ABSTRACT BOOK ABSTRACTS



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ATOPIC ECZEMA/DERMATITIS

## EPIDERMAL MORPHOLOGY IN DANDRUFF SCALP SKIN AND CHANGES WITH AGE.

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Background: Dandruff is a multifactorial condition with both microbial colonisation and host factors such as sebum production thought to play a role. It is a common condition characterised by excess skin shedding, hyper- and para-keratosis, immune cell infiltration and pruritus, often without accompanying visible signs of inflammation. Dandruff sufferers display alterations in scalp skin epidermal morphology. However, the precise biological mechanisms driving these morphological changes remain unclear.

Objective: The aims of this research were: to characterise changes in epidermal morphology in healthy and dandruff scalp skin; to assess whether scalp skin differs with ageing; and to evaluate the underlying biological changes in these subjects in this body site.

Materials and Methods: Following ethical approval and subject consent, scalp skin biopsies were collected from younger (18-35y) and older (48-65y) subjects with healthy or dandruff scalp (lesional and non-lesional sites). Biopsies were sectioned and stained with haematoxylin and eosin for morphological assessment. Epidermal thickness, dermal-epidermal interdigitation index and rete ridge depth measurements were also determined. Immunohistochemical staining was performed to analyse the expression of proliferation marker Ki67 in the epidermis.

Results: Results showed dandruff-lesional scalp skin had significantly thicker epidermis, more convoluted dermal-epidermal junction and significantly deeper rete ridges compared to healthy scalp skin. Similar changes were observed in non-lesional dandruff sites, albeit to a lesser degree. Analysis of proliferation in the epidermis revealed dandruff-lesional skin contained a significantly higher percentage of Ki67+ keratinocytes compared to healthy scalp. Ageing scalp epidermis was determined to be significantly thinner than young scalp.

Conclusions: These data show the morphological changes in dandruff scalp skin may be driven by hyperproliferation potentially offering a route of intervention for this condition.





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