

# Dermatology Literary Review

July to September 2020

Title	Publication	Date	Overview
Atopic dermatitis	The Lancet, Vol. 396, No. 10247, pages 345-360.	1 August	This seminar paper discusses advances in the understanding of atopic dermatitis (AD) and suggests that discoveries from genetics, molecular biology, epidemiology, and clinical medicine have spurred new disease concepts. This includes the notion of endotypes, and a broader understanding of health and psychosocial outcomes in AD. It discusses research into treatment options including two pilot trials which suggest that daily emollient applications from birth might prevent AD onset in individuals at high risk. It also suggests that, although trial evidence is scarce, moisturisers (which contain varying amounts of emollient, occlusive, and humectant components) can improve barrier function. A Cochrane systematic review reported increased hydration and reduced xerosis, itch, and flares, alongside a reduced need for anti-inflammatory medication with regular use. It also suggests there is no advice against the use of emollients, class II and III topical corticosteroids, topical calcineurin inhibitors, and phototherapy with ultraviolet A1 and narrow-band ultraviolet B as treatment options during pregnancy and lactation.
Can a handheld device accurately measure barrier function in ichthyoses?	Pediatric Dermatology, Vol. 37, No. 5, pages 860-863.	September/October	This study evaluates the accuracy of a hand-held device (gpskin Barrier Light®), compared with a standardly used device, in measuring transepidermal water loss (TEWL) in both ichthyotic and healthy skin. It suggests that the easy-to-use, low-cost, hand-held device can accurately capture change in TEWL to track disease improvement, highlighting its potential use in clinics. The correlation between the devices in measuring TEWL was strong. Collecting TEWL measurements at the same location, in the same individual, on the same day, carefully controlled environmental conditions; however, the previous use of emollients was a factor that could not be controlled. 20% of controls and 80% of ichthyosis subjects, had applied emollient during the previous 12 hours, consistent with the need for frequent and recurrent emollient use within the ichthyosis population. The authors suggest further studies are needed to understand the impact of emollient use at different times before measurement on TEWL.

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The impact of airborne pollution on atopic dermatitis: a literature review	British Journal of Dermatology, Vol. 183, No.1, pages 16-23.	July	This review highlights the impact of pollution on the skin's functioning, examines the evidence linking pollution with atopic dermatitis (AD) and explains how pollution-based damage to the skin might be reduced or prevented. It discusses how pollutants cause oxidative stress in the skin, which damages the skin barrier and how airborne pollutants can cause this disruption through several mechanisms in the skin. It recommends that patients are encouraged to wash daily (preferably at the end of the day following exposure to ambient pollution), with subsequent emollient application for skin barrier repair. In addition, whilst emollients and antioxidants may prove helpful in reducing pollutant-induced skin barrier dysfunction, it suggests that larger scale lifestyle and industrial modifications, such as improving household air ventilation and cutting traffic-related air pollution, may yield promising findings in minimising or preventing barrier dysfunction.
Baricitinib in patients with moderate-to-severe atopic dermatitis and inadequate response to topical corticosteroids: results from two randomized monotherapy phase III trials	British Journal of Dermatology, Vol. 183, No. 2, pages 242-255.	August	Article shares the results of two phase III trials which found that baricitinib, an oral inhibitor of Janus kinase 1 and 2, significantly improved clinical signs and symptoms of moderate-to-severe atopic dermatitis compared with placebo within 16 weeks of treatment. Patients were randomised 2:1:1:1 to once-daily placebo, baricitinib 1mg, 2mg, or 4mg. Systemic and topical treatments were allowed as rescue therapy, initiated at any time and emollient use was required throughout the trials; at least twice-daily use was recommended prior to rescue. Improvement in itch was achieved as early as week 1 for 4 mg and week 2 for 2 mg. Improvements in night-time awakenings, skin pain and quality of life measures were observed by week one for both 4mg and 2mg ( $P \leq 0.05$ , all comparisons).
BADIR: an update	Dermatology in Practice, Vol. 26, No. 2, pages 38-40.	Summer	Article gives an update on the British Association of Dermatologists Biologics and Immunomodulators Register (BADBIR), which it suggests is internationally recognised as the gold-standard psoriasis registry. It has published important outcomes that have already informed clinical practice and more are expected in the future.

