Successful Treatment of Chronic Skin Diseases with Clobetasol Propionate and a Hydrocolloid Occlusive Dressing

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The lesions of 141 patients with chronic skin diseases unresponsive to therapy were treated once a week with clobetasol propionate lotion left under the completely occlusive patch Duoderm®. In 131 patients the lesions resolved completely, while partial remission was observed in the remaining 10. The mean interval to complete remission was: for chronic plaque psoriasis, 12 days; psoriasis on palms and soles, 2.5 weeks; palmoplantar pustulosis, 2.2 weeks; skin lesions of Reiter's syndrome, 3 weeks; chronic lichenified eczema, 2.0 weeks; neurodermatitis, 3.1 weeks; breast eczema, 9 days; discoid lupus erythematosus, 3.7 weeks; lichen planus, 2.8 weeks; sarcoidosis, 4 weeks; and lichen sclerosus et atrophicus, 2 weeks. Other conditions benefitting from the treatment were pompholyx, necrobiosis lipoidica, granuloma annulare and pretibial myxedema. The amount of topical corticosteroids needed was reduced to at most 1/20 and to as little as 1/100, compared with common topical steroid preparations. ***Key words: Occlusive treatment; Duoderm.***

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Corticosteroids under an occlusive plastic film have been used for many years for treatment of steroid-responsive dermatoses. The plastic dressing used to be changed daily. However, adverse side effects were not uncommon and include atrophy of the skin, maceration, allergic sensitization and malodorous microbial overgrowth. Other disadvantages are poor adhesion, the need for daily maintenance, and the plastic was often found unpleasant.

Renewed interest in the treatment of steroid-responsive dermatoses with a hydrocolloid dressing in combination with topical steroids has been stimulated by some publications (1–5). The skin-coloured hydrocolloid occlusive dressing Duoderm® is self-adhesive and can be left on the skin for a week or more. As it is waterproof, it is possible to take a bath or a shower when using this form of patch. Duoderm delivers topical medication, facilitates dermal hydration and serves as a protective dressing. It has a very low sensitization index, is cosmetically acceptable, is usually confortable and does not cause skin maceration, as it absorbs transepidermal water. Duoderm is protective, preventing local trauma and irritation. It discourages the overgrowth of skin microflora, which contrasts with

Table I. *Response rates in patients with different skin diseases to clobetasol propionate and Duoderm applied once a week*

All the patients achieving partial remission were treated for one month or more. Freedom from relapse and relapse of patients treated to complete remission. Abbreviations: *n* = Number of patients; CR = Complete remission; PR = Partial remission; d = days; w = weeks; m = months

Disease	*n*	Treatment results, *n*		Time to complete remission		Post-treatment follow-up		
		CR	PR	Mean	Range	Follow-up period	CR, *n*	Relapse, *n*
Chronic plaque psoriasis	25	25		12 d.	1–6 w.	1–6 m.	21	4
Psoriasis on palms and soles	18	17	1	2.5 w.	1–5 w.	2–4 m.	14	3
Palmoplantar pustulosis	19	18	1	2.2 w.	1–7 w.	2–8 m.	12	6
Skin lesions of Reiter's syndrome	2	2		3 w.	3 w.	1–3 m.	1	1
Chronic lichenified eczema	14	14		2.0 w.	1–4 w.	1–10 m.	10	4
Neurodermatitis	24	23	1	3.1 w.	2–8 w.	3 m.	20	3
Breast eczema	4	4		9 d.	1–2 w.	2–8 m.	4	0
Pompholyx	11	11		8 d.	1–2 w.	1–2 m.	2	9
Discoid lupus erythematosus	5	4	1	3.7 w.	2–8 w.	3–7 m.	3	1
Lichen planus	8	6	2	2.8 w.	2–5 w.	2–7 m.	6	0
Necrobiosis lipoidica	3	1	2	4 w.		5 m.	1	0
Sarcoidosis	3	3		4 w.	3–5 w.	4–8 m.	3	0
Granuloma annulare	3	1	2	4 w.		7 m.	1	0
Lichen sclerosus et atrophicus	1	1		2 w.		8 m.	1	0
Pretibial myxedema	1		1					

the less satisfactory results obtained with plastic film occlusion (6, 7).

