

TREATMENT OF REFRACTORY ACNE WITH A FRACTIONATED TYPE OF LIVER EXTRACT

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ACNE vulgaris is a stubborn, rebellious skin disease that often leaves permanent scars psychologically as well as cutaneously.¹ It occurs at a time in life when youth craves to look its best. Acne interferes with academic as well as social progress. Its far-reaching personality effects can influence scholastic, vocational, and even marital success.

Because of the many factors which may contribute to the etiology of acne, it is logical that a variety of therapeutic approaches have been tried and in many cases have proved successful. For this very reason, however, the investigator must develop a "tongue-in-cheek" attitude toward enthusiastic claims for success with various single forms of therapy. In addition, evaluation of therapeutic results is most difficult since spontaneous as well as treatment remissions can occur.

A single plan of attack with one modality, leaving all the other variables constant, is difficult in private practice or in a clinic. This method can be successfully followed only in an institution where the nature of the group permits a rigidly controlled study.

Adequate treatment, using all local and systemic measures which seem properly indicated in a given case, and early treatment, aimed at preventing the disfiguring effects of neglected acne, offer the most hope of a favorable outcome.

Local treatment, diet, iodine elimination,²⁻⁴ glandular medication,⁵ x-ray therapy,¹ vaccines, vitamins,⁶ and antibiotics have all been used, and good results have been reported with one or a combination of these methods. It is the consensus of most dermatologists that x-ray therapy¹ is probably the most successful single method in controlling the acne process. The problem that faces many medical practitioners is the treatment of patients too young for x-ray therapy and the group who have had adequate x-ray but have failed to respond or have relapsed.

Liver diet and injections of crude liver extract have been rather widely used⁷⁻¹³ since Sutton's original report⁷ on beneficial results with this form of therapy. Hume,¹¹ for example, reported crude liver extract to be one of the most important of the many systemic measures suggested for adjuvant therapy in acne rosacea. Walters¹²

also found crude liver extract, heated and unheated, very beneficial in his cases of acne vulgaris. Andrews *et al.*¹³ advocate the use of crude liver extract and various vitamins to correct nutritional and metabolic disturbances often underlying the seborrheic dermatoses.

The well-known tendency of liver extract to produce distressing local reactions and even allergic manifestations has, in our experience, made it difficult to maintain patients on these injections for sufficient periods of time. Accordingly, we became interested in reports by Marshall¹⁴ and Lichtenstein and Stillians¹⁵ on the good results which they obtained using a fractionated preparation derived from crude liver. It was decided to make a clinical trial of this preparation in the treatment of our resistant cases.

This liver extract is prepared from liver injection crude U.S.P. by a series of fractionations. During the process vitamin B₁₂ is lost and undoubtedly some of the other vitamins. The preparation is also free of the hypertensive and hypotensive fractions of liver extract. It probably contains some unidentified factors, particularly a vasoconstricting substance which has been demonstrated by Marshall.¹⁴ It is relatively painless and can be given in large doses without local reaction. Sensitization is rare. Thus it has several practical advantages over the crude extract.

In our study we attempted to evaluate the results of therapy with this extract in 52 private patients, 35 females and 17 males. Thirty-one patients ranging in age from nineteen and a half to thirty years had had previous x-ray therapy and other local and systemic treatment; 21 between fourteen and a half and seventeen years of age were considered too young for x-ray therapy but had had other forms of treatment. Thus, for purposes of evaluating the therapy under discussion, these patients served as their own controls. All these patients had a moderate to severe type of acne with pustules, cysts, seborrhea, blackheads, and scars. Some had hypertrophic scar formation.

Procedure

Patients were given an application of carbon dioxide-acetone slush (cryotherapy)^{16,17} biweekly. Iodine-containing foods, as well as chocolate and nuts, were routinely prohibited. A resorcin scalp lotion was prescribed with instructions to shampoo the scalp every five to seven days. In

The material for this study was supplied by C. O. Miller, Ph.D., of Kremers-Urban Company, Milwaukee. This firm manufactures Kutapressin, the preparation discussed in this communication.

addition, 1 to 3 cc. (average 2 cc.) of the fractionated liver extract discussed above was administered subcutaneously twice a week.

Treatment was continued for periods ranging from twelve weeks to one and one-half years. In some cases visits were decreased to once a week as improvement occurred.

Results

Improvement with this regimen was first noticed by the patient and family in one to two months. The cystic and keloidal lesions become flatter and less infiltrated, and the pustules decreased in number. The associated seborrhea was lessened. The gradual but definite improvement plus the relative painlessness of the injections encouraged the patients to return faithfully for treatment over the long periods mentioned above. The following tabulation shows that 33 patients, or 63 per cent, experienced moderate to good improvement.

	Number of Cases
Good improvement	13
Moderate benefit	20
Slight improvement	10
No benefit	9

In the group of patients whom we considered to have responded poorly, we administered oral terramycin because of the presence of many infected cysts and pustules. Some improvement of the lesions was noted while the patients received the drug. Further studies utilizing this antibiotic are now in process of evaluation.

Summary and Conclusions

A fractionated derivative of liver containing a

vasoconstricting factor was given to 52 private patients who had ceased to improve with other modalities. Thirty-one of these had received previous x-ray therapy and could obtain no further benefit from this method. Twenty-one were considered too young for x-ray therapy. The present treatment consisted of cryotherapy, diet restriction, and biweekly injections of this liver fraction. Therapy was continued for a minimum of twelve weeks up to a maximum of one and one-half years without side-reactions or development of sensitization. Sixty-three per cent showed moderate to good improvement over that obtained with previous therapy. Thus, this fractionated liver extract may be considered a useful adjunctive method of extending the therapeutic potential in acne.

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