

ONYCHOMYCOSIS IN AN INFANT

V. RAMESH* AND B. S. N. REDDY†

Summary

Distal subungual onychomycosis, caused by *Trichophyton rubrum*, in an otherwise healthy three months old infant, is described. This appears to be the youngest patient with this disease reported in the English literature.

KEY WORDS: Onychomycosis, *Trichophyton rubrum*.

Onychomycosis is due to an invasion of the nail(s) by fungus. The etiologic agents are varied and have been broadly classed under three groups—dermatophytes, moulds and the yeasts. Adults are the common victims and this is well documented particularly in the case of dermatophytic onychomycosis¹. Onychomycosis is rare in children and the youngest patient reported is a fourteen months old². Our report is interesting being a case of onychomycosis in a child, only three months of age.

Case Report

A 3 months old female infant (Fig. 1) was brought by the mother with the complaint of progressive nail dystrophy, starting from the age of one month. Initially, the nails of the right index and middle fingers were affected,



Fig. 1
3 months old infant

* Senior Resident, Deptt. of Dermatology, Safdarjung Hospital, New Delhi 110029.

† Assistant Professor, Deptt. of Dermatology and Venereology, JIPMER, Pondicherry Tamilnadu.

Address for communication :

Dr. V. Ramesh, Sector III/580
R K. Puram, New Delhi 110022.

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and subsequently the other nails including those of the left hand and right big toe were involved. There was no history of mycotic skin lesions in the family members, both in the present and recent past. No pet animals were reared in the house.

Examination of the nails revealed subungual hyperkeratosis and light brown discoloration. The disease had started from the free margin of the nail, conforming to the distal subungual type of onychomycosis. All the finger nails, except that of the right index finger, and the right big toe nail were affected (Figs. 2a & b). The extent of nail involvement varied in severity in the affected nails. Nail folds were normal. No mycotic lesions were seen on the skin. Absence of mycotic lesions in the family members was confirmed by examination of all members.

Investigations

Nail samples were taken for mycological examinations. Direct microscopic examination in a 10% KOH preparation revealed the presence of

numerous mycelia, some of them breaking up into arthrospores. *Trichophyton rubrum* was isolated on culture in Sabouraud's dextrose agar medium containing cycloheximide.

Comments

The present case describes a three months old child with distal subungual onychomycosis. Multiple nails were affected and *Trichophyton rubrum* was the isolate from the nails. In the report by Shmunese², though *Trichophyton rubrum* was the pathogen isolated from the nails, the unaffected nails were structurally noted to be abnormal. This decrease in natural integrity explains the enhanced susceptibility of the nail for fungal invasion³. However, the unaffected nails in our patient were normal and there were no associated mycotic skin lesions. This

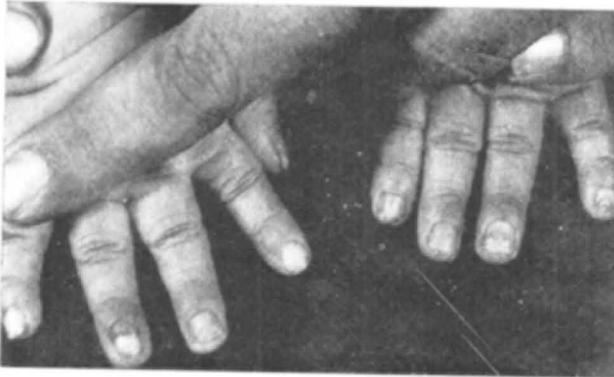


Fig. 2
Distal subungual onychomycosis of (a) the finger nails, and



Fig. 2
(b) the toe nail.

selective and extensive nail involvement may be attributed to the fact that *Trichophyton rubrum* is accredited with an affinity for attacking hard keratin⁴. Further, the clinical picture of multiple nail affection is also in favour of *Trichophyton rubrum*⁵. Knowing that fungal infections are communicable, it is rather intriguing that apart from the infant, none of the intrafamilial members had any evidence of superficial mycoses. Based on the fact that fungal infections are very common in India, and the anthropophilic nature of *Trichophyton rubrum*, we speculate that the child may have contracted the infection from one of the frequent family visitors. These observations also emphasise the fact that *Trichophyton rubrum* in particular spares no age group and the inherent

factors responsible for its virulence have yet to be clearly defined.

References

1. Roberts SOB & Mckenzie DWR: Tinea unguium, In Textbook fo Dermatology, Ed Rook A, Wilkinson DS & Ebling FJG, Blackwell Scientific Publications, Oxford; 1979, p 807.
2. Shmunes E: Onychomycosis in a 14 months old child, Sth Med J (Bgham, Ala), 1976; 69 : 1097-1098.
3. English MP: Nails and Fungi, Br J Derm 1976; 94 : 697-701.
4. Rosman N: Infections with Trichophyton rubrum, Br J Derm 1966; 78 : 208-212.
5. Ramesh V, Singh R, Reddy BSN, Kumari S: A Clinico-Mycological study of onychomycosis, Ind J Dermatol Venereol Leprol 1982; 48 : 145-150.