Ultraviolet filters in hair-care products: a possible link with frontal fibrosing alopecia and lichen planopilaris

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It is well known that many cosmetic products such as facial moisturizers and foundations contain ultraviolet (UV) filters. In comparison, relatively little has been written about UV filters in hair-care products. Recently, there has been interest in the possible role of these sunscreen chemicals in the aetiology of frontal fibrosing alopecia (FFA): a survey of 105 women showed that use of sunscreens and of facial products that may contain sunscreens was significantly higher in patients with FFA compared with healthy controls.1 The authors of the survey suggested that, if sunscreens were causative factors, this would explain why FFA has anecdotally increased in incidence over the past decade, and why the frontal hair margin, next to the facial skin, is the main area affected.

We would like to highlight that UV filters are often added to hair-care products as well as skin-care products to prevent discolouring/photodegradation of the product in storage. They are now also added to shampoos, conditioners and leave-on hair products used to protect the hair itself from UV damage, particularly in ‘colour-protect’-type products.

We reviewed 60 random hair-care products in a high street shop, and found that 60% of leave-on hair products and 51% of wash-off products (shampoos and conditioners) contained a sunscreen chemical, most commonly benzophenone 4, benzyl salicylate (which is also used as a fragrance) and ethylhexyl methoxycinnamate.

In keeping with the theory that sunscreens are a causative factor for FFA in predisposed patients, the presence of these sunscreen chemicals within hair-care products may explain why FFA often progresses to wider scalp involvement. It may also explain why lichen planopilaris (LPP), a histologically identical condition, tends to affect the whole scalp.

In our hospital locality of 600,000 people, the total combined incidence of FFA and LPP has grown from 1 new case in 2007 to 16 new cases in 2015. A survey of 53 patients with either FFA or LPP in our area showed high rates of regular topical product use: wash-out hair-care products (100%), leave-in hair-care products (91%), facial moisturizer (83%) and sunscreen (58%). Sunscreen use was high in both groups: FFA 69% and LPP 48%. Use of leave-on hair-care products was also high in both groups and at similar levels: FFA 81% and LPP 70%.

In conclusion, dermatologists should be aware of the frequent use of sunscreen chemicals in both leave-in and wash-off hair-care products. In keeping with the recent theory that sunscreen chemicals may play a role in the development of frontal fibrosing alopecia, we suggest that the presence of UV filters in hair-care products could explain the progressive pattern of FFA as well as the pattern of its clinical variant, LPP.

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