

## THERAPEUTIC TRIAL

# A NEW PREPARATION FOR THE TOPICAL TREATMENT OF ACNE VULGARIS

### Report of a Year's Study

L. S. P. DIVERS, M.B., Ch.B., M.R.C.S., L.R.C.P.

Horley

ACNE VULGARIS IS ONE OF THE COMMONEST skin diseases treated by the general practitioner and it is one of the most stubborn. In young people under the age of 20 it is certain to relapse without treatment and even in those over that age it may well recur. The primary lesion is a hyperkeratosis of the mouths of the sebaceous follicles leading to the retention of sebum, the formation of comedones and subsequent inflammation, suppuration, scarring and cyst formation. There are few adolescents who escape some comedones, but at what stage their incidence merits the diagnosis of acne vulgaris is a variable point determined largely by the psyche of the patient.

It is now accepted that the most effective treatment of acne vulgaris is a combination of local erythema-producing ultra-violet light to produce desquamation, and the administration of small daily doses of antibiotics over a period of a few weeks (Mitchell-Heggs 1959, Schmidt 1961). This regimen will improve the large majority of cases, and in the remainder a short course of low dosage oestrogens is worth trying (Schmidt 1963, Straus and Poch 1964).

The improvement thus obtained can be maintained by attention to toilet and diet and by the use of topical preparations. In mild cases improvement may be achieved by local applications without recourse to ultra-violet light and antibiotics. Preparations for topical treatment, however, must be used regularly to ensure any measure of success, and it is important, therefore, that the formulation be such that the patient will continue to apply it without reluctance.

The majority of the products for the topical treatment of acne vulgaris contain sulphur and because of this they tend to leave a powdery residue on the face. To obviate this several formulations have a heavy flesh-coloured base which also serves to cover up the spots. However, many authorities consider that for daytime treatment a colourless product is preferable. Alexander and Vickers (1961) emphasizing that the psychological effect of applying treatment is beneficial in many cases, stressed that besides being harmless, products should be cosmetically acceptable and in their view a messy ointment, however effective, is rarely used con-

sistently. Stough *et al.* (1958) also say that preparations that are not messy, coloured or smelly are more likely to be used and Goldman (1958) too is of the opinion that formulations should be such that they can be applied at any time during a hot, busy day. Boulle and Boulle (1960) after extensive experience of the use of topical preparations for the treatment of acne vulgaris do not in any case consider sulphur to be of great value and recommend the use of an aqueous alcoholic lotion containing a mixture of resorcinol and salicylic acid as the treatment of choice. James and Tisserand (1958) also consider such a mixture to have advantageous properties, for as well as being colourless this combination is usually well tolerated when used two or three times a day.

A product not containing sulphur and which when applied leaves no tell-tale visible residue would appear psychologically at any rate to be advantageous to the adolescent sufferer, and the recommended combination of resorcinol and salicylic acid is obviously of value in this connection. Resorcinol mono-acetate has a milder and more prolonged action than resorcinol (Beckman 1952, Goodman and Gillman 1956) and a combination of this rather than resorcinol with salicylic acid which has an immediate keratolytic action would seem to be an improved combination. Furthermore, in order to minimize secondary infection the addition of a long-acting skin antiseptic to augment the antibacterial properties of salicylic acid is indicated, and 2 : 2<sup>1</sup>-thiobis (4 : 6-dichlorophenol) bithionol (*U.S.P.*) which is reported to have a more prolonged action than hexachlorophene (*U.S. Dispensatory* 1955) appears to be useful to this end. This combination of resorcinol acetate (3.0 per cent), salicylic acid (4.5 per cent) and bithionol (0.4 per cent), formulated into a cosmetically acceptable cream (EJ12) which rubs into the skin readily and leaves no visible residue, has now been studied by the author in his general practice on 32 patients.

### Objects of the study

The incidence of acne eruptions waxes and wanes during the course of a year for a variety of reasons including emotional stress, seasonal influences, holidays, the amount of exposure to sunlight and so on, and it is important therefore in assessing the value of a local application to maintain therapy for a prolonged period. This is emphasized by the fact that the usefulness of any topical preparation lies largely in its ability to prevent or minimize relapses, and in cases treated by ultra-violet light and antibiotics to maintain improvement.

The present study on 32 cases was continued for a year, and its purpose was to compare the therapeutic value of the cream EJ12 over this prolonged period with nine other preparations for topical use, five of which contained sulphur. Although the author was clinical assistant dermatologist to Redhill General Hospital, the cases were those seen in the author's general practice. A few were referred by the author's partners as being difficult to improve with standard topical preparations. Twenty of the patients were male, 12 female and their ages ranged from 14 to 29 years. Twelve were classified as mild cases, 16 were moderate and the remaining four were severe. Patients were seen every three weeks and changes of treatment were made only by the author. For comparison purposes prepara-

tions were often used two at a time, one to each side of the face and patients were encouraged to compare these preparations and form their own opinions of their efficacy. Small doses of broad-spectrum antibiotics and ultra-violet light were needed to control exacerbations in 15 cases.

At the end of the year each patient had decided on the most effective treatment and these subjective opinions were noted.

### Results

Of the 32 cases only three preferred preparations containing sulphur and of the remainder 21 found the cream EJ12 to be the most effective. These subjective results were borne out by objective examination by the author. EJ12 was found to be acceptable cosmetically to all 32 cases and in only one case was its use discontinued owing to a local discomfort on application.

### Conclusions

The year's study indicates that the combination of resorcinol acetate, salicylic acid and bithionol in the cream EJ12 is of value in the treatment of acne vulgaris. Due allowances must be made of course for the well-known enthusiasm of doctor and patients for new preparations but even so it is evident that EJ12 is a useful addition to a general practitioner's means of controlling acne vulgaris.

### Summary

Thirty-two cases of acne vulgaris, 12 female and 20 male, were treated for one year with a new preparation (laboratory code number EJ12) for topical application containing resorcinol acetate (3.0 per cent), salicylic acid (4.5 per cent) and bithionol (0.4 per cent). The preparation which is in the form of a white cream leaves no visible residue when applied and was found to be cosmetically acceptable to all 32 cases.

In one case the cream was discontinued owing to a local discomfort on application and daily small doses of broad spectrum antibiotics and local erythema-producing ultra-violet light were needed to control exacerbations in 15 cases.

During the year a comparison was made with nine other local applications and at the conclusion of the year's treatment 21 patients appeared objectively and subjectively to be better controlled by EJ12 than by other preparations. Of the remaining 11 only three preferred products containing sulphur.

### Acknowledgement

The author thanks Linfield Laboratories Ltd., for supplying the EJ12 for this study. EJ12 is now marketed by the Priory Laboratories, as Salaphene.

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