfield D. Use of the flash technique in EMDR therapy: four case examples. *J EMDR Pract Res* 2017;11:195–205). We have used EMDR and the flash technique in clients with neurofibromatosis type 1 (NF1) and severe eczema, resulting in very positive outcomes. Both clients attended virtual appointments and did not want to become distressed in their home. We present our cases, detailing how the flash technique and EMDR was applied, and client feedback on this therapeutic approach. For our client with NF1, no formal standardized questionnaire measures were used, but there was a self-reported improvement in suicidal ideation, mood, and self-confidence. Our client with eczema demonstrated significant improvements in standardized questionnaire measures of depression, anxiety and quality of life. Both reported high levels of satisfaction with the approach, reporting that they even enjoyed the sessions. Given these positive preliminary experiences, and those reported in the previous small case series (Gupta and Gupta), we feel that EMDR and the flash technique warrants further study within psychodermatology, particularly when delivered virtually.

P30

Is mindfulness associated with quality of life and itch intensity in children with psoriasis and eczema and with the well-being of their parents?

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Childhood psoriasis and eczema may negatively affect both the well-being of affected children and their parents. Identifying psychological variables that protect against or reduce the negative impact of these skin conditions could help the development of targeted interventions and, as such, greatly improve the lives of children with these skin conditions and their parents. Mindfulness has been shown in some other studies to be associated with lower levels of skin-related distress and lower levels of worry about skin disease-specific symptoms such as itch. The aim of this study was to investigate whether higher levels of parental dispositional mindfulness are associated with lower levels of psychological distress and better quality of life (QoL) in children with psoriasis or eczema and their parents. Children with psoriasis or eczema ($n = 180$; 108 females; mean age 10.22 years) and their parents ($n = 210$; 183 females; mean age 39.97 years) were recruited from social media and National Health Service dermatology clinics in the UK. Parents completed questionnaires assessing mindfulness,

parental stress, psychological distress (depression, anxiety and general stress) and QoL related to their child's skin condition. Children completed questionnaires assessing QoL related to their skin condition and pruritus (itch intensity). Dispositional mindfulness explained significant amounts of variance in parental stress, parent depression, parent anxiety, parent general stress, and both parent and child QoL. It is possible to conclude that dispositional mindfulness may protect against the negative impact of childhood psoriasis and eczema, and on parent and child well-being. There is merit in investigating whether specifically developed mindfulness-based interventions for parents may be beneficial for improving well-being in both children with skin conditions and their parents.

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The effectiveness of mindfulness-based cognitive therapy for social anxiety in people with alopecia areata: a multiple-baseline single-group case series design

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Alopecia areata (AA) is a condition characterized by hair loss. Individuals with AA report high levels of social anxiety. Mindfulness has been shown in some other studies to be associated with lower levels of distress in a range of dermatological conditions. Mindfulness-based cognitive therapy (MBCT) has been found to provide protection against relapse in people with longstanding major depressive disorder. The key objective of this study was to investigate whether MBCT specifically adapted for AA can reduce significant levels of comorbid social anxiety. The study also investigated whether MBCT reduces depression and general anxiety, and increased quality of life (QoL) and trait mindfulness in patients with AA receiving the intervention. Five participants with AA took part in an eight-session MBCT intervention with an accredited cognitive behavioural therapist. A multiple-baseline single-group case series design was adopted. Idiographic measures of social anxiety were measured each day from baseline, through intervention, to follow-up. Social anxiety was assessed by two idiographic questions that were chosen by the participants and completed daily. These questions represented areas of social anxiety that participants wanted to address. Question 1 was decrease framed (i.e. something the participant wanted to decrease, e.g. 'How affected have you been today by people looking at your head/hair?'). Question 2 was increase framed [i.e. something the participant wanted to increase, e.g. 'How brave have you felt today (e.g. when in social situations and around others)?']. Standardized questionnaires of trait mindfulness, social anxiety, depression, anxiety and QoL were completed at

baseline, postintervention and at 4-week follow-up. Fidelity checks of the intervention were conducted with another qualified therapist who reviewed recorded excerpts from therapy sessions. All participants completed the intervention; however, one participant was excluded from the idiographic analysis owing to a high number of missing data. The remaining four participants demonstrated reductions in idiographic measures of social anxiety from baseline to follow-up. These effects were larger between baseline and follow-up, than baseline and postintervention. Two participants (who practised the exercises more frequently between sessions) demonstrated significant improvement in standardized measures of well-being from baseline to follow-up. This study tentatively concludes that rigorous adapted MBCT may be effective in reducing social anxiety and improving well-being in individuals with AA, although this might be dependent on the extent to which participants regularly practise mindfulness exercises.

