

Dermatology Literary Review

April 2022 to June 2022

Title	Publication	Date	Overview
Ichthyosis Scoring System - a powerful tool in the era of immune pathway-targeted therapies for ichthyosis	JAMA Dermatology, Vol. 158, No. 4, pages 354-356.	April	Article recommends the Ichthyosis Scoring System (ISS), as a comprehensive and useful measure of ichthyosis severity. The ISS includes scores of erythema and scaling for 10 distinct body regions, using detailed descriptors and photographic standards in adult and child cases. It uniquely incorporates severity at sites of particular psychosocial and functional importance, including the face, palms, and soles. The author suggests that with recent developments in the understanding of the pathogenesis and treatment of ichthyoses, the role of outcome measures, such as the ISS, is more important now than ever. The article also discusses current ichthyosis treatment, with topical emollients and keratolytic agents generally being used, and systemic retinoids used as mainstay treatments for moderate to severe ichthyoses. It explains how in ichthyotic skin, the stratum corneum barrier defects accelerate trans-epidermal water loss, resulting in severe skin dryness. Topical emollients partially compensate for these skin barrier defects and increase the water content in the stratum corneum, leading to improvements in scaling, hyperkeratosis, and skin dryness. Keratolytic agents dissolve the stratum corneum, resulting in reductions of scaling and skin surface roughness. Systemic retinoids modulate the differentiation and proliferation of epidermal keratinocytes, improving hyperkeratosis.
Early food intervention and skin emollients to prevent food allergy in young children (PreventADALL): a factorial, multicentre, cluster-randomised trial	The Lancet, Vol. 399, No. 10344, pages 2398-2411.	25 June	Article shares the results of a 2 × 2 factorial, cluster-randomised trial which aimed to determine whether early food introduction or the application of regular skin emollients in infants reduced the risk of food allergy. Exposure to allergenic foods from 3 months of age was found to reduce food allergy at age 36 months in children recruited from a general population. Preventing food sensitisation by improving the infant skin barrier has previously been proposed, yet this study was unable to provide evidence that emollient use from early infancy reduced food allergy. However, results from other emollient primary prevention studies are awaited, including studies using more complex formulations, such as emollients containing ceramide.

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Skin damage: the personal cost of COVID-19 measures	Nursing Standard, Vol. 37, No. 5, pages 51-54.	May	The results of this survey suggest that almost half of nurses (49%) have experienced trouble with their skin caused by work in the two years since the pandemic. Itchy, sore, dry and split skin on the face, neck and hands was reported to have plagued many nurses as the constant wearing of personal protective equipment and rigorous hand cleansing procedures introduced to combat COVID-19 continue. The survey found that the problem is so severe for some that it has forced 2% to take time off work to allow their skin to heal, and just over 0.5% to leave their job altogether. Almost half of respondents (46%) said handwashing had caused damage to their hand skin, 43% said the use of hand sanitiser had affected it, and just over a quarter (26%) said wearing gloves was a factor. More than half (59%) reported using over-the-counter treatments such as moisturising creams, 10% had sought medical advice about their skin, and 11% had needed prescription treatment. The article also includes recommendations of how to protect the skin before, during and following the end of a shift. These include keeping hydrated, washing hands with a soap substitute and applying moisturiser/emollient to the hands and face.
Inflammatory skin diseases: dermatological treatments for psoriasis	Dermatology in Practice, Vol. 28, No. 1, pages 15-16.	25 June	Article explores how the therapeutic agents of the past decade are revolutionising dermatological treatments and improving the quality of life of patients with psoriasis. It looks at the challenges and barriers that still exist and prevent patients from reaching their treatment goals. It also explores how new technology, such as machine learning and artificial intelligence (AI), may influence dermatology in the future. The article then goes on to discuss what further advancements are needed in dermatology to achieve better health outcomes for patients, and enable an improved patient experience. These include the introduction of integrated care systems and leveraging the range of data and the latest innovations in digital technologies to accelerate the identification of genetic, tissue and serum markers, to better predict treatment response and drug survival.

