The Use of a Corticosteroid Cream for Immediate Reduction in the Clinical Signs of Acne Vulgaris

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A controlled trial of the anti-inflammatory effect of a steroid cream (clobetasol propionate) in 11 patients with moderate acne was assessed over a 3 week period. The placebo cream was the base of the steroid cream. Therapeutic effect was assessed by the number of active and less actively inflamed papules and pustules present at the beginning and end of the 3 week trial period. No significant change in lesion counts was observed. This result indicates that a potent topical steroid cream produces no short-term improvement in patients with moderate acne.

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The development of acne lesions is due to the interaction of four interrelated events: a raised sebum excretion (1); ductal hypercornification (2, 3); abnormal functions of *P. acnes* (4) and the production of inflammatory mediators which result in the formation of papules, pustules and, at times, deep inflammatory lesions. Systemic treatment with antibiotics or retinoids, despite their different modes of action, usually take 4 to 5 weeks to have a demonstrable effect and some topical preparations, although often effective, tend to enhance rather than subdue erythema, by producing an irritant dermatitis (5). Many patients desire a more immediate improvement in the clinical appearance; in the case of cystic lesions this can sometimes be dramatically, and relatively quickly, brought about by intralesional triamcinolone (6). We therefore decided to perform a controlled study to ascertain whether clobetasol propionate cream alone reduced the numer of inflamed lesions, thereby giving more immediate cosmetic improvement.

MATERIALS AND METHOD

Eleven patients (4 male, 7 female, age range 15–25 years) with acne of such severity that oral therapy could be delayed one month (grades 1–2) were included in the study. The patients had been off all therapy for 4–6 weeks. Each patient was supplied with 3 tubes of clobetasol propionate cream and 3 tubes of the cream containing the base alone labelled 'L' and 'R' for application to the relevant side of the face. Patients received written instructions to aid complete compliance. They were requested to apply the cream at night 2–3 hours before retiring. The area treated was from the angle of the jaw to a line drawn vertically through the medial end of the eyebrow and the naso-labial fold on each side, thereby excluding the nose, chin and mid-forehead. By confining treatment to the sides of the face, excluding the central panel, and insisting that there was a 2-hour delay between applying the creams and retiring, spread of the active agent from one side of the face to the other was prevented. The base alone applied to the other side of the face acted as a control. This procedure was followed nightly for 3 weeks. No other form of acne therapy was given concurrently.

The therapeutic effect, if any, was assessed by counting the number of active and less actively inflamed papules and pustules (7) before and after 3 weeks treatment on each side of the face, within the designated area.

RESULTS

There was no significant difference in the number of inflamed lesions after treatment with either clobetasol propionate (mean 31 before and after) or its base (mean 33 before and after). Statistical analysis was performed using the paired *t*-test. The total number of active and less active papules and pustules remained constant. Analysis of the individual data did show some variation.

Thus, one patient showed an overall reduction in active lesions on both sides of the face; 5 patients showed a decrease in active inflamed lesions on the clobetasol propionate treated side; 2 patients showed an increase in active lesions on the steroid treated side and 3 patients showed little change in either side of face. Thus, in this group of patients with acne of moderate severity the application of clobetasol propionate cream produced no obvious clinical benefit.

DISCUSSION

Topical steroid preparations are effective agents for the reduction of cutaneous inflammation, such as eczema and psoriasis. There are many occasions when acne patients desire a more immediate clinical improvement than is possible with oral or topical thera-

py. Intralesional steroids can quickly reduce the extent of inflammation in some cystic acne lesions and therefore, it seemed reasonable to determine the efficacy of a potent topical steroid on the inflamed acne lesions in patients.

In this group of patients the results were very clear. Clobetasol propionate does not significantly reduce the number of inflamed acne lesions, nor does it produce a favourable shift of lesions from a more active to a less active phase.

Furthermore, since steroids may induce acne by affecting ductal cornification (8) we do not recommend the use of topical steroids in the treatment of moderate acne, either in the short or long term. This study may also indirectly help in our understanding of acne inflammation, since the topical steroid did not influence the overall inflammation it suggests that the mediators of inflammation modified by steroids, such as certain prostaglandins and leukotrienes, are not involved in the inflammation of acne lesions in patients with moderate acne.

REFERENCES

1. Cunliffe WJ, Shuster S. Pathogenesis of acne. Lancet 1969; i: 685–687.
2. Holmes RL, Williams M, Cunliffe WJ. Pilo-sebaceous duct obstruction and acne. Br J Dermatol 1972; 87: 327–332.
3. Kealey T. Hypovitaminosis A of follicular duct as a cause of acne vulgaris. Lancet 1988; ii: 449.
4. Cunliffe WJ, Clayden AD, Gould D, et al. Acne vulgaris: Its aetiology and treatment. Clin Exp Dermatol 1981; 6: 461–469.
5. Burke B, Eady EA, Cunliffe WJ. Benzoyl peroxide versus topical erythromycin in the treatment of acne vulgaris. Br J Dermatol 1983; 108: 199–204.
6. Levine RM, Rasmussen JE. Intralesional corticosteroids in the treatment of nodulo-cystic acne. Arch Dermatol 1983; 119: 480–481.
7. Kligman AM. An overview of acne. J Invest Dermatol 1974; 62: 268.
8. Plewig G, Kligman AM. Induction of acne by topical steroids. Arch Dermatol Forsch 1973; 247: 29.

Wound Dressing after Skin Planing

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A variety of dressings have been used following skin planing. Compresses are difficult to apply and simple bandages stick tight and are hard to remove. The Department of Dermatology has for several years used Collagen film, but this film is no longer commercially available. After 12 patients with acne scars underwent skin planing, synthetic polyurethanefilm (Omiderm™) was applied for 7 days, with good results. *Key words: Dermabrasion; Collagen film; Polyurethane film (Omiderm™).*

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Various modes of skin care following skin planing have been used throughout the world. Collagen covering of the moist surface after skin planing affords good haemostasis, reduced pain, reduced fluid loss and helps maintain sterility (1, 2). For more than 15 years, postoperative treatment with collagen film (Pharmacia A/S) has been our standard procedure following dermabrasion (3). However, as the product is no longer commercially available, we have tried a new covering. This communication presents our results with Omiderm™, a new artificial dressing.

MATERIAL AND METHODS

Omiderm™ (Omikron Scientific Ltd.) is a wound covering, based on a hydrophilized polyurethane. Omiderm™ protects the wound from microbial inversion from the environment, adheres well to the wound, can be removed without causing any damage to the underlying tissue and provides an ideal healing environment and has a good analgesic effect (4–7).

Twelve patients suffering from acne scars underwent skin planing. All dermabrasion was performed on facial skin. Dermabrasion was done with a motor-driven rotating steel brush (40,000/second) after local lidocain anaesthesia combined with local freon freezing anaesthesia. Immediately following skin planing, Omiderm™ film was placed on the left side of the face and our standard collagen on the right side.