Interleukin-22 downregulates filaggrin expression and affects expression of profilaggrin processing enzymes

Gutowska-Owsiak et al. report that exposure to interleukin (IL)-22 cytokine resulted in a downregulation of profilaggrin mRNA expression in HaCaT keratinocytes. The expression of genes involved in enzymatic processing of profilaggrin as well as the generation of natural moisturizing factor was also altered along with an upregulation of many transcripts encoding proteins of the S100 family. The authors conclude that IL-22 downregulates profilaggrin/filaggrin expression in keratinocytes at both mRNA and protein levels and affects genes relevant to epidermal function. This novel pathway may have relevance to the pathogenesis and treatment of atopic and other skin disease. Br J Dermatol 2011; 165: 492–98.

Expression of milk fat globule epidermal growth factor-VIII may be an indicator of poor prognosis in malignant melanoma

Oba et al. showed that milk fat globule epidermal growth factor-VIII (MFG-E8) expression was significantly higher in primary and metastatic melanoma than in naevus. It also increased according to tumour progression and metastasis. Patients with MFG-E8 expression in primary tumours had significantly shorter survival periods than those without MFG-E8 expression. It is concluded that MFG-E8 expression is an independent and significant poor prognostic factor for melanoma. Br J Dermatol 2011; 165: 506–12.

TRAIL contributes to the apoptotic effect of 13-cis retinoic acid in human sebaceous gland cells

Using isotretinoin [13-cis retinoic acid (13-cis RA)] and recombinant human TRAIL (Tumor necrosis factor Related Apoptosis Inducing Ligand) protein, Nelson et al. assessed induction of TRAIL and apoptosis in SEB-1 sebocytes, normal keratinocytes and patient skin biopsies. It is reported that 13-cis RA-induced apoptosis was mediated, in part, by increased expression of TRAIL in SEB-1 sebocytes but not in keratinocytes. Results suggest that TRAIL is a key protein in the sebocyte-specific apoptotic response to 13-cis RA. Further elucidation of the mechanisms by which 13-cis RA induces apoptosis may have therapeutic implications both in dermatology and in cancer treatment. Br J Dermatol 2011; 165: 526–33.

Is occupational solar ultraviolet irradiation a relevant risk factor for basal cell carcinoma? A systematic review and meta-analysis of the epidemiological literature

Twenty-three of 24 relevant epidemiological studies (five cohort studies, 19 case–control studies) had sufficient data to be included in the meta-analysis. Bauer et al. conclude that, from the studies published so far, there is epidemiological evidence for a 40% increased risk for occupationally ultraviolet radiation-exposed workers to develop basal cell carcinomas compared with nonexposed workers. It is likely that the risk is underestimated. This finding is highly relevant for health policy to stimulate the implementation of effective prevention strategies. Br J Dermatol 2011; 165: 612–25.

Adenovirus-relaxin gene therapy for keloids: implication for reversing pathological fibrosis

Lee et al. investigated the effect of relaxin (RLX)-expressing adenovirus on expression of various extracellular matrix (ECM) components in primary keloid spheroids. Immunohistochemical analysis showed that expression of major ECM components (e.g. type I and III collagen, elastin and fibronectin) was markedly reduced in primary keloid spheroids transduced with adenovirus expressing RLX (dE1-RGD/lacZ/RLX). These results suggest that the antifibrotic effect of RLX-expressing adenovirus may have therapeutic effects on keloids by reversing pathological fibrosis and preventing keloid recurrence after surgical excision. Br J Dermatol 2011; 165: 673–77.