

## Topical Tacrolimus Ointment may Induce Skin Tags in Treated Patients

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Sir,

Tacrolimus ointment for the treatment of atopic dermatitis has recently received marketing approval under the trade name Protopic. According to the approved summary of product characteristics the known local side effects include: burning sensation, itching and erythema, folliculitis, acneiform eruption and eczema herpeticum. In addition, flushing or skin irritation may occur after intake of alcohol. We have seen that patients develop multiple skin tags on the neck and femoral folds during treatment with tacrolimus ointment 0.1%. This has not previously been reported in the literature.

### CASE REPORTS

A 29-year-old non-obese male patient with face and neck atopic dermatitis was treated with tacrolimus ointment 0.1% twice daily. After 9 months of continuous therapy, multiple small flesh-coloured papillomas, clinically representing skin tags, were noticed on the side of his neck. A histopathological examination was consistent with a benign proliferation covered by a flat epithelium. Human papilloma virus-DNA could not be detected by PCR technique. The skin tags were removed by scissor excision.

A 65-year-old non-obese male patient with severe biopsy-proven Hailey-Hailey disease, not controlled on potent corticosteroid and antibiotics, was treated in the femoral folds with tacrolimus ointment 0.1% once daily for 3 months. The erythema and blistering disappeared. However, simultaneously multiple skin tags were detected in the treated area (Fig. 1). Histology showed a fibro-epithelial papillomatous lesion consistent with the clinical diagnosis. The skin tags were removed by simple scissor excision. Skin tags had not previously been seen in this patient.

### DISCUSSION

The side-effect profile of topical tacrolimus ointment has not been fully defined. In this report, two patients developed skin tags (acrochordons) after use of Protopic ointment 0.1%. Skin tags, often seen in obese middle-aged people, have not been reported with increased prevalence in the published controlled trials in atopic dermatitis (1–3). Tacrolimus is known to inhibit inflammatory T-cell cytokines such as IL-2, IL-3, IL-4, IL-5, GM-CSF, INF- $\beta$  and TNF- $\alpha$ . These cytokines may exert a broad range of immunomodulatory effects in the skin, the consequences of which have not yet been fully described. Systemically administered tacrolimus may induce lymphoproliferative



Fig. 1. Skin tags in the femoral fold (arrows) in a patient with Hailey-Hailey disease induced by 8 weeks of topical treatment with tacrolimus ointment 0.1%.

and cutaneous malignancies. However, with the present knowledge, topically applied tacrolimus has not been found to increase the risk of de novo skin malignancies. This case report suggests that tacrolimus ointment 0.1% may induce proliferation of the benign tumour well known as skin tags.

### REFERENCES

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