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Clinical characteristics, symptoms and burden of psoriasis and atopic dermatitis in adults	British Journal of Dermatology, Vol. 183, No. 1, pages 128-138.	July	Article identifies important similarities and differences in the clinical characteristics of adults with psoriasis and atopic dermatitis (AD). It shares the results of a comparative study, which found that patient-reported disease burden was markedly higher in AD than in psoriasis, whereas lifestyle-associated cardiometabolic risk factors were more frequent in psoriasis. In both disease groups, the condition in the majority of patients was uncontrolled even while they were on systemic therapy. The authors conclude that from an epidemiological and biological standpoint, psoriasis and AD do not appear to belong to the same disease spectrum, and they recommend that they are viewed as two distinct and different entities.
Benefits of Avène thermal hydrotherapy in chronic skin diseases and dermatological conditions: an overview	Journal of the European Association of Dermatology & Venereology, Vol. 34, No. s5, page 49-52.	August	Article reviews results from clinical studies indicating that Avène Thermal Spring Water (TSW) hydrotherapy is effective as adjuvant management for chronic skin diseases and dermatological conditions, relieving subjective and physical symptoms with excellent tolerance. Several studies demonstrated the efficacy of Avène TSW hydrotherapy in patients with atopic dermatitis and it was also found to relieve symptoms in patients with psoriasis. In patients with inherited ichthyoses, it provided significant and persistent improvements in clinical symptoms and quality of life. In an open-label study involving 24 adults and 20 children, a 3-week hydrotherapy course was added to existing symptomatic treatment. Hydrotherapy comprised daily bath, shower and spraying; underwater massage alternating every other day with an emollient wrap; and pressure showers every other day. Patients also applied their usual emollient once daily. A clinical ichthyosis score (developed specifically for the study to assess the severity/extent of ichthyosis) improved by 38% after hydrotherapy ( $P<0.0001$ ); this was maintained at 6 months (-31%, $P<0.0001$ vs. baseline).

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Efficacy and safety of abrocitinib in patients with moderate-to-severe atopic dermatitis: a randomized clinical trial	JAMA Dermatology, Vol. 156, No. 8, pages 863-873.	August	A randomised clinical trial of 391 patients, 12 years or older, has found that monotherapy with once-daily oral abrocitinib was effective and well tolerated in adolescents and adults with moderate-to-severe atopic dermatitis. Significantly greater proportions of patients treated with abrocitinib (200mg or 100mg) compared with placebo achieved an Investigator Global Assessment response of clear or almost clear with improvement of at least 2 grades and/or at least 75% improvement in Eczema Area and Severity Index scores. Patients were also permitted to use oral antihistamines and topical non-medicated emollients during the trial. Serious adverse events were reported for 2 patients (1.3%) in the 200mg group, 5 (3.2%) in the 100mg group, and 1 (1.3%) in the placebo group.
Phototherapy program for challenging chronic skin conditions	Journal of the Dermatology Nurses' Association, Vol. 12, No.4, pages 157-167.	July/ August	Article describes the development and implementation of a nurse-led home phototherapy programme in the US. This was designed to both prevent clinical inertia and support patients' success in learning self-management for their chronic skin conditions including psoriasis and atopic dermatitis. It discusses the changes made to simplify treatment protocols to support patient adherence, optimise health outcomes, and streamline clinical resources. The authors provide a detailed outline of the clinical evidence-gathering strategies used to evaluate the impact of this modified nurse-led home phototherapy programme to offer an example for other nurses interested in doing a similar investigation.
No evidence of increased cancer incidence in children using topical tacrolimus for atopic dermatitis	Journal of the American Academy of Dermatology, Vol. 83, No. 2, pages 375-381.	August	This prospective evaluation of a cohort of 7,954 children who were treated with tacrolimus ointment for atopic dermatitis (AD), found that the cancer incidence during a 10-year period closely matched expectations for an age- and sex-matched control population. This result, which proved robust to potential biases introduced by patient attrition, gives support for current US and international AD treatment guidelines and provides no evidence to support the hypothesised increased cancer risk in children with AD treated with tacrolimus ointment.

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