

## COMPARATIVE STUDY OF TOPICAL IMIDAZOLES IN DERMATOPHYTOSIS

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A total of 270 patients suffering from dermatophytosis, divided in 3 equal groups of 90 patients each, were treated with topical miconazole, econazole and clotrimazole for a period of 6 weeks. Miconazole was found slightly superior amongst the 3 with cure rate of 97.7%, while 93.3% cure rate was observed with econazole and 92.8% with clotrimazole. *Trichophyton rubrum* was the commonest fungal species isolated on culture.

**Key Words :** Miconazole, Econazole, Clotrimazole, Dermatophytosis

### Introduction

Imidazole derivatives (miconazole, econazole and clotrimazole) are now well established topical antifungal agents. They are not only effective against dermatophytes and yeasts but also against gram positive bacteria. The aim of the present study was to compare the efficacy of miconazole, econazole and clotrimazole in the treatment of dermatophytosis.

### Material and Methods

270 clinically diagnosed and untreated patients of dermatophytosis attending out-patient department at SVBP Hospital, LLRM Medical College, Meerut were included in this study. The diagnosis was confirmed by KOH smear examination. For identification of fungal species cultures were carried out by inoculating scraped material on Sabouraud's media.

Patients were divided in 3 groups of 90 patients each. Each group was treated with

1% cream of miconazole, econazole and clotrimazole respectively. Patients were advised to apply cream twice daily on affected sites. Patients were followed up at weekly intervals for 6 weeks. Any adverse effect(s), clinical response and mycological findings were recorded on each visit. On the basis of therapeutic response, improvement was graded as follows :

Grade O : No improvement.

Grade I : Persistence of few papular lesions or erythema with mild to moderate itching.

Grade II : Scaly lesions with or without itching..

Grade III : Disappearance of original lesions with or without residual pigmentation.

Drop outs were discarded from the study.

### Results

In each group, there were 90 cases which included *T. corporis* (30), *T. cruris* (28), *T. manuum* (18), *T. pedis* (6) and mixed type (8). All cases were KOH positive. Fungal species isolated were *Trichophyton rubrum* (201), *Trichophyton*

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*mentagro-phytes* (41) and *Epidermophyton floccosum* (28).

In first group out of 90 patients treated with miconazole 88 (97.7%) had complete cure while 2 patients had partial response. In second group out of 90 patients treated with econazole 84 (93.3%) had complete cure while 6 patients had only partial response. In third group only 83 (92.2%) out of 90 patients treated with clotrimazole were completely cured while rest 7 patients had partial response. The details of therapeutic response according to clinical types is shown in Table I.

No adverse effect was observed in any group.

### Comments

Earliest response and highest cure rate (97.7%) were observed in patients treated with miconazole while earlier reports varied from 60% to 100% with this drug as reported by Botter (1971),<sup>1</sup> Svejgaard (1973),<sup>2</sup> Haribhakti et al (1974),<sup>3</sup> Gentles et al (1975),<sup>4</sup> Shroff et al

(1975),<sup>5</sup> Kaur et al (1979),<sup>6</sup> and Rajendran et al (1990).<sup>7</sup>

Patients treated with econazole and clotrimazole showed 93.3% and 92.2% cure rates respectively. With these drugs almost similar results are reported by other workers, Shimzaki (1978),<sup>8</sup> Adam et al (1981).<sup>9</sup> Sethi et al (1983).<sup>10</sup>

In this study, though the response with miconazole was slightly better than other 2 drugs but the overall difference was not statistically significant.

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**Table I.** Response of treatment in various clinical types

Clinical types	Total no. of cases	Treatment					
		Miconazole		Econazole		Clotrimazole	
		Complete cure Grade III	Partial cure Grade I & II	Complete cure Grade III	Partial cure Grade I & II	Complete cure Grade III	Partial cure Grade I & II
T. Corporis	30	30	-	30	-	29	1
T. Cruris	28	28	-	28	-	27	1
T. Manuum	18	17	1	15	3	16	2
T. Pedis	6	6	-	4	2	4	2
Mixed type	8	7	1	7	1	7	1
Total	90	88	2	84	6	83	7
Percentage		97.7%	2.3%	93.3%	6.7%	92.8%	7.2%

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