

## Dermatomycosis caused by common and rare fungi in Mumbai

Sir,  
Dermatophytoses are the infections of keratinized tissues

caused by a group of closely related fungi known as dermatophytes while the term dermatomycosis includes dermatophytoses and infections by non-dermatophyte molds.<sup>[1-3]</sup> The clinical presentation may often be confused with other skin disorders due to the rampant application of broad-spectrum steroids and other ointments. We, at the Department of Microbiology studied the occurrence of common and uncommon prevailing fungi causing dermatomycosis.

Out of 328 suspected cases of dermatomycosis, a total of 99 skin scrapings, 62 scalp hair samples and 166 nail samples were processed in the period of 2005–2006. Microscopy using 10% KOH was followed by cultures on modified Sabouraud's dextrose agar (SDA) with chloramphenicol (0.05 mg/mL) and cycloheximide (0.5 mg/mL). Fungal species were identified by cultural characteristics, pigment production, rates of growth, lactophenol cotton blue (LPCB) preparations and slide cultures on potato dextrose agar (PDA). The urease test was used to differentiate between *T. rubrum* and *T. mentagrophytes*. SDA was used to identify *Candida* spp with the aid of LPCB preparations. In addition, the germ tube (GT) test, growth on corn meal agar (CMA) and sugar assimilation tests were also used.<sup>[1]</sup>

Out of 99 skin scrapings, fungal elements could be seen in 25 cases and culture was positive in 15 cases (15.15%). Out of these 15 isolates, *T. rubrum* was isolated in 40% (6/15) cases, *T. violaceum* in 26.66% (4/15) cases, *T. mentagrophytes* was isolated in 13.13% (2/15), *T. schonlenii*, *Fusarium* spp. and *Exophiala* spp. were isolated in one case each.

Eight (12.69%) dermatophyte species were isolated from 63 hair samples collected from scalp hairs. Among the culture-positive hair samples, the most common organism isolated was *T. violaceum* (62.5%, 5/8), while *Microsporum gypseum*, *T. mentagrophytes* and *T. schoenleinii* were isolated from endo-thrix cases.

From 166 cases of nail samples, cultures were positive in 27 cases (16.26%). Of these 27 cases, the most common isolate was *T. violaceum* (22.22%, 6/27) followed by *T. tonsurans* in 14.81% cases (4/27). *T. rubrum*, *T. mentagrophytes*, *C. albicans*, *C. tropicalis*, each comprised 11.11% of the 27 cases. *E. floccosum*, *T. schonlenii*, *C. parapsilosis*, *C. krusei* and *Scopulariopsis* spp. were isolated from one case each. Blue-collar workers (74.07%, 20/27) followed by housewives (25.92%, 7/27) were commonly found to suffer from onychomycosis.

In our study, *T. rubrum* was the most common isolate from the skin in 40% (6/15) of culture positive cases, followed by

*T. violaceum* in 26.66% of the cases and *T. mentagrophytes* in 13.13% of the cases (2/15). This is comparable with other studies showing *T. rubrum* as the most common isolate<sup>[4]</sup> isolated from glabrous skin of the body, groins and feet as reported earlier.<sup>[5]</sup> The most prevalent clinical type seen was tinea cruris (60%) followed by tinea corporis (33.33%). This is in agreement with other published reports.<sup>[6]</sup> The second most common isolate in this study was *T. violaceum*, which is in contrast with other studies,<sup>[2,4]</sup> in which *T. mentagrophytes* was the second most common isolate. The presence of non-dermatophytic fungi, *i.e.* *Fusarium* spp. and *Exophiala* spp. was reported in this study.

The most common isolate in the scalp hair samples was *T. violaceum* (62.5%) and *T. rubrum* was the least common isolate in our hair samples as reported earlier.<sup>[2]</sup> The striking feature among the culture-positive cases of onychomycosis in this study was that *T. violaceum* was the most common isolate (22.22%), which is in contrast to other studies from India.<sup>[7]</sup> *C. krusei* is a lesser known species of *Candida* which is currently emerging as a pathogen and *C. krusei* was isolated from one case in this study. *Scopulariopsis* spp. which is reported to be a ubiquitous soil fungus causing nondermatophytic nail infections in a majority of cases,<sup>[8]</sup> was isolated from one case of onychomycosis in our study. Our study shows that dermatophytes as well as other fungi may cause infection of the skin, hair or nails, hence, a high index of suspicion is required to implicate and identify the isolates.

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