

## COMPARATIVE EFFICACY OF 20% SODIUM THIOSULPHATE, 2% MICONAZOLE AND 1% ECONAZOLE IN PITYRIASIS VERSICOLOR AND PERSISTENCE OF HYPOPIG- MENTATION FOLLOWING TREATMENT

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Fifty cases of pityriasis versicolor, confirmed mycologically, were each treated with either 20% sodium thiosulphate solution, or 2% miconazole nitrate cream or 1% econazole nitrate cream. Patients were followed up at second, fourth and sixth weeks. Degree of repigmentation was noted and KOH preparation done at each visit to determine mycological cure. At the end of six weeks all the patients using all regimes were mycologically cured but only 30.4% showed complete repigmentation in the lesions.

**Key words :** Sodium thiosulphate, Miconazole, Econazole, Pityriasis versicolor, Hypopigmentation.

Many preparations have been found useful in the treatment of pityriasis versicolor, but none is uniformly successful and recurrence of the disease is common. We have tried to compare the relative efficacies of sodium thiosulphate solution (20%), miconazole nitrate cream (2%) and a relatively new drug (1%) econazole nitrate cream in the treatment of pityriasis versicolor. An attempt is also made to determine the period of persistence of hypopigmentation after treatment.

### Materials and Methods

Fifty patients in whom the diagnosis of pityriasis versicolor was confirmed by KOH preparation and who were not on any topical medication for at least two weeks prior to the commencement of the trial were studied. Three medications, 20% sodium thiosulphate solution, 2% miconazole nitrate cream and 1% econazole nitrate cream were used for the trial. In all the patients a representative lesion was chosen for observation and a KOH preparation was done from that site to confirm the diagnosis. Patients were instructed to apply one medication topically twice daily after bath and were advised

to come for follow up after two weeks, four weeks and six weeks. Details of regularity of treatment and side effects, if any, were recorded during follow up. The chosen lesion was observed for repigmentation clinically and a KOH preparation was done from the same site. Repigmentation was recorded as complete when no lesions could be observed.

### Results

Results of KOH preparations of patients who came for follow up is shown in table I and the number of patients who showed complete repigmentation is shown in table II.

### Comments

Hypopigmentation in pityriasis versicolor was initially thought to be due to the mechanical screening effect of scales. It has recently been attributed to the inhibition of tyrosinase in skin melanocytes by the fungus.<sup>1</sup>

Tanenbaum et al<sup>2</sup> studied the relative efficacy of 1% sulconazole cream and 2% miconazole cream in a double blind study and found that the three weeks twice daily application of sulconazole resulted in negative KOH preparation in 93% of the patients and complete clearing of the lesions in 89%. Miconazole application produced negative KOH preparation in 87%

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**Table I.** The result of KOH preparation of the patients followed up.

Medication	Number (%age) of patients having KOH negativity after		
	2 weeks	4 weeks	6 weeks
20% sodium thiosulphate	11 (68.75%)	8 (72.7%)	10 (?%)
2% miconazole	16 (66.6%)	17 (100%)	9 (?%)
1% econazole	3 (33.8%)	7 (100%)	4 (?%)
Total :	30 (61.2%)	32 (91.4%)	23 (100%)

**Table II.** Number of patients (out of the total) showing complete repigmentation after treatment.

Medication used	Complete repigmentation		
	2 weeks	4 weeks	6 weeks
20% sodium thiosulphate	Nil (16)	Nil (11)	2 (10)
Miconazole	Nil (24)	4 (17)	4 (9)
Econazole	Nil (9)	Nil (7)	1 (4)
Total :	Nil (49)	4 (35)	7 (23)

and complete clearing of the lesions in 82% of cases. In our study 61.2% of patients were KOH negative after 2 weeks. While repigmentation was not seen in any case. After 4 weeks 91.4% were KOH negative and 11.4% showed complete repigmentation in the lesion. Though KOH negativity was 100% only 30.4% showed complete repigmentation after 6 weeks. Thus it is clear that even after mycological cure a residual hypopigmentation persists for a variable duration. Also to be considered is the

fact that most of the patients in this study were of dark complexion where the residual hypopigmentation is more prominent. Most of the authors have found mycological cure after three to four weeks of therapy.<sup>3,4</sup>

Clinically miconazole appeared to be more effective than others with 23% and 44% of the patients showing complete repigmentation at the end of 4th and 6th weeks respectively, but statistically there was no significant difference between efficacies of all the three medications ( $P < .05$ ). Our observation shows that econazole which is a relatively new drug, is not superior to 20% sodium thiosulphate which is more economical, though cosmetically, it is less acceptable. We also feel that continuation of treatment has no bearing on repigmentation which takes its due course and may be accelerated by psoralen and ultraviolet rays (PUVA).<sup>5</sup>

## References

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