

Treatment of Rosacea with Tetracycline and Metronidazole-A Comparative Study

Pages with reference to book, From 148 To 149

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Abstract

A prospective study was conducted to compare the efficacy of Metronidazole and Tetracycline in the management of acne rosacea.

Nineteen patients took part in the study who had papulo-pustular rosacea. Metronidazole (200 mg twice daily) was found as effective as Tetracycline (250 mg twice daily). No significant side effects of Metronidazole were observed in the eight weeks study (JPMA 35 : 148, 1985).

Introduction

Acne rosacea is a disease the etiology and pathogenesis of which is still unclear, although the increased incidence in seborrheic patients remains conspicuous. Definite connections with gastro-intestinal disturbances, focal infections, hormonal factors, or influence of light cannot be proved.

This disease consists of paralytic distension of the superficial blood vessels of the skin in the centre of the face with the cardinal physical signs of erythema, telangiectasia, papules, swelling, and pustules. In exceptional cases an enormous hypertrophy of the sebaceous glands of the nose takes place leading to the condition, known as rhinophyma. Another important complication of rosacea is the rosacea keratitis which may eventually lead to ulcerations.

The treatment of choice is tetracycline by mouth. There is wide agreement that tetracycline effectively suppresses the inflammatory component of rosacea.¹⁻³ The mode of action of tetracycline is unknown and may not be antibacterial. Recently metronidazole has been shown to be effective⁴ and this seems suggestive of an antibacterial action. In clinical situations (early pregnancy, renal failure, or hepatic failure,) where tetracyclines is contra-indicated topical tetracycline may be used together with metronidazole orally. Previous studies have shown metronidazole more effective than placebo.

Material and Methods

The study was carried out in out patient's department of Skin unit; Khyber Hospital Peshawar on 19 patients (11 females and 8 males).

Age ranged between 25-40 years. All of them had papulo-pustular rosacea, except one female patient who had telangiectasis also.

They were divided into two groups. Five females and four males were put on tetracycline 250 mg twice daily, and 6 females and 4 males were put on metronidazole 200 mg twice daily. The total number of the lesions (i.e. papules & pustules) and the degree of erythema in each individual patient were recorded prior to the beginning of the treatment.

All the patients were evaluated at weekly interval for eight weeks. The effectiveness of the drug was judged using the following criteria:

- a) Very effective:- In which the pustules, papules and erythema all disappeared.
- b) Moderately effective:- In which the papules and pustules almost disappeared but erythema persisted.
- c) Poorly effective:- In which no significant response was observed

Results

In tetracycline treated group of patients, the effectiveness was observed at the end of the first week in the form of reduction in symptoms and stoppage of the appearance of new lesions. By the end of the second week the response was still more significant with the disappearance of the pustules.

At the end of the study i.e eight weeks later, six patients out of ten (i.e. 60%) were completely free of pustules, papules and erythema of the rosacea (very effective). While three patients had only erythema and a few papules (i.e 30% moderately effective), and the response in 1 patient was poor which could be due to the irregularity in or missing of the due dose of the drug (i.e 10% poorly effective).

In second group of the patients i.e. on metronidazole the response was a little-bit delayed and was observed towards the end of the second week. However, it was then more significant at the end of the third week.

By the end of 8th week 5 patients out of 9 (i.e. 55.5%) were completely free of the lesions (very effective) while 2 patients (22.2%) had erythema with a few papules (moderately effective), 2 patients responded very poorly and they had still papules with the development of pustules off and on (Table).

Table

Comparison of the Effectiveness of the two Drugs.

Drug	Very effective	Moderately effective	Poorly effective
Tetracycline	60%	30%	10%
Metronidazole	55.5%	22.2%	22.2%

No serious complication such as keratitis or rhinophyma was noted during the whole course of study with the exception of two female patients who developed simple conjunctivitis which responded very well to the tetracycline therapy.

Discussion

Tetracycline has long been accepted as a safe and effective treatment for rosacea. Previous studies have likewise shown metronidazole to be significantly better than a placebo in the treatment of that condition.⁴

In this study both the drugs i.e. tetracycline and metronidazole produced improvement, which was greater after 8 weeks than after 4 weeks. One may only speculate as to the mode of action of metronidazole in this disease of unknown etiology as the drug is active against a wide variety of protozoa and anaerobic bacteria and has also anti-inflammatory and immuno-suppressive effects.^{5,6}

Although relatively safe, metronidazole can occasionally cause headache by a disulfiram-like effect⁷ R. may be neurotoxic⁸ and has mutagenic effects on some bacterias,⁹ but none of these effects were seen in these patients.

A similar study was performed by other workers¹⁰ comparing the effects of metronidazole to tetracycline on 40 patients with papulo-pustular rosacea. Their results were similar to those of this study.

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