

BETAMETHASONE 17-VALERATE AND HYDROCORTISONE UNDER OCCLUSIVE DRESSING

(A double blind, paired comparison study)

By

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Steroids under occlusive dressing have been extensively used for a variety of dermatological conditions, (Behl et al, 1967; McKenzie and Atkinson, 1964; Williams et al, 1964 and Zimmerman, 1967) the obvious advantages being that the resolution of lesions is much faster and lesser quantities of the drug are needed. The present study was planned to see the feasibility of applying occlusive dressing under the climatic conditions prevailing in our part of the world and to assess the advantages of certain steroids under occlusive dressing over plain occlusive dressing without steroids. The results were assessed in a double blind manner by the paired comparison technique.

MATERIALS AND METHODS

Four types of ointment were supplied under the code names of 'P', 'Q', 'R' and 'S' respectively. Three of them contained corticosteroids while the fourth one was a placebo containing only the plain base. Patients suffering from psoriasis or lichenified lesions due to any cause were included in the study. Preference was given to those cases who had bilateral lesions on both the extremities. Two types of ointments were applied, one on each side and the area occluded with polythene. The dressing was changed twice a week and the condition of the lesions recorded with particular reference to the degree of itching, erythema, scaling and lichenification. Further dressings were, as a rule stopped after 2 weeks unless considered necessary. The effects produced on the two sides by the respective ointments were compared and superiority of one ointment over the other recorded if any.

RESULTS

The trial was conducted on 50 cases comprising of lichenified dermatitis (32 cases), psoriasis (10 cases), lichen planus (4 cases), lichen amyloidosis (1 case), hyperkeratosis of soles (1 case), Majocchi's granuloma (1 case) and another case having localised hyperkeratotic lesions on extremities. In this report the term lichenified dermatitis is used in a morphological sense to denote all cases presenting with areas of lichenified skin due to various causes.

34 cases tolerated the occlusive dressing well, while 16 cases showed appearance of vesicular and pustular lesions on the occluded skin. In 6 cases the reaction was severe enough to warrant stoppage of further treatment.

All types of cases showed varying degree of maceration under the occlusive dressing along with regression of lesions. Some regression was seen with all types of ointments. but some ointments produced faster regression, compared to the others.

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35 cases had bilateral lesions and two ointments could be compared in the same patient, while 9 cases had only unilateral lesions.

Ointments 'P' and 'Q' were compared in 6 cases, 'P' was found to be superior to 'Q' in 5 cases. In the 6th case 'Q' was adjudged superior. 'P' was compared to 'R' in 5 cases and was found to be superior in all. In 8 cases the comparison was made between 'P' and 'S' ointments. 'P' was adjudged superior to 'S' in 3 cases, inferior to 'S' in 2 cases and equal in effectivity in 3 cases. 'S' was compared to 'Q' in 5 cases and found to be superior in 3, inferior in 1 and equally effective in the fifth. On comparing with 'R' in 5 cases, 'S' was found to be superior in all the five. Ointments 'R' and 'Q' were compared in 6 cases, 'R' was adjudged superior in 3 and inferior in the rest.

In conclusion then, 'P' and 'S' were unequivocally superior to 'R' ointment. They were also superior to 'Q' ointment, but the results were not as uniform. There seemed to be no significant difference between the ointments 'P' and 'S' and also between 'Q' and 'R', although 'Q' seemed to be only a shade better than 'R' (on the basis of results of comparison with 'P' and 'S').

On deciphering the code it was found that ointments 'P' and 'S' both contained 0.12% Betamethasone 17-valerate, while 'S' contained 0.5% neomycin sulphate in addition. Ointment 'Q' contained 0.5% hydrocortisone, while ointment 'R' was a placebo.

DISCUSSION

The advantages of occlusive dressing lie in the ability of polythene to prevent evaporation of sweat, which in turn brings about maceration of the stratum corneum and damage to the epidermal barrier. This presumably permits better penetration of the drug applied on the surface. Furthermore, the steroid continues to be supplied from the surface as it is neither lost into the clothes nor is it removed by washing. Thus with relatively lesser quantities of the drug, a quicker response is obtained.

The present trial has shown that majority of the lesions regressed completely within 2 weeks of therapy which consisted of only 4 applications. Quite often the results were very spectacular.

Specific nature of the effect produced by betamethasone 17-valerate is evidenced by its comparison with hydrocortisone and the placebo ointments and also by persistence of the lesions at the sites not included in the occlusive dressing. Cases of almost all types of diseases included in this study, irrespective of their aetiopathogenetic mechanisms responded to the therapy but the common factor in all was a hyperkeratotic or a lichenified skin condition.

The dressing was not tolerated by all patients. The eczematous or the miliaria-like reaction seen in some patients could possibly be related to the degree of sweating in a particular individual. During hot and humid months, application of the occlusive dressing produced greater maceration and a miliaria-reaction,

making this type of therapy unsuitable. But this is not an absolute contraindication.^c The dressing can still be safely applied, if it is changed at shorter intervals.^a The best time for occlusive dressing however, is the winter and the dry season.

The dressing is best suited for chronic and lichenified lesions and obviously it is easier to apply to the extremities only.

SUMMARY

Ointments containing betamethasone 17-valerate with and without neomycin, hydrocortisone and a placebo were tried under occlusive dressing by a double blind paired comparison technique. Cases of psoriasis, lichenified dermatitis, lichen planus and a few others were included in the study. Betamethasone 17-valerate produced far superior results as compared to hydrocortisone and the placebo. Addition of neomycin to betamethasone made no difference. All cases treated with betamethasone showed dramatic improvement. Intolerance to occlusive dressing was seen in the form of a miliaria-like reaction which in some cases necessitated withdrawal of further therapy. This mode of therapy is recommended as a very useful means if the cases are selected carefully and the treatment given under proper climatic conditions.

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