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P32

Itch and quality of life in children with type 1 diabetes

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Type 1 diabetes (T1D) is reported to be one of the most common medical conditions in school-age youth and is ranked third in the prevalence of paediatric conditions. Only a few studies have investigated the occurrence of itch in diabetes mellitus, and report conflicting data. The aim of this study was to investigate the prevalence of itch in T1D and to explore the associated psychosocial burden. In this prospective study, itch evaluation in 100 children with T1D was performed. Itch intensity was assessed with the numerical rating scale (NRS) and the 4-Item Itch Questionnaire (4IIQ). The Children Dermatology Life Quality Index (CDLQI) was implemented to assess quality of life (QoL) issues. Various clinical features and factors influencing itch were also examined. Skin dryness was evaluated clinically by noninvasive assessment of epidermal moisturizing. Itch occurred in 22% of children with T1D, with a mean (SD) maximal intensity of 5.9 (3.0) points in the NRS and 6.7 (3.5) points in the 4IIQ. Skin dryness examined clinically was significantly more advanced in children with itch compared with those without itch ($P < 0.01$). The mean (SD) CDLQI score in all itch groups was 4.0 (4.7) points, indicating a small impairment in QoL. The intensity of itch (both NRS last 3 days and NRS last 24 h) correlated positively with impairment to QoL [$r = -0.2$ ($P = 0.04$) and $r = -0.5$ ($P < 0.032$), respectively]. Additionally, the abdominal epidermal hydration correlated negatively with CDLQI ($r = -0.4$; $P < 0.045$). Our study found itch to be a moderately

frequent symptom in children with T1D; however, the presence of itch and its intensity may relevantly reduce the QoL in children with T1D.

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Individual assessment of chronic care by patients with vitiligo

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Vitiligo is a chronic, idiopathic, noncontagious depigmentation disorder that causes white patches and sometimes even complete depigmentation of the skin; it is often accompanied by stigmatization. Many patients suffer psychologically from this World Health Organization-recognized disease. For patient assessment of chronic care delivered by their general healthcare providers (i.e. general practitioners, dermatologists and health insurance) we used the Patients Assessment Chronic Illness Care (PACIC+) questionnaire in 81 patients (52 females and 29 males), who mostly had fair skin (Fitzpatrick skin phototypes I–III, $n = 65$) and a mean age of 46.4 years (range 17–71) from a private skin institute. The PACIC+ is based on the '5As' model of a patient-centred model of behavioural counselling ('ask'/'advise'/'agree'/'assist'/'arrange') and examines to what extent chronic care involves and activates patients, how well it is organized and how much it agrees with the patients' situations and expectations/values. The subscales are Patient Activation, Delivery System Design/Decision Support, Goal Setting, Problem-solving/Contextual Counselling and Follow-up/Coordination. In addition to asking for sociodemographic, disease- and leisure time-related details, the Dermatology Life Quality Index, the depression scale of the Patient Health Questionnaire and the Body Dysmorphic Disorder Questionnaire were also used. Higher scores in the Patient Activation, Delivery System, Goal Setting and Follow-up subscales were achieved in patients who felt supported by their general healthcare providers regarding the requirements of the treatment modality offered by the specialized skin institute (pseudocatalase cream, narrowband ultraviolet B machine or a Dead Sea trip). Patients with difficult-to-treat eyelashes/eyebrows or those who shared vitiligo-related experiences in social media, or used them as a source of general information, more often reported structured chronic care. Patients without hobbies or sportive leisure time activities reported higher levels of activation/involvement and follow-up/coordination. Other sociodemographic or disease-related features (gender/age/skin colour/disease duration) and levels of stigmatization, quality of life or depression, or whether patients fulfilled criteria for body dysmorphic disorder did not influence the PACIC+ outcome. In order for general healthcare providers to be acknowledged as patient-centred, they should cover the costs of equipment needed for a specialized treatment modality for vitiligo, even if this is offered by a third party and not by the general healthcare provider itself. These patients still have to cover a significant part of their own private consultation costs and the purchase of

equipment/cream necessary for the specialized treatment modality by the private skin institute, as this allows good medical practice and personalized quality health care with excellent results in the recovery of skin colour.

