Emollient molecule effects on the drying stresses in human stratum corneum

Levi et al. investigated the effects of emollient molecules on drying stresses in human stratum corneum (SC) using the substrate curvature method. This method provides an opportunity to study the direct effects of emollient treatments on the moisture content and the components of the SC without the effect of the underlying skin layers. Emollient molecules resulted in a complex SC drying stress profile where stresses increased rapidly to peak values and then gradually decreased to significantly lower values compared with control. The partially occlusive treatments also penetrated into the SC where they caused extraction and changes in lipid conformation. The study demonstrates a direct connection between emollient treatments and the mechanical properties and stress state of isolated SC, and provides the basis from which biomechanical models can be employed to evaluate the efficacy of moisturizers in alleviating the potential for dry skin damage. Br J Dermatol 2010; 163: 695–703.

Clinical diagnosis of toenail onychomycosis is possible in some patients: cross-sectional diagnostic study and development of a diagnostic rule

Garcia-Doval et al. estimated the diagnostic accuracy of clinical findings for the presence of fungi in toenails. Helpful findings to predict the presence of fungi were: previous diagnosis of fungal disease; abnormal plantar desquamation (affecting > 25% of the sole); onychomycosis considered the most probable diagnosis by a dermatologist; and presence of interdigital tinea. When dermatologists considered onychomycosis the most probable diagnosis and plantar desquamation was present (13% of patients), the positive predictive value for presence of fungi was 81%, which is at least as accurate as laboratory tests. In this situation, therapy could be started without any further tests; otherwise, clinical diagnosis may not give enough information to initiate therapy. Br J Dermatol 2010; 163: 743–51.

Notch signalling in primary cutaneous CD30+ lymphoproliferative disorders: a new therapeutic approach?

Kamstrup et al. focus on the functional consequences of Notch inhibition in cultured cells derived from primary cutaneous anaplastic large-cell lymphoma (pcALCL). Cell lines derived from pcALCL (Mac1, Mac2a and JK) were treated with different γ-secretase inhibitors (GSIs). GSI I had a marked proapoptotic effect, but GSI IX, XX and XXI were much less potent. The GSI I-triggered apoptosis was preceded by an accumulation of cells in the G2/M, cyclin B1-controlled phase of the cell cycle accompanied by an increase in the cyclin-dependent kinase inhibitor, p21WAF/Cip. GSI I induced the nuclear translocation of proapoptotic FOXO3a, probably via an Akt-independent pathway. Pharmacological targeting of Notch by GSIs warrants further studies. Br J Dermatol 2010; 163: 781–8.

Nonclinical influences, beyond diagnosis and severity, on clinical decision making in dermatology: understanding the gap between guidelines and practice

This study provides comprehensive information about nonclinical influences on decision making in dermatology. Forty-six clinicians working in departments of dermatology in nine hospitals were interviewed with semistructured qualitative interviews. Nonclinical factors influencing patient management decisions that were identified related to patients, clinicians and practice characteristics. There was a difference between the consultants’ views and those of the other clinicians over the impact of pharmaceutical companies on clinicians’ prescribing and the awareness of treatment costs to the NHS. The impact of physician time constraints and work overload on patient management and the need for appropriate time management and clinic administration is highlighted. Proper understanding of nonclinical influences on decision making is paramount for the best patient-centred treatment outcomes. Br J Dermatol 2010; 163: 789–99.

Vitamin D deficiency in patients with cutaneous lupus erythematosus is prevalent throughout the year

Heine et al. compared the vitamin D status of patients with cutaneous lupus erythematosus (CLE) with patients with type I allergy and healthy individuals during the summer and winter months. Vitamin D deficiency in patients with CLE was prevalent throughout the year (summer: 83.7%, winter: 97.1%). Interestingly, patients with CLE receiving prednisolone treatment had comparable 25-hydroxyvitamin D serum levels with (mean daily intake 877 IU) or without vitamin D supplementation during summer or winter. The importance of monitoring and correcting Vitamin D status is emphasized. Br J Dermatol 2010; 163: 863–5.