PATIENTS AND TREATMENT

Patients

The study population consisted of 141 adult outpatients with various theraphy-unresponsive skin diseases. They were required to have had a stable skin disease without any previous topical therapy for the preceding 2 weeks. None of the patients was receiving systemic therapy at the time of the study. The lesions to be treated ranged in size from 1×3 cm up to 10×30 cm. Informed consent was obtained from each patient before the start of the study. The following skin diseases were treated (the duration of the lesions to be treated is given in parentheses): chronic plaque psoriasis (1–8 months), psoriasis on palms and soles (4–34 months), palmoplantar pustulosis (2–24 months), skin lesions of Reiter's syndrome (3 and 6 months), chronic lichenified eczema (4–18 months), neurodermatitis (4–36 months), breast eczema (4–18 months), pompholyx (few days up to 2 weeks), discoid lupus erythematosus (5–11 months), lichen planus (4–9 months), necrobiosis lipoidica (3–5 years), sarcoidosis (6–12 months), granuloma annulare (7–20 months), lichen sclerosus et atrophicus (6 months), pretibial myxedema (5 months).

Treatment

Clobetasol propionate (Dermovat®, Glaxo) lotion was applied to a lesion and allowed to dry. The lesion and 0.5–1 cm of the surrounding skin was then covered with Duoderm Hydrocolloid Dressing or Duoderm Extra Thin Hydrocolloid Dressing (ConvaTec, Squibb), which was attached to the surrounding skin with Micropore tape. This procedure was repeated once a week until the treated area cleared. Clinical rating of the effect of therapy at each application site was performed once a week, and at the time of clinical clearing a biopsy was often performed to confirm the clinical results. Most lesions were photographed every week.

RESULTS

The responses to treatment, summarized in Table I, show that all patients improved. The lesions healed completely in 131 out of 141 patients (93%), and partial remission defined as more than 50% clearance was observed in the remaining 10 (7%). No patients dropped out, and all of them were treated to complete remission or – at least for one month. The last known status of the patients treated to complete remission is also presented in Table I. The patients with psoriasis on palms and soles and palmoplantar pustulosis had great benefit of the treatment. Soreness disappeared and they could walk immediately without pain when using Duoderm.

Irrespective of which disease was treated, recurrences of the treated skin lesions were rare if treatment was performed to complete remission. This includes not only clinical complete remission, but also histological complete remission which occurred a few days to one week after clinical complete remission. The lesions of all patients obtaining partial remission recurred within a few weeks, except in one patient with lichen planus. Also the lesions of most patients treated to clinical complete remission, but not to histological complete clearance, also recurred and that too was also independent of the disease treated.

Duoderm was well accepted by the patients in this study. Epilation was common when removing Duoderm from hairy skin, which is why it is recommended to shave before treatment. Three patients developed a mild folliculitis, but otherwise no adverse experiences were reported.

DISCUSSION

These findings suggest that once weekly treatment with a topical corticosteroid and a hydrocolloid occlusive dressing (Duoderm) is highly effective against many inflammatory skin diseases. All patients improved. Complete remission was achieved in 93% of all cases treated after a mean interval of 8 days to 4 weeks for the different skin diseases. Partial remission was observed in the remaining 7%. Based on the present results, it appears to be the best treatment for chronic plaque psoriasis, psoriasis on palms and soles, palmoplantar pustulo-

sis, skin lesions of Reiter's syndrome, chronic lichenified eczema, neurodermatitis, breast eczema, discoid lupus erythematosus, lichen planus, sarcoidosis and lichen sclerosus et atrophicus. The results indicate that it is important to continue with the treatment to complete remission, and this includes histological complete remission which occurs later than clinical complete remission. It is our impression that after complete clearance of the treated skin lesions the clinical improvement persisted for a longer period of time than with other treatments. The problem of tachyphylaxis does not seem to arise if the treatment is performed to complete remission histologically. An exception was most patients with pompholyx, who relapsed. However, relapses were common in patients obtaining only partial remission. Also patients with necrobiosis lipoidica, granuloma annulare and pretibial myxedema improved, though relapses were common.

This kind of treatment, which need not be applied more than once a week, reduces the need for frequent application of topical steroids at least 7 times. Moreover it reduces the treatment time considerably, which is why the amount of topical corticosteroid is reduced 20 to more than 100 times. Atrophy of the skin is therefore very unlikely and was not observed in any of our patients.

The patients tolerated Duoderm well and found that it was easy to apply, provided flexibility and gave no significant discomfort. A great advantage is that these patches can be left in place on the skin for a week or more without the maceration or infection that frequently results when the skin is occluded with plastic dressings. The patch prevents the habit of scratching which often is the factor causing and prolonging some diseases, such as neurodermatitis and chronic lichenified eczemas. It has been our experience during recent years that the use of Duoderm together with a topical corticosteroid offers enormous psycho-social benefits. The treatment has to be done only once a week, and problems of overusage, underusage and erratic usage are more or less completely eliminated. The patients experience instant relief, and are encouraged to continue by the rapid resolution of their skin lesions.

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