Treatment of Chronic Discoid Lupus Erythematosus with Topical Tacrolimus

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Sir,

Chronic discoid lupus erythematosus (CDLE) can be controlled with potent topical corticosteroids and or antimalarials (1). However, some patients are resistant to this regime and, in these cases, approaches such as low-dose thalidomide might be effective (2). It has recently been reported that a formulation of 0.3% tacrolimus in 0.05% clobetasol propionate ointment was effective in 2 patients with CDLE not responding to the above-mentioned regimens, including oral prednisolone in one of the patients (3, 4).

We report the response of topical tacrolimus as monotherapy in a patient with severe facial and scalp CDLE.

CASE REPORT

A 60-year-old Caucasian woman known in our department since 1987, when, on clinical, histopathological (including negative IF) and serological grounds (negative ANA), she was diagnosed as having CDLE. Over the years, she was periodically treated with potent topical corticosteroids and hydroxychloroquine (200–100 mg/day). Azathioprine (25–50 mg/day) and prednisone (5–10 mg/day) were occasionally added to topical corticosteroids. The outcomes of these treatment regimens were variable, but never dramatic or satisfactorily effective. In the year before initiation of topical treatment with tacrolimus ointment, the patient was treated with surgical excision and chemotherapy (irinotecan, later 5-fluorouracil and folinic acid) for a metastatic cancer of the colon. While on chemotherapy, the patient discontinued all topical and systemic treatment for CDLE resulting in a worsening of the skin lesions.

She then presented with an infiltrated malar rash and several hyperkeratotic plaques on both cheeks, forehead, mandibulae and nose (Fig. 1a). In the scalp, she presented a 7×6 cm large alopetic erythematous scarring lesion which she had had for almost 10 years. The patient was severely troubled by the lesions, but was strongly against the use of topical corticosteroids or any type of systemic treatment for CDLE.

We therefore decided to try tacrolimus 0.1% ointment twice daily as monotherapy to the lesions on both the face and the scalp. When seen 2.5 weeks later, erythema, infiltration and hyperkeratosis in the face had clearly diminished. We decided to continue with the same treatment for 5 more weeks, at the end of which there were just a few indurated erythematous papules in the face and hyperkeratosis was no longer observed (Fig. 1b). To our great surprise we also noticed regrowth of terminal hair in most of the scalp lesion, with the exception of the central part.

Unfortunately, the patient has again had to start on chemotherapy (5-fluorouracil and folinic acid) owing to recurrence of metastatic colon cancer. Following each session with chemotherapy, her skin condition flares, but she manages to keep the lesions low grade by continuous use of tacrolimus ointment.

DISCUSSION

Tacrolimus is a macrolide immunosuppressant derived from the fungus *Streptomyces tsukubaensis*. It inhibits T-cell activation by inhibiting calcineurin activity, thus blocking the production of cytokines including interleukin (IL)-2, IL-3, IL-4, TNF-α and GM-CSF.

Tacrolimus has already been successfully used to treat skin lesions of systemic lupus erythematosus (5), but was concluded not to be effective as monotherapy

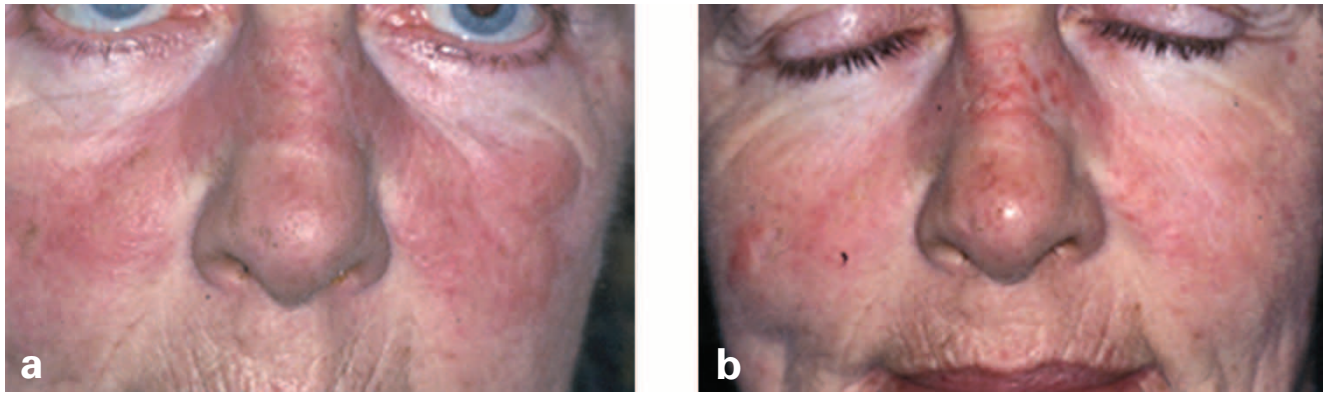

Fig. 1. Infiltrated malar rash on both cheeks, forehead, mandibulae and nose. Note the hyperkeratotic lesions on the right cheek (a). Reduced erythema, infiltration and only a few papules left after treatment (b).

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in CDLE, especially in cases with moderate hyperkeratosis and infiltration (6, 7). The effect of combination therapy described by Walker et al. (3) could however, mainly be attributed to an effect of topical tacrolimus, as the patients first improved when this was added to clobetasol propionate, which the patient had used as the only topical therapy for a substantial period of time. The present case further illustrates that monotherapy with topical tacrolimus can be effective in CDLE.

There have been several reports of topical tacrolimus inducing hair regrowth in experimental animals (8–10). To our knowledge, there is no report concerning the effect of topical tacrolimus on regrowth of hair in alopecia secondary to CDLE. However, oral tacrolimus achieving a serum level of 1–2 ng/ml in combination with oral prednisone 5–10 mg daily is reported to be effective in alopecia universalis (11).

We conclude that topical tacrolimus is worth considering in treatment of CDLE and, owing to an assumed low degree of local side effects compared to other available options, it might even be used in an early phase of this often recalcitrant condition.

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