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A double-blind study of 1% metronidazole cream versus systemic oxytetracycline therapy for rosacea

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SUMMARY

In a randomized double-blind trial fifty-one patients with rosacea were treated for 2 months with either 1% metronidazole cream and placebo tablets or with 250 mg oxytetracycline tablets taken twice daily, and placebo cream (the cream base). The patients were assessed before and at the end of the trial, using the following criteria: (1) overall clinical assessment, (2) lesion counts, (3) degree of erythema, (4) independent photographic evaluation, (5) patients' opinion. An improvement was shown in 90% of the patients of both groups, and there was no significant difference between the two treatments.

One per cent metronidazole cream has been shown to be significantly better than a placebo cream in the treatment of rosacea (Gamborg Nielsen, 1983a). It was therefore considered important to compare the cream with conventional therapy, and for this reason a double-blind study of 1% metronidazole cream versus a daily dose of 500 mg oxytetracycline was performed.

METHODS

Fifty-one randomly selected patients (thirty-four women and seventeen men, average age 44 years) with rosacea entered the trial, which took place during March, April and May of 1982. None of the patients had been treated with drugs active against rosacea during the 3 months preceding the start of the trial.

Patients were assigned at random to one of the two courses of treatment. Twenty-five were allocated to 1% metronidazole cream and placebo tablets and twenty-six to oxytetracycline tablets 250 mg twice daily, and placebo cream.

Patients were provided with 50 g of the test cream, which was applied once daily for 2 months. The cream base used for both the placebo and the metronidazole cream was an oil in water emulsion (lactic acid 1·5%, sodium lauryl sulphate 0·8%, cetylane 5%, cetanole 15% and

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distilled water 80%). Tablets were administered twice daily 30 min before meals. None of the patients were allowed to use any other treatment for their rosacea during the study period.

Before and at the end of the trial each patient underwent an overall clinical examination. including lesion counts (papules, pustules and telangiectases) and degree of erythema; this was combined with standardized photographic evaluation of the rash (Gamborg Nielsen, 1983b). At the end of the trial the patients' subjective opinion of the treatment was registered. Patients were examined for side-effects and special attention was paid to possible allergic or irritant reactions to the cream.

RESULTS

Twenty-five patients receiving 1% metronidazole cream, and twenty-three receiving oxytetracyclines completed the study. Two patients became pregnant during the study period (they stopped treatment and were excluded) and one left without reason. All three were from the oxytetracycline group. The results of the overall clinical assessment and photographic evaluation showed that there was no significant difference between the two courses of treatment (Table 1). Reduction of erythema, papules and pustules was the same in both groups, and the number and extent of telangiectases were unchanged. No side-effects were reported in either group.

TABLE 1. Number of improved patients in the metronidazole and oxytetracycline groups assessed by clinical estimation, photographic evaluation, and subjective opinion of treatment results

	1% Metronidazole cream	Oxytetracycline (500 mg)
Objective		
Clinical	24/25 (96%)	22/23 (96%)
Photographic	21/25 (84%)	21/23 (91%)
Subjective		
Patients' opinion	22/25 (88%)	21/23 (91%)

DISCUSSION

In several publications it has been shown that orally administered metronidazole is an effective treatment for rosacea (Pye & Burton, 1976; Schirner & Haneke, 1981), and also that response to such treatment is as good as that with oxytetracycline (Saihan & Burton, 1980). Recently we have shown that in rosacea topical application of metronidazole is significantly better than placebo. In the present study it was demonstrated that response to this cream does not differ significantly from that produced by systemic oxytetracycline. It has been shown that transcutaneous absorption from 1% metronidazole cream results in a blood level that is at most 1% of the level reached when the minimum oral dose necessary for improvement of rosacea is administered (Arnold, 1982). Thus fewer systemic side-effects would be expected and we found none.

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