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A brave new world with emerging treatment options for atopic eczema	Journal of the European Academy of Dermatology & Venereology, Vol. 36, No. 5, page 632.	May	Article discusses how although atopic eczema (AE) is still considered to be primarily a paediatric problem, more studies are indicating a high prevalence rate in adults too. In a recent study in Sweden on atopic dermatitis prevalence in a birth cohort at the age of 24, researchers found a 12-month prevalence of 17.8% in the Swedish BAMSE cohort and, within this group, 16.9% reported experiencing AE for the first time from the age of 23 onwards. The article also examines emerging treatment options for AE, suggesting that besides biologics, with their very specific action against single molecules in the inflammatory cascade, a new hope comes with the new Janus Kinase (JAK) inhibitors, such as baricitinib, upadacitinib, abrocitinib, which act on signal transduction in a variety of inflammatory diseases. These drugs are said to have shown a good safety profile in clinical trials. There are also several other approaches to treating AE being explored at present, with approximately 150 registered clinical trials underway, worldwide, with new drugs.
Safety of dupilumab in a 5-month-old infant with severe atopic dermatitis	Pediatric Dermatology, Vol. 39, No. 2, pages 291-294.	March/ April	Article presents the case of a 5-month-old boy with severe primary atopic dermatitis (AD), eosinophilia, hypogammaglobulinemia, and poor weight gain, who was successfully treated with dupilumab after failing aggressive topical corticosteroids therapy for eight weeks. He experienced no serious adverse effects and is thought to be the youngest patient to receive dupilumab to date. The authors suggest that given nearly half of all patients with AD develop symptoms before six months of age, dupilumab could provide significant therapeutic benefit to other young infants with moderate to severe AD who have failed conventional therapy. However, whilst they say more robust studies of dupilumab in infants less than six months of age are warranted, it is suggested that potential effects of immunomodulating therapies on the developing immune system will make performing these studies challenging.

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Age-related differences in patch testing results among children: Analysis of North American Contact Dermatitis Group Data, 2001-2018	Journal of the American Academy of Dermatology, Vol. 86, No. 4, pages 818-826.	April	A retrospective analysis of 1,871 children and 41,699 adults in the US, found that children referred for patch testing had similar rates of positive and relevant patch test reactions as adults. The most common allergens in children were found to be nickel sulfate (17.3%), hydroperoxides of linalool (7.8%), methylisothiazolinone (7.7%), cobalt chloride (7.0%), and fragrance mix I (4.9%). The most common final diagnoses in children referred for patch testing were allergic contact dermatitis (55.2%), atopic dermatitis (40.6%) and irritant contact dermatitis (13.2%), with considerable overlap between these diagnoses. The authors suggest these results show that patch testing is an important tool in the evaluation of children with suspected allergic contact dermatitis.
Prevalence and factors associated with sleep disturbance in adult patients with psoriasis	Journal of the European Academy of Dermatology & Venereology, Vol. 36, No. 5, pages 688-697.	May	Results of a cross-sectional study involving 334 patients and 126 control subjects revealed a high prevalence of sleep disturbance in a population of patients with prevalently well-controlled psoriasis. Poor sleep (PSQI-global > 5) was more prevalent in psoriasis patients as compared to control subjects (58.9% vs. 33.7%, $P < 0.001$). 79% of patients reported having current pruritus. Patients with current pruritus had more impaired components of subjective sleep quality, sleep latency, sleep disturbances and daytime dysfunction than patients without current pruritus. Patients also reported shorter sleep duration than control subjects [median (IQR): 6 (5-7) vs. 7 (6-7.5) hours, $P < 0.001$], and they slept more frequently for less than 6 and 5 hours, and less frequently 7-8 hours/day ($P = 0.003$, $P = 0.012$ and $P = 0.003$, respectively).
Children with atopic dermatitis show increased activity of β -glucocerebrosidase and stratum corneum levels of glucosylcholesterol that are strongly related to the local cytokine milieu	British Journal of Dermatology, Vol. 186, No. 6, pages 988-996.	June	Results from a study show increased activity of the ceramide-generating enzyme β -glucocerebrosidase (GBA) in children with atopic dermatitis (AD). Activity of this enzyme was correlated with the local cytokine milieu and declined after local corticosteroid therapy. The study also found that glucosylcholesterol (GlcChol) levels in the stratum corneum are increased in AD. The authors conclude that GBA activity or GlcChol might be useful biomarkers in the monitoring of therapeutic responses in AD.

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