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Aripiprazole in the treatment of delusional parasitosis with secondary anxiety and depression: a case report

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Delusional parasitosis (DP) is a rare psychotic condition in which individuals have an unfaltering belief that their skin has been infested with parasites, despite the absence of supporting medical evidence. Primary DP is idiopathic, while secondary DP results from a pre-existing medical condition or is of an iatrogenic origin. Antipsychotics are the preferred pharmacological treatment option, but standardized treatment protocols do not exist. Despite a favourable safety profile, aripiprazole is infrequently used in the treatment of DP. There is a paucity of studies describing its therapeutic utility in primary DP. Herein we describe the case of a patient presenting with primary DP complicated by the subsequent development of anxiety and depression that was successfully treated with a 10-week course of aripiprazole. Additionally, we review the literature and explore the utility of aripiprazole in the treatment of primary DP. A 53-year-old white woman with an unremarkable medical history presented with sensations of insects crawling under her skin of 2 months' duration. The patient reported intense itching and poor sleep attributed to 'parasite bites'. The patient described frequent bathing and use of antiparasitic creams, with hopes of decreasing itching and 'cleaning the bugs'. Physical examination revealed numerous excoriations and areas of denuded skin. On psychiatric evaluation, the patient's Patient Health Questionnaire (PHQ)-9 and General Anxiety Disorder (GAD)-7 scores were 16 and 18, respectively. Treatment was initiated with aripiprazole 5 mg and titrated up to 15 mg over the course of 1 month. The patient's delusions, depression and anxiety improved over the course of treatment. Complete resolution of symptoms was achieved after week 10 of treatment. Delusions and itch sensations resolved. Significant improvements in PHQ-9 and GAD-7 scores to 5 and 3, respectively, were noted. A maintenance aripiprazole regimen was continued. At the 3-month follow up, the patient remained asymptomatic. Aripiprazole is an uncommonly used antipsychotic medication in the management of DP; the literature is limited to case reports and case series, mainly regarding secondary DP. As we demonstrate, aripiprazole may be of particular use in primary DP, especially in patients with concomitant depression and anxiety. Unlike the more commonly used antipsychotic, risperidone, aripiprazole acts as a serotonin 1A receptor partial agonist, potentially explaining its efficacy in ameliorating mood symptoms. Given

its favourable side-effect profile and utility in treating psychosis and mood disturbances, aripiprazole should be considered more frequently in the treatment of DP. Nonetheless, randomized control trials are necessary to determine optimal pharmacological interventions in the treatment of DP.

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A closer look at chemotherapy-induced flagellate dermatitis

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Flagellate dermatitis (FD) is a rare drug-induced skin rash, which may occur after the administration of antineoplastic agents used in cancer therapy. We present only the second reported case of docetaxel-induced FD in a 68-year-old man with prostatic adenocarcinoma, following his third cycle of treatment, alongside a review describing 54 individual patient cases of chemotherapy-associated FD, evaluating clinical manifestations, investigations, management and outcomes. PubMed was searched using the terms ((flagellat*) AND (Dermat*)) OR ((Flagellat*) AND (Erythema)). The search yielded 206 publications, out of which 46 case reports describing 54 individual cases were identified and fulfilled our inclusion criteria. Female patients were more likely to develop FD. In most cases FD appeared on the upper and lower limbs, and pruritus was an accompanying feature in 51.4% of cases. Most cases developed after the first cycle of chemotherapy and females were statistically more likely to present within the first 72 h ($P < 0.05$). The route of drug administration had no significant effect. A biopsy was taken in 40.7% of cases and this was not statistically associated with the patient's gender ($P = 0.651$), acute presentation, up to 72 h postinfusion ($P = 0.076$) or cancer type. Chemotherapy was stopped in 48.1% of patients and was associated with female gender ($P = 0.01$) but not with a biopsy procedure ($P = 0.182$) or acute presentation. Most patients who received treatment were managed with topical steroids. Systemic steroids were the third most common treatment option and did not correlate significantly with gender, early presentation or the taking of a biopsy. Use of emollients alone was poorly associated with FD resolution. There was no statistical association with stopping chemotherapy and better recovery. Anticancer therapy-related FD most commonly presents on the upper and lower limbs of patients after their first cycle of chemotherapy. An acute presentation is more common in females and is associated with an increased likelihood of stopping chemotherapy. Biopsy findings poorly correlate with disease severity. Continuation of chemotherapy treatment in combination with topical steroids may not adversely affect rash resolution.

P.L. and A.C. contributed equally.

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Psoriasis is a systemic disease

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Psoriasis is an autoimmune disease that is characterized by chronic changes in the epidermal layer of the skin, such as overstimulation of immune cells (namely T lymphocytes and neutrophils), as well as the excessive production of immature keratinocytes. It is often visually diagnosed, but, with the use of tissue biopsy, the increased growth of keratinocytes, infiltration of immune cells and excessive growth of the blood vessels is clearly seen. Under the surface of this condition, there have been many epidemiological developments suggesting that psoriasis can be seen as a systemic disease due to the common comorbidities that develop after diagnosis. This poster will explore how this T lymphocyte-mediated autoimmune disease can have direct systemic effects on patients.

