

Topical Tacrolimus is Effective for Facial Lesions of Psoriasis

Sir,

Tacrolimus (FK 506) is an immunosuppressive agent isolated from fermentation broth of *Streptomyces tsukubaensis* (1). Although tacrolimus has a spectrum of activity that is very similar to that of cyclosporine, tacrolimus is a more potent inhibitor of T-cell activation (2).

Like other immunosuppressive agents, such as cyclosporine, oral tacrolimus has been shown to be effective for the treatment of severe, chronic plaque-type psoriasis. It has also been topically applied for chronic psoriatic plaques in pilot studies (3, 4). No statistically significant difference in effect was found between tacrolimus ointment and placebo (3). It can be speculated that this lack of effect may be due to low absorption of the drug through thick psoriatic scales.

The forehead, cheeks and nasolabial areas of the face are often involved in psoriasis. Although these lesions may not be severe they occasionally cause discomfort to patients. We used topical tacrolimus for the treatment of facial psoriasis in 11 patients and obtained an acceptable effect after a short treatment period.

Eleven patients with psoriasis vulgaris (6 males and 5 females; 31–64 years of age; mean 49.3 years) were enrolled in this study. All of the patients had typical extra-facial psoriasis. Three patients exhibited sebopsoriasis-type psoriasis on the forehead and frontal scalp. None of the patients received any systemic treatment before or during the trial. Five patients had been treated with tacalcitol ointment which, however, had not been effective. After receiving informed consent, 0.1% tacrolimus ointment (Fujisawa Pharmaceutical Co. Ltd., Tokyo, Japan) was applied twice a day. The disease severity of the facial lesions was assessed by the PASI score (degree of erythema, infiltration and desquamation) after 2 and 4 weeks of treatment. Laboratory examination, including liver and renal function tests, was carried out before treatment and after 4 weeks of treatment.

After 2 weeks, we observed a marked improvement in 6 cases. After 4 weeks, all except 1 patient showed improve-

ment. Complete remission was obtained in 5 cases, and partial remission was noted in 5 cases. The one patient who was resistant to tacrolimus had presented with severe facial lesions. The mean PASI score had decreased from 1.5 to 0.6 in erythema and from 1.4 to 0.6 in infiltration after 4 weeks. In general, desquamation was mild or faint in facial lesions even before therapy. The maximum amount of ointment used during the 4-week trial did not exceed 5 g in total. No adverse effects on liver or renal function were noted.

Topical application of tacrolimus has recently been shown to be effective in the treatment of certain inflammatory skin disorders. Our trial was limited to facial lesions associated with psoriasis. Usually, facial psoriasis lesions are not covered with thick scales, which may have been of benefit in this study. We conclude that topical tacrolimus is effective for facial psoriasis lesions.

REFERENCES

1. Kino T, Hatanaka H, Miyata S, Inamura N, Nishiyama M, Yajima T, et al. FK-506, a novel immunosuppressant isolated from a streptomyces. II: immunosuppressive effect of FK-506 in vitro. *J Antibiot (Tokyo)* 1987; 40: 1256–1265.
2. Schreiber SL, Grabtree GR. The mechanism of action of cyclosporin A and FK 506. *Immunol Today* 1992; 13: 136–142.
3. Zonneveld IM, Rubins A, Jablonska S, Dobozy A, Ruzicka T, Kind P, et al. Topical tacrolimus is not effective in chronic plaque psoriasis. *Arch Dermatol* 2000; 134: 1101–1102.
4. Remitz A, Reitamo S, Erkkö P, Granlund H, Lauerma AI. Tacrolimus ointment improves psoriasis in a microplaque assay. *Br J Dermatol* 1999; 141: 103–107.

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