Effect of atopic skin stressors on natural moisturizing factor and skin cytokines

Engebretsen and colleagues from Denmark explain that epidermal deficiency of filaggrin, and the derived natural moisturizing factors (NMFs), is associated with increased risk of atopic dermatitis. Furthermore, while filaggrin gene mutations cause filaggrin deficiency, they explain that there is limited insight into causative environmental factors. Thus, the aim of their study was to explore the effect of selected exogenous skin stressors on levels of NMF and skin cytokines in healthy adult epidermis. They studied 40 healthy adult volunteers (age 18–49 years) who were exposed to hard, soft and chlorinated water, 0.5% sodium laurel sulfate, house dust mite, cat allergen, staphylococcal enterotoxin B, cooling and histamine. Participants were tape stripped and biophysiological measurements were performed. NMF levels (measured in mmol g⁻¹) were determined after 24 and 48 h. For selected exposures. At 24 h, a significant decrease in NMFs was observed for soft (0.51 ± 0.19) and hard (0.61 ± 0.32) compared with occlusion alone (0.71 ± 0.18). Hard water led to increased levels of interleukin (IL)-4, interferon (IFN)-γ and IL-10. Exposure to house dust mite and staphylococcal enterotoxin B led to a significant decrease in NMFs after 24 h (0.77 ± 0.28 and 0.80 ± 0.28, respectively) compared with occlusion alone (1.00 ± 0.42). House dust mite led to an increase in IFN-γ, IL-2 and IL-4 compared with the nonoccluded control site. The authors concluded that based on experimental exposure to selected atopic skin stressors such as different water types, allergens and staphylococcal enterotoxin B, NMF levels are decreased along with increased secretion of various skin cytokines in healthy individuals. Finally, they concluded that their data highlight environmental factors that might play a role in the pathophysiology of atopic dermatitis.

Engebretsen KA, Kezic S, Jakasa I et al. Effect of atopic skin stressors on natural moisturizing factors and cytokines in healthy adult epidermis. Br J Dermatol 2018; 179:679–688. DOI: 10.1111/bjd.16487

Management of hyperhidrosis in secondary care

Wade and colleagues from the U.K. explain that hyperhidrosis can significantly affect quality of life. They carried out a systematic review of the clinical effectiveness and safety of treatments available in secondary care for the management of primary hyperhidrosis. Fifteen databases (including trial registers) were searched up to July 2016 to identify studies of secondary-care treatments for primary hyperhidrosis. For each intervention, randomized controlled trials (RCTs) were included where available; where RCT evidence was lacking, nonrandomized trials or large prospective case series were included. Outcomes of interest included disease severity, sweat rate, quality of life, patient satisfaction and adverse events. Trial quality was assessed using a modified version of the Cochrane Risk of Bias tool. The results were pooled in pairwise meta-analyses where appropriate, otherwise a narrative synthesis was presented. Fifty studies were included in the review: 32 RCTs, 17 nonrandomized trials and one case series. Please read the full article in this issue of the journal to see their results. They concluded that the evidence for the effectiveness and safety of treatments for primary hyperhidrosis is limited overall, and that few firm conclusions can be drawn. However, they identified moderate-quality evidence to support the use of intradermal injection of botulinum toxin for axillary hyperhidrosis and advised that a trial comparing botulinum toxin with iontophoresis for palmar hyperhidrosis is now warranted.

Wade R, Llewellyn A, Jones-Diette J et al. Interventional management of hyperhidrosis in secondary care: a systematic review. Br J Dermatol 2018; 179:599–608. DOI: 10.1111/bjd.16558

Anthropometric factors and Breslow thickness

The Norwegian and North American authors of this study explain that Breslow thickness is the most important prognostic factor of localized cutaneous melanoma, but associations with anthropometric factors have been sparsely and incompletely investigated. Their aim in this study was to examine prediagnostic body mass index (BMI), body surface area (BSA), height, weight and weight change in relation to Breslow thickness, overall and by anatomical site and histological subtype. They also set out to assess possible nonlinear associations between these anthropometric factors and Breslow thickness. Cutaneous melanomas in the Janus Cohort were identified for the period 1972–2014. Linear regression was used to estimate geometric mean ratios of Breslow thickness with 95% confidence intervals according to anthropometric factors. Their paper in this issue of the BJD presents their comprehensive set of results. They concluded that this large case series of incident cutaneous melanoma demonstrated positive associations between BMI, BSA, weight and Breslow thickness, and suggested that behavioural or other mechanisms apply at high values.

Stenehjem JS, Veierød MB, Nilsen LT et al. Anthropometric factors and Breslow thickness: prospective data on 2570 cases of cutaneous melanoma in the population-based Janus Cohort. Br J Dermatol 2018; 179:632–641. DOI: 10.1111/bjd.16825

Pooled analysis of tildrakizumab for psoriasis

The authors of this study explain that short-term interleukin-23p19 inhibition by tildrakizumab improves plaque psoriasis and appears to be well tolerated. This study aimed to assess the safety and tolerability of tildrakizumab for up to 64 weeks of therapy, using pooled data from three randomized controlled trials for moderate-to-severe psoriasis. Please see the paper in this issue of the BJD for the full results. They concluded that up to 64 weeks of tildrakizumab was well tolerated, with low rates of serious treatment-emergent adverse events (AEs), discontinuations due to AEs and AEs of clinical interest.

Blauvelt A, Reich K, Papp KA et al. Safety of tildrakizumab for moderate-to-severe plaque psoriasis: pooled analysis of three randomized controlled trials. Br J Dermatol 2018; 179:615–622. DOI: 10.1111/bjd.16724