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Dissociation as a psychological factor supporting the skin tumour's co-persistence: case report

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The aim of this study was to report psychological factors supporting a skin tumour's co-persistence in a patient with multiple skin tumours, which turned to be multiple melanoma and dermatofibrosarcoma and developed sequentially over 7 years prior to visiting a doctor. A consultation with a psychiatrist was held to assess the characteristics of psychological response to multiple malignant skin neoplasms and mental perception of the disease. The clinical psychiatric examination was supported by the Mini-International Neuropsychiatric Interview (MINI) for the International Classification of Diseases, 10th Revision (ICD-10), the Hospital Anxiety and Depression Scale (HADS) for anxiety and depression, the Structured Clinical Interview for DSM-IV (SCID-II) for personality disorders and the Dissociative Disorders Interview Schedule (DDIS), *Diagnostic and Statistical Manual of Mental Disorders*, 5th edition. The patient was reluctant, after numerous reminders, to attend follow-up visits regarding the established potentially life-threatening diagnoses. The MINI interview for ICD-10 allowed us to exclude major neuropsychiatric disorders: schizophrenia, bipolar disorder, organic brain damage, addiction and mental retardation. However, a meaningful neurotic disorder and some associated personality traits were found. The HADS score for anxiety (9 points) was above the cutoff for self-reported anxiety (≥ 8

points), while the HADS score for depression (4 points) was below the cutoff for self-reported depression (≥ 8 points). The SCID-II interview revealed elevated scores for borderline (5 points) and histrionic (3 points) personality traits. The DDIS allowed us not only to exclude severe and extreme manifestations of dissociation (dissociative identity disorder, amnesia, fugue, depersonalization), but also to validate single dissociative symptoms ('supernatural experiences', 'memories come back all of a sudden, in a flood or like flashbacks'). Prolonged dissociative reaction with cancer-related peritraumatic dissociation was diagnosed (ICD-10 F43.28, prolonged adjustment disorder 'with other specified predominant symptoms', i.e. anxiety and dissociation). We also diagnosed retrospectively similar dissociative reactions in response to other stressors as unrelated to health problems. To conclude, psychological dissociation as a reaction to skin cancer diagnoses and symptoms resulted in the delay of multiple skin tumour excisions and the co-persistence of malignancies.

P39

Delusional parasitosis: a scoping review

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Delusional parasitosis (DP) is a complex psychosomatic disorder characterized by a fixed belief of infestation, despite evidence to the contrary. The diagnosis and management of these patients remain a serious clinical challenge and there is a paucity of clinical practice guidelines. In the absence of rigorous clinical trials, this scoping review aimed to map the literature on this particular topic and identify common threads and gaps in the research and current understanding. A search of the PubMed, EMBASE, ScienceDirect, Google Scholar and

ClinicalTrials.gov databases with the keywords delus* parasit* OR delus* infest* OR Ekblom syndrome found 84 case reports, 20 case series and one randomized controlled trial. The studies were reviewed by two independent researchers, with a particular focus on the patient demographics, clinical presentation, treatment interventions and outcomes. Some of the generalizable, emerging themes included a predilection for female sex, age commonly ≥ 50 years and comorbid medical illnesses (commonly cardiovascular diseases, anaemias, neurodegenerative diseases and vitamin deficiencies). Based on published reports, many patients had no prior psychiatric diagnosis, displayed no other overt mood or anxiety symptoms, and had no clear stressors. The common presenting complaint was a tactile sensation of insects crawling on them, and they often produced (alleged) parasite specimens as proof of the parasitosis. These patients strongly objected to the suggestion that their condition was psychiatric in nature. Interestingly, there were multiple reports of co-occurring shared psychosis among family members in Asia, suggesting genetic determinants and also a component of reinforcing environmental influences. In general, patients with DP visited several primary care doctors and dermatologists, rather than psychiatrists; delay in treatment often resulted in self-mutilation, secondary depressive symptoms and distress. Regardless of the duration of symptoms, most patients exhibited a good response to atypical antipsychotics (commonly risperidone 0.5–3 mg daily), although longer-term studies and clinical trials are still lacking. Relapse of symptoms has been reported after brief cessation of antipsychotics. Correction of underlying, reversible medical conditions (e.g. B12 and folate deficiency) may also improve clinical symptoms, even though the causality remains tenuous. It is evident that the management of these patients require early recognition, referral and multidisciplinary care team.

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