

Brief Communication

CANDIDIAL ONYCHIA AND PARONYCHIA IN AHWAZ

Candidiasis (onychia and paronychia) is one of the most prevalent clinical forms of cutaneous candidiasis which has world wide distribution.¹⁻³ Candidial paronychia is a chronic and inflammatory infection of nail folds. Typically redness, inflammation, and painful swelling of the paronychial tissues are characteristic of paronychial candidiasis. Onychia and paronychia are a chronic infection of the nail plate characterized by brownish or greenish discoloration, rising lateral borders and erosion of the nails.³ Hardness, thickness and white to brown discoloration of nails are other symptoms of onychia. Onychomycosis is an opportunistic disease and is usually caused due to impaired barrier functions in healthy individuals. The disease is common form of candidiasis in individuals whose hands are frequently immersed in water; for example, bartenders, canners, fruits sorters, bakery workers, dishwashers, and fishmongers.

Toenail and fingernail clippings, skin scrapings and swabs were collected from 278 patients whose nails appeared dystrophic. KOH (10-20%) and KOH/DMSO (dimethyl sulphoxide) solutions were used for the preparation of microscopic slides from nail clippings and skin scrapings. The microscope slides from swabs were stained by Gram or methylene blue stains. Ovoid yeast cells, budding cells and pseudohyphae were the morphological forms of *Candida* species that were seen in clinical materials. All clinical materials were cultured on Sabouraud's dextrose agar with chloramphenicol (SC), and incubated at 30-37°C for 1-2 weeks aerobically and then isolates were mainly identified by germ-tube test, production of chlamydoconidia on corn meal agar, growth at 45°C and API 20C AUX kits.

165 (59.3%) of the 278 patients had Candidiasis (onychia and paronychia). The highest prevalence of disease in the present study was found in patients between 21-40 years of age (58%). Moghaddami and Shidfar reported *Candida* onychomycosis in the age groups of 0-5 and 24-29 years.⁵ Onychomycosis in children is relatively uncommon, with a prevalence of approximately

0.3% worldwide.⁴ However in the present study children were the second group in which *Candida* onychomycosis was more prevalent (18.2%). There are behavioural factors (occupation, lifestyle, sports) which favour contact with the pathogenic fungus. *Candida* onychomycosis is probably the most common nail disease in adults.⁵ Furthermore the disease is predominating in females (84.8%), similar to that reported by other investigators in Iran.^{3,6,7} The frequency of Candidiasis (onychia and paronychia) among the women in our study and in the other studies conducted in different areas in Iran, reflects the significance of the disease among Iranian women and could be attributed to their life-styles. A higher incidence of candidiasis of the finger nails (95.8%) was observed in women. These results agree with Khosravi and Mansouri⁶ and Moghaddami and Shidfar³ in Tehran and Bokhari et al.¹ in Pakistan. Higher frequency of onychia and paronychia in Iranian housewives (60%) may be due to continued immersion of finger nails in water, for example, hand washing.

Onychia of finger nails was the most common form of infection in the patients (95.8%) and only 4.2% of patients had both fingernail and toenail infection. The frequency of onychia was higher (67.3%) than paronychia (32.7%) in patients. The duration of infection was from 1 up to 36 months. In this study the period of infection in most patients (45.4%) was between 1-6 months, followed by 23.1% for 7-12 months, and 21.2% in less than 36 months and only in 10.3% of patients was it less than 1 month.

Candida albicans is the most pathogenic *Candida* species, and as a result it is the most important etiologic agent of candidiasis.⁸ In our study we found that onychomycosis was mostly caused by *C. tropicalis*, followed by *C. albicans* and *C. