

A CLINICO-MYCOLOGICAL STUDY OF TINEA PEDIS IN NORTH EASTERN INDIA

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A total of 2306 patients were examined for the clinical evidence of tinea pedis. Only 52 of these were found to suffer from this condition. *Trichophyton rubrum* was the commonest (47.6%) isolate and it produced predominantly non-inflammatory scaly lesions. *T. mentagrophytes* was the next commonest (21.4%) agent: it was responsible for most of the macerated lesions.

Key words : Tinea pedis.

Tinea pedis is less common than the other types of dermatophytoses in India.¹ The tendency for overlap in the clinical pattern of tinea pedis with other scaly dermatoses involving the feet has often led to considerable diagnostic confusion. In the present study, we have attempted to isolate the dermatophyte species responsible for cases clinically suspected to be suffering from tinea pedis. We have also tried to correlate them with the clinical pattern.

Materials and Methods

A total number of 2306 patients attending the Skin OPD for various problems were examined for the clinical evidence of tinea pedis during a one-year period.

Scaling, erythema and itching were chosen as significant criteria for a clinical diagnosis. The site, extent and the presence of tinea over other sites of the body were also noted. A routine wet mount of scales in 10% KOH and culture in Sabouraud's dextrose peptone agar with cyclohexamide and chloramphenicol² were done. Corn meal with 1% dextrose³ was used to differentiate *T. rubrum* from *T. mentagrophytes*.

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Results

Out of 2306 subjects examined, only 52 (2.25%) had clinical evidence of tinea pedis. Thirty seven (71.15%) of these were positive by wet mount while 42 (80.7%) were positive by culture.

Candida species was isolated in 11 (26.2%) subjects. Of the 31 dermatophyte isolates (Table I) *T. rubrum* was the commonest derma-

Table I. The dermatophytes and the *Candida* sp isolated.

Agents isolated	Number	Percentage
<i>T. rubrum</i>	20	47.6
<i>T. mentagrophytes</i>	9	21.4
<i>T. tonsurans</i>	1	2.4
<i>T. violaceum</i>	1	2.4
<i>Candida</i> sp	11	26.2
Total	42	100.0

tophyte species isolated in 20 (47.6%) cases. The next common (9 isolates) was *T. mentagrophytes*.

The two main clinical types of lesions seen were, (1) the dry, scaly and erythematous, and (2) the macerated. *T. rubrum* infection commonly manifested as dry scaly lesions. This clinical picture was seen in 19 (95%) of the 20 patients (Table II). Whereas of the 9

Table II. Types of clinical lesions produced by agents isolated from tinea pedis.

Dermatophyte	Dry scaly lesions		Macerated lesions		Total
	Number	Percentage	Number	Percentage	
<i>T. rubrum</i>	19	95.0	1	5.0	20
<i>T. mentagrophytes</i>	5	55.6	4	44.4	9

isolates of *T. mentagrophytes*, 5 (55.5%) were from dry, scaly macules, the remaining 4 (44.4%) were from the macerated type. The latter type was infrequent (5%) with *T. rubrum* infection.

Tinea over other sites of the body was seen in 11 (21.2%) of 52 patients with tinea pedis, while it was seen in 171 (7.59%) of 2254 patients without tinea pedis.

Comments

Hall⁴ recovered *T. mentagrophytes* from 50.4% of 149 positive cultures. English et al⁵ found tinea pedis in 40.8% of 358 men examined. Half of these were due to *T. rubrum*, 0.7% due to *E. floccosum* and 11.7% were due to mixed infection; 11.6% were KOH positive but culture negative. In India, Vasu⁶ found *T. rubrum* to be the prominent dermatophyte species (60%) causing tinea pedis. In our series also *T. rubrum* was the commonest dermatophyte isolated (64.5%) followed by *T. mentagrophytes* (29%).

The clinical pattern of the disease varies from areas of slight scaling and erythema to lesions with vesicles and papules.⁷ Baxter⁸ described three clinical types comprising intertriginous inflammation, vesiculo-bullous and dry squamous macules. In the present study, the dry scaly erythematous and the macerated lesions were the two main clinical types observed. *T. rubrum* was the most frequent isolate from the dry lesion.

Blank and Mann⁹ observed tinea pedis in 84% of male and female patients with dermatophytosis. Tinea pedis appeared to be the first manifestation of a more widespread infection in their patients. Whereas in our series only 2.25% of 2306 individuals examined showed tinea pedis which is similar to other reports from India.^{12,10} This low incidence of tinea pedis in India may be due to the habit of not using shoes regularly by a large section of our people.

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