

## A COMPARISON OF 0.1% BETAMETHASONE VALERATE AND 0.1% FLUOCINOLONE ACETONIDE IN THE TREATMENT OF PSORIASIS.

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A DRAMATIC response in intractable cases of psoriasis has been shown in patients treated with topical corticosteroids where the affected area has also been covered with a plastic dressing. This new technique in dermatological practice has been well documented (Scholtz, 1961; Witten and Sulzberger, 1961; Stevenson and Whittingham, 1963; Tye *et al.*, 1963). It has also been shown that occlusion of the area greatly enhances penetration of the steroid, (McKenzie, 1962; McKenzie and Stoughton, 1962; McKenzie and Atkinson, 1964). This valuable technique is most frequently employed with the more powerful corticosteroids—triamcinolone, fluocinolone, flurandrenolone, and betamethasone, and this suggests the desirability of using the lowest effective concentration.

The introduction of the higher potency topical steroids and the application of the occlusive dressing technique has presented considerable advantages, but at the same time created specific problems. The very high potency of these steroids underlines the potential hazards of systemic action from percutaneous absorption. Attention has been drawn to this possibility by Scoggins (1962 and 1963), and Kirketerp (1964). Clinically adverse effects have not been recorded in short-term normal use.

The work of Hall-Smith (1962) and Chalmers and Morley (1963) has demonstrated the efficacy of much lower concentrations of high potency topical corticosteroids than are commonly employed. Smith (1964) in a double-blind trial with 0.025% fluocinolone acetonide ointment against 0.01% fluocinolone acetonide ointment with occlusion in patients with psoriasis of average severity, found that of the 23 patients treated only one showed a markedly superior response to the 0.025% concentration; six showed a slightly superior response, and one relapsed more markedly on the side treated with the 0.01%. In none of the cases was the difference striking.

Williams *et al.* (1964) showed that in the great majority of their cases of psoriasis there was an equally good clinical response to betamethasone valerate 0.01% and fluocinolone acetonide 0.025% when the ointments were used with an occlusive dressing technique, despite the disparity in steroid concentration. Their experience suggested that the two most effective preparations for treating routine cases of psoriasis were those containing betamethasone valerate and fluocinolone acetonide. It seemed worthwhile, therefore, to find out whether

the lowest concentrations of these steroids commercially available could achieve the same clinical response.

#### INVESTIGATION.

A double-blind study was made on 25 successive routine patients suffering from psoriasis. The series consisted of sixteen females and nine males, aged from 16-79 years (average age 48 years). Five patients had had psoriasis for 1 year or less, six from 2-9 years, four from 10-19 years, and ten from 20-60 years. The lesions were bilateral in all cases, although the trunk was involved in only two. Previous treatment included various standard ointments, and both local and systemic steroids. Nine patients were known to have been treated previously with Synalar cream, five with occlusion.

In the present study, the patients were treated with creams containing either 0.1% betamethasone valerate (Betnovate) or 0.01% fluocinolone acetonide (Synandone), under occlusion and applied to opposite sides of the body according to a system of random selection, until the eruption was cleared. Response was assessed daily by the nurse, and twice a week by the physician. No attempt was made to assess relapse in this series.

#### RESULTS.

The results are shown in Table I. Fifteen patients were clear of their symptoms and were discharged in 7 days or less, nine in 7-14 days, and the remaining patient in 17 days.

In 21 cases both nurse and doctor were unable to detect any difference in response between the two sides. One patient responded so well to betamethasone that, from the fifth day, both sides were treated alike. This patient also developed folliculitis. Both observers also noted a slight superiority of response to betamethasone on the first day in one patient; but thereafter both agreed that progress was equal on both sides. In another patient there was no difference between the two sides, but the patient developed folliculitis on the betamethasone treated side after 5 days. In the remaining case the response was considered equal by the physician and in favour of betamethasone by the nurse.

With the exception of folliculitis occurring in two patients, no side effects were observed.

TABLE I.—*Comparative Assessment in 25 Patients.*

(i) During Treatment.			
Observer.	Equally effective.	Fluocinolone better.	Betamethasone better.
Clinician . . .	22	1*	2†
Nurse . . .	21	1	3
Either . . .	20	2	3
(ii) At the Conclusion of Treatment.			
Observer.	Equally effective.	Fluocinolone better.	Betamethasone better.
Clinician . . .	23	1*	1†
Nurse . . .	23	—	2
Either . . .	22	1	2

\* Folliculitis on side treated with betamethasone.

† Clearly superior response to betamethasone—then used on both sides.

## DISCUSSION.

The length of treatment necessary with occlusive dressing to achieve the most satisfactory results is not yet clear. Frank *et al.* (1964) found that complete histological and histochemical resolution in cases of psoriasis had not occurred even four weeks after apparent clinical remission. Similarly, Konia (1964) observed quicker relapse occurring in those patients in whom clinical remission had been achieved most rapidly. Although there has been no attempt to measure relapse it is apparent that a case could be made for more prolonged therapy with the lowest effective concentration of steroid.

With the one exception of the patient in whom response to betamethasone valerate was clearly better, all the patients who had been successfully treated previously with fluocinolone (0.025%) now responded equally well to betamethasone valerate (0.1%) or the weaker preparation of fluocinolone (0.01%).

My final assessment of the series is that of the 25 patients, 92% (23 cases) responded equally well to either treatment. In the remaining two cases, one showed betamethasone valerate to be superior, and one gave marginally better results with fluocinolone acetonide (0.01%).

## SUMMARY.

The relative efficiency of 0.01% betamethasone valerate and 0.01% fluocinolone acetonide creams was compared in 25 routine cases of psoriasis using the occlusive dressing technique. The preparations were allotted to opposite sides of the patient according to random selection and applied until the condition cleared. In the great majority of cases an equally effective clinical response was achieved with 0.01% fluocinolone acetonide (Synandone) as with 0.1% betamethasone valerate (Betnovate).

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