

## TOPICAL METRONIDAZOLE THERAPY IN SCABIES — A PRELIMINARY REPORT

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### Summary

Ten cases of Scabies are treated with topical metronidazole emulsion. 8 patients were completely cured in 5 days. No untoward effect was noticed. The results are discussed.

Scabies occurs all over the world and in all age groups. In the past decade there has been a world-wide increase in its incidence<sup>1</sup>. At times it constitutes 50 to 60% of cases attending some Dermatology clinics in India<sup>2</sup>. The control of this disease has become difficult. The various epidemiological factors responsible for this wide spread of the disease have been studied by many workers<sup>3-6</sup>.

Various authors have reported inadequate response or therapeutic failures to the scabicial drugs in current use<sup>7-10</sup>. The possibility that some of these scabicides going in chemical combination with epidermal keratin and causing systemic toxicity on repeated applications cannot be ignored<sup>11,12</sup>. The safety of gamma benzene hexachloride in infants, pregnancy and badly excoriated skin is questioned<sup>13</sup>. Because of these reasons a constant search is going on for better drugs, for the treatment of scabies. Thiabendazole has been tried orally and topically. The side effects of this drug limit its use. An injectable scabicial preparation has been evaluated by Hemachandra<sup>14</sup>. But the number studied is

small and the injection was associated with pyrexia. Recently Mathew and Zacharia<sup>15</sup> studied the effects of orally administered metronidazole in scabies and the results were not good.

This article reviews our experience with topically applied metronidazole emulsion in the treatment of scabies.

### Material and Method

Ten patients with symptoms and signs of scabies were chosen from the Dermatology clinic of Medical College Hospital, Alleppey. In all cases diagnosis was confirmed by the microscopic finding of the parasite or its eggs. Previously treated patients and patients with eczematized lesions were not included. Of these nine patients were children between the ages of 6 and 12 years. One was a 40 years old male. Duration of the disease varied from 2 to 10 weeks. Six patients with secondary infection were studied as inpatients, for close observation and proper application of the emulsion.

Five patients were treated with 2.5% metronidazole in paraffin bees-wax emulsion and the remaining 5 were treated with 2.5% metronidazole benzyl oxalate in paraffin bees-wax emulsion. In the

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Received for publication on 30-12-1978

case of 6 children admitted in wards, the emulsion was thoroughly applied all over the body, except face following a bath. The application was done once daily for three consecutive days without bath. Four patients who were treated as outpatients were also instructed to apply the emulsion in the same way. Secondary infection was treated with intramuscular procaine penicillin. Household contacts were simultaneously treated with benzyl benzoate emulsion.

Six patients studied in the wards were retained for 10 days under observation. Other 4 patients were instructed to report on 5th and 10th days. All the patients were requested to report on the 30th day. Microscopic examination was repeated on the 5th day, in all cases.

#### Results and Comments

All the ten patients completed treatment and nine attended regularly for follow-up. One patient did not report on 10th and 30th days. Eight patients (80%) were found completely cured both clinically and microscopically, when examined on the 5th day. Progressive improvement of pruritus was noticed from second day onwards in all the 6 cases studied in the wards. Of the 4 patients treated as outpatients 2 had complete cure by the 5th day. One patient (12 years old girl) had only moderate improvement of itching on 5th day and had itchy lesions on the buttocks when examined on 10th and 30th days. No parasite could be detected from the lesions. Another patient (the adult male) had no improvement of symptoms on the 5th day and did not attend on 10th and 30th days. He had nodular lesions on the genitalia and parasites were detected from the lesions on the thigh. No attempt was made to detect the viability of the parasite. This patient had the disease for 10 weeks. Two patients were found reinfected on 30th day.

It was further observed that the improvement was quicker in younger

patients and also when the duration of the disease was short. No difference was noticed in effectiveness between metronidazole and metronidazole benzyl oxalate emulsions. Both the preparations were colourless on the body and did not stain clothes. No patient had signs of irritation or burning sensation of skin. There was no unpleasant odour.

The results of this study seem comparable to the best obtained with other antiscabetic drugs in current use. But most of them are pesticides having one or other major defect, whereas, metronidazole is extensively used for about the past 20 years without any major side effects. It has been given in all stages of pregnancy and has not been reported to cause any foetal abnormalities<sup>16</sup>. Hence the question of percutaneous absorption causing toxicity does not arise with metronidazole. The remarkable improvement of pruritus in 80% of the patients treated, tempted us to think whether topically applied metronidazole had any antipruritic action.

The possibility of inducing sensitivity by the cutaneous application, which may limit the systemic use of this valuable drug cannot be ignored. In this study we did not come across any instance of allergic sensitivity. To our knowledge, there has not been any report of allergic contact sensitivity to metronidazole.

It would seem that metronidazole possesses all the requirements of topical scabicide. However, a number of problems remain to be solved. These include determination of minimum concentration of drug needed, duration of treatment and the potential for inducing allergic sensitivity. Only a thorough evaluation procedure will answer these questions.

#### Acknowledgement

The authors are grateful to the Principal and Superintendent, Medical College, Alleppey for the permission to publish this article. The

authors are also thankful to M/s. Unique Pharmaceutical Labs., Bombay in supplying the metronidazole emulsion.

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**Felicitations**

At a meeting of the Dermatological Association of Korea, Dr. V. R. Mehta of Bombay was honoured with the Honorary membership of the Korean Association of Dermatology in appreciation of his contribution to the promotion of fellowship and development of the association.