

## LETTER TO THE EDITOR

## Dovobet® Ointment Under Occlusion Overnight for Troublesome Scalp Psoriasis

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Sir,

Scalp psoriasis is common and can cause distress; it can cause telogen effluvium and scarring alopecia. Scalp psoriasis can also be unresponsive to the standard available scalp formulations (1). The application of topical calcipotriol in the morning and a topical steroid in the evening for scalp psoriasis has been suggested as a better treatment than monotherapy with either lotion alone. Two weeks of sequential treatment with each topical therapy has also been advocated. However, neither treatment schedule has been formally assessed (2). Daily Dovobet® ointment (calcipotriol 50 µg/g and betamethasone dipropionate 0.5 mg/g) (Leo Pharma, Princes Risborough, Buckinghamshire, UK) is more effective than either product alone on plaque psoriasis, with a faster onset of action (3–6). Scalp psoriasis should respond equally as well. This open observational study looked at the efficacy of Dovobet® ointment applied overnight to a series of patients with scalp psoriasis unresponsive to other topical formulations and not on any second-line treatment.

## MATERIAL AND METHODS

Ten unselected patients (three women and seven men, aged 17–64 years) referred to the dermatology department with scalp and body psoriasis took part. Distinction from seborrhoeic eczema and scalp dermatitis was made clinically and because of the presence of typical plaque psoriasis on the body. All patients had failed at least two standard scalp psoriasis treatments including a potent topical steroid. No patient was receiving or intending to receive systemic psoriasis therapy including ultraviolet light therapy. All patients had differing severities of scalp psoriasis on initial presentation. Patients were initiated on Dovobet® treated without a wash-out period. As well as Dovobet® ointment, all patients were given the same non-medicated shampoo, shower cap and written instructions. Dovobet® ointment was applied to the affected scalp areas, anterior hair margins and post-auricular spaces at night and the ointment was held in place with a shower cap. All of the patients' other scalp psoriasis treatments were stopped. The following morning the shampoo was applied to the dry hair to help lift out the ointment. The hair was rinsed and towel-dried. Further shampoo application followed by towel drying was repeated twice more. Dovobet® ointment was applied every night for 1 week and the patient was reviewed again in the clinic. Dovobet® ointment was continued if necessary and the patient was reviewed 3 weeks after this treatment.

Because the scalp is only a small percentage of the total skin, a modified PASI (Psoriasis Area and Severity Index) scoring system was used in preference to the standard PASI (7). At weeks 0, 1 and 4, the percentage coverage of scalp psoriasis, overall redness, thickness and scaling were measured. A simplified PASI score was calculated (8). The percentage change from baseline was calculated ( $=100 \times (\text{modified PASI at week}$

$\alpha$ -baseline PASI)/baseline PASI), where  $\alpha$  equals week 1 or 4). Perceived itch was measured on a visual analogue score from 0 (no itch) to 10 (severest possible itch). Table I also shows the scoring system used to assess the degree of anterior hair margin and posterior auricular sulcus involvement. A comparison of week 1 and week 4 values with the baseline value was made using the Wilcoxon signed ranked sum test (for matched pairs). The median difference was calculated, and the 95% confidence intervals were also calculated (9).

## RESULTS

All 10 patients completed the study. No side effects were noted except difficulty in washing out the ointment from long hair. Patients and clinical evaluations were closely matched. The overall performance as percentage clearance is shown in Table I. Table II presents the change from baseline as *p* values and 95% confidence intervals for the outcome measures used.

## DISCUSSION

Scalp psoriasis is very common in psoriatic patients, being present in 79% of psoriatics, and sometimes it is the only place involved (1). A total of 31% of patients with scalp psoriasis implicate it as an important psychosocial handicap. Scalp psoriasis persists in 81% of patients for >5 years and, if long-standing and severe, it can lead to permanent hair loss. Scalp treatments for psoriasis can be messy and malodorous (tar, salicylic acid ointment, dithranol preparations), or limited to short-term use only (steroid applications) (1, 2). Calcipotriol scalp application alone can cause more itching and irritation compared with betamethasone, and it is less effective after 4 weeks of treatment (58% vs 75% clearance). Topical steroids also give a faster initial response. Without continuous treatment with either calcipotriol or betamethasone, there is a relapse rate of 76% and 79%, respectively. The maximum efficacy of calcipotriol lotion is reached after 8 weeks of treatment (83% clearance) (10).

Table I. Overall performance measured as percentage clearance

Parameter	Week 1	Week 4
Extent of scalp psoriasis	50	70
Itch	80	100
Post-auricular psoriasis	40	90
Anterior hair margin	56	100

Table II. Median difference and 95% confidence intervals (CI) for the clinical parameters assessed between week 0 and weeks 1 and 4

Parameter	Change in baseline to week 1	Change in baseline to week 4
Modified PASI	Median= -95; CI (-100, -70) $p=0.02$	Median= -100; CI (-100, -89) $p=0.002$
Itch	Median= -8; CI (-9, -4) $p=0.008$	Median= -8; CI (-9, -4) $p=0.008$
Post-auricular involvement	Median= -1.5; CI (-2.5, -0.5) $p=0.02$	Median= -2.5; CI (-2.5, -0.5) $p=0.02$
Anterior hair involvement	Median= -0.5; CI (-1.5, 0.0) $p=0.063$	Median= -1.0; CI (-2.0, 0.0) $p=0.031$

This was an unblinded observational study. There was no direct comparison with placebo or standard topical preparations. In our Dovobet<sup>®</sup> ointment study, the response rates were extremely fast and very good compared with other scalp psoriasis studies. The occlusion overnight (particularly of the steroid component), the ointment vehicle or the daily hair washing may all contribute to the effectiveness of this form of treatment. It will be interesting to see if a short contact, non-occlusive method is just as effective. Dovobet<sup>®</sup> shows no increased risk of skin atrophy and this may be even less likely to occur on the scalp (3). Anterior hair margin and post-auricular sulcus involvement can be stubborn to treat. Calcipotriol and other forms of topical psoriasis treatments often irritate these areas. These areas cleared extremely well with Dovobet<sup>®</sup> without any adverse incident or irritation and, notably, no steroid-induced rosacea. The response to Dovobet<sup>®</sup> is similar to potent topical steroid, but the steroid component in Dovobet<sup>®</sup> is less potent and therefore suitable for prolonged use on the scalp. This study group had also failed to respond to a potent topical steroid. Relapse rates and the effects of long-term continuous or intermittent use of Dovobet<sup>®</sup> in the scalp lie outside the scope of this study but are clearly important factors to consider. A dedicated Dovobet<sup>®</sup> scalp formulation would be a welcome therapeutic addition – especially for patients with longer hair where Dovobet<sup>®</sup> ointment is less practical to use.

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