Zonisamide, a sulfonamide analogue, has been recently approved in Europe and the United States as an adjunctive therapy for patients with partial-onset epilepsy. Several studies have supported its potential role in managing compulsive behaviors such as binge-eating disorders, obesity, and ICDs associated with Parkinson disease. In our study, doses reached. There is no consensus about the recommended dose to treat ICDs, and both high and low doses have been used with good results. In our study, doses of zonisamide ranging from 100 to 150 mg/d achieved a good clinical response with minimal adverse effects.

Although our results were obtained in an open treatment protocol and included a small number of subjects, the significant reduction in psychologic and skin symptoms suggests that zonisamide should be subjected to investigation in controlled trials for treatment of ICDs in skin diseases.

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Chemical hair processing is used by more than 60% of women with Afro-textured hair and is a suspected contributor to scarring alopecia. We recently reported changes in 6 proinflammatory cytokines on scalp sebum of 36 women. Baseline scalp interleukin (IL)-1α in all participants including those with natural hair was higher than expected (ie, 18 times IL-1α levels), which may suggest a predisposition to scalp inflammation. However, there was no difference in levels of IL-1α when sebum from shampooed natural hair was compared with that treated with ammonium thioglycolate (permanent wave), sodium hydroxide (“lye”) and guanidine hydroxide (“no-lye”) relaxers. Changes in IL-1α were significant on the vertex but not on the crown, which may suggest site-specific scalp predisposition to inflammation.

Methods. In this study, samples from 36 participants (12 natural, 24 chemically treated) were tested for the presence of the profibrotic cytokine transforming growth factor (TGF)-β1. The original study was conducted at Groote Schuur Hospital in 2010 and approved by the faculty ethics committee. Sebum was collected by applying Sebutape (CutDerm Corporation) to the scalp crown and vertex at visit 1 (before and after scalp shampoo), visit 2 (before and after chemical treatments), and on follow-up (visit 3). Details of chemical hair treatments and sample preparation for detection of cytokines have been described previously. Concentrations of TGF-β1 were determined using the Quantikine Human TGF-β1 Immunoassay (R&D Systems) according to the manufacturer’s instructions.

Data analyses were performed using Stata software, version 12 (StataCorp LP).

Comparisons of interest were TGF-β1 levels with anatomic site after various chemical treatments and on follow-up. These comparisons were performed using Pearson χ² and Fisher exact tests. Statistical significance was defined at the 5% alpha level (P < .05) for a 2-tailed hypothesis test.

Results. There was a significant difference (P = .02) in the age of participants with a positive TGF-β1 finding (Table), all detected in samples taken after shampoo or chemical treatment. Only 1 sample from natural hair tested positive for TGF-β1; this was after shampoo treatment. All samples that tested positive at visit 3 (when no shampoo or chemical treatment occurred) were previously chemically treated. Two participants had positive TGF-β1 test results (the first tested positive at both scalp sites on visit 1; the second had higher TGF-β1 levels detected on natural hair at visit 1 than on follow-up after treatment with a lye relaxer); a third participant had 3 detectable TGF-β1 levels on 2 visits.

The number of participants with chemically treated hair was double that with natural hair. Overall, 16 samples (from 12 participants) yielded a positive TGF-β1 result; all except 1 of these were from chemically treated (94%) vs (6%) natural hair (Table). However, there was no statistically significant difference in detected TGF-β1 lev-
els between samples from natural hair and chemical treatment groups (P = .23) nor within groups or scalp regions on different visits.

Comment. As a pleiotropic cytokine, TGF-β1 has roles in cell differentiation, proliferation, and inflammation. In scalps, TGF-β receptors have been reported to be strongly positive in proximal anagen hair follicles; TGF-β1 is thought to induce regression of the hair follicle in catagen. Abundant levels of TGF-β1 have been found in the scalp dermis of patients with folliculitis decalvans and lichen planopilaris. These conditions are chronic and lead to scarring alopecia; TGF-β1 is postulated to mediate their fibrosis. Comparing data from biopsy specimens may not be appropriate because sebum was tested in this study, but changes in the surface cytokines have been reported in scalp inflammation. Central centrifugal cicatricial alopecia (CCCA) predominantly affects women with Afro-textured hair. Although relaxer-induced acute CCCA-like scarring has been reported, the role of TGF-β1 is yet to be elucidated.

The detection of TGF-β1 after shampoo or chemical treatments in healthy subjects may suggest chemical interactions. The TGF-β isoforms are synthesized as latent precursors complexed with latent TGF-β binding protein (LTBP) or noncovalently bound to the latency-associated peptide (LAP). Extracellular dissociation from LTBP or LAP releases biologically active TGF-β. There are several conditions associated with this dissociation (activation), one of which is acidic pH. Most commercial shampoos are acidic (thought to induce less hair damage). However, TGF-β1 was not detected across all samples despite exposure of all to shampoo. Detectable levels of TGF-β1 at more than 1 visit may suggest a genetic predisposition and potential for scalp fibrosis, which may be influenced by hair grooming. Detection of TGF-β1 occurred predominantly in chemically altered hair but was inconsistent and lacked statistically significant difference in levels compared with findings in natural hair or between scalp sites. Large studies that correlate sebum cytokine levels and histologic characteristics may elucidate the association between hair chemical use and scarring alopecia.

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Induced Lentiginosis With Use of Topical Calcineurin Inhibitors

Acquired lentiginosis at sites of inflammatory skin disease may occur at the sites where topical tacrolimus or pimecrolimus was applied.1

Methods. Patients who developed acquired lentiginosis at sites of long-term use of topical tacrolimus ointment or pimecrolimus cream were identified by retrospective chart review. Age at onset of lentigines, duration of exposure to topical tacrolimus and pimecrolimus, and time to regression were recorded. Biopsies were performed in 2 of 12 patients, and specimens showed increased numbers of epidermal melanocytes and mild pigment incontinence consistent with the diagnosis of lentigo. Approval by the institutional review board was waived.

Results. The anatomic sites involved in our 12 patients included the relatively sun-protected areas of the antecubital fossa, dorsal hands, popliteal fossa, and wrists with chronic dermatitis (Figure 1 and Figure 2). Patients with atopic dermatitis (8 of 12), psoriasis (2 of 12), Netherton syndrome (1 of 12), and perioral dermatitis (1 of...