

## MYCOLOGY OF TINEA CORPORIS & TINEA CRURIS IN DELHI

RATAN SINGH \* DR. (MRS.) KUMARI † V. P. JERATH ‡

### Summary

Out of 138 cases of superficial mycoses, positive on direct KOH mount, culture was positive in 106 (76.8%) cases. The organisms isolated included *Trichophyton rubrum* in 74.5% cases; *Epidermophyton floccosum* in 14.2% cases; *Trichophyton mentagrophytes* in 1.9% cases; *Trichophyton violaceum* in 0.9% and *Aspergillus flavus* in 0.9% cases. In 7.6% cases, *Trichophyton* species could not be identified further.

Majority of the cases were in the age group 11 – 40 years. Males were more commonly affected than females. Tinea cruris in 57.3% was the commonest clinical type followed by tinea corporis in 25.4%.

In Delhi, *Trichophyton rubrum* is the commonest dermatophyte reported in various studies,<sup>1-5</sup> except for the study by Behl and Sharma<sup>6</sup> from Irwin Hospital (now known as L. N. J. P. N. Hospital), in 1957 wherein they reported *Trichophyton mentagrophytes* as the commonest isolate in 47.3% cases with *Trichophyton rubrum* isolated in 26.3% cases. The clientele of L. N. J. P. N. hospital is different from that of other Delhi hospitals in that a majority come from slum areas. A study was therefore undertaken to reassess if this difference in clientele could explain the difference in the mycology of dermatomycoses.

### Material and Methods

One hundred and thirty eight patients with superficial mycoses who were positive on KOH examination of the scrapings, were selected from the Dermatology out-patient Department, L. N. J. P. N. Hospital, New Delhi. Only cases of tinea cruris and corporis without eczematization were selected. Data on age and sex of the patients were also collected. Skin scrapings from the cleaned active border were examined after digestion with 10% KOH, on glass slide, under light microscope.

The scraped material was also inoculated onto the Sabourauds' Dextrose agar with chloramphenicol and cycloheximide, incubated aerobically at 37°C temperature upto six weeks and observed weekly for any growth. Isolates were identified by colony and other characteristics.

### Results

Dermatophytes were isolated in 106 (76.8%) out of 138 specimens. *Trichophyton rubrum* was the most common

\* Professor & Head

† Department of Microbiology

‡ Resident

Department of Dermatology & Venereology  
Maulana Azad Medical College & Associated  
L.L.J.P.N. & G.B. Pant Hospitals,  
New Delhi-110002

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type found in 79 (74.5%) cases, followed by *Epidermophyton floccosum* in 15 (14.2%) cases; *Trichophyton* with unidentifiable species in 8 (7.6%) cases; *Trichophyton mentagrophytes* in 2 (1.9%) cases; *Trichophyton violaceum* in 1 (0.9%) case and *Aspergillus flavus* in 1 (0.9%) case (table I).

TABLE 1  
Dermatophytes isolated from various cases

Type isolated	No. of cases	Percentage
<i>Trichophyton rubrum</i>	79	74.5
<i>Epidermophyton floccosum</i>	15	14.2
<i>Trichophyton</i> species	8	7.6
<i>Trichophyton mentagrophytes</i>	2	1.9
<i>Trichophyton violaceum</i>	1	0.9
<i>Aspergillus flavus</i>	1	0.9

Out of 138 patients with superficial mycoses, 79 (57.25%) were suffering from tinea cruris; 35 (25.36%) had tinea corporis and 24 (17.39%) had both tinea cruris and corporis. Table II depicts the age and sex distribution of patients. The incidence of dermatomycoses was much more among males (82.6%) than females (17.4%).

TABLE 2  
Age in years and sex of various patients

Clinical types	11-20		21-30		31-40		41-50		50 & above	
	M	F	M	F	M	F	M	F	M	F
Tinea corporis	1	1	10	7	8	2	3	1	1	—
Tinea cruris	21	1	23	8	13	2	12	—	1	—
Tinea corporis & cruris	3	—	5	—	7	1	6	1	—	—
Total	25	2	38	15	28	5	21	2	2	—

*Epidermophyton floccosum* was isolated from 7 cases of bilateral tinea cruris, one case of unilateral tinea cruris, and 2 cases of tinea corporis involving the non-intertriginous sites.

**Discussion**

*Trichophyton rubrum* was found to be the main aetiologic agent in the present study and this is consistent with

the findings of other authors<sup>1-5</sup> from Delhi except that of Behl and Sharma<sup>6</sup>.

*Epidermophyton floccosum* was isolated from 15 (14.15%) cases. Such a high isolation has not been previously reported from this part of the country. Kalra et al<sup>1</sup> and Gugnani et al<sup>3</sup> could isolate *E. floccosum* in 3.1 and 3.2 percent cases only. *Epidermophyton floccosum* is said to involve intertriginous areas bilaterally<sup>7</sup>, but in the present study unilateral lesions were found in one case of tinea cruris and 2 cases of tinea corporis involving the non-intertriginous sites.

*Trichophyton* group in which species was not identified was found in 8 (7.5%) cases. *Trichophyton violaceum* was isolated in one (0.9%) case. This finding is in conformity with the findings of Gugnani et al<sup>3</sup>. *Trichophyton mentagrophytes* was isolated in 2 (1.89%) cases only. Other authors<sup>2,8</sup> could isolate it in a slightly higher percentage of cases. Behl and Sharma<sup>6</sup> from the same institution 21 years ago, reported *T. mentagrophytes* as the commonest isolate in 47.3% cases and *T. rubrum*

in 26.3% cases. It is difficult to explain their findings. *Aspergillus flavus* was isolated in one (0.94%) case of dermatomycoses. This might have been a laboratory contaminant.

The present study revealed that superficial fungal infection was more common in the age group of 20-30 years which is in conformity with other reports<sup>9-10</sup>.

The incidence of dermatomycoses was much more in males (82.6%) than in females which is again consistent with other reports<sup>11, 12, 14</sup>.

*Tinea cruris* was the commonest clinical type which is in agreement with observations by some authors<sup>8, 11</sup>. Certain other authors<sup>1, 2, 15</sup> have reported *tinea corporis* as the commonest type.

In conclusion, *Trichophyton rubrum* was the most commonly isolated dermatophyte. This finding is in agreement with the findings in many previous reports<sup>1, 4, 12, 16</sup> from this part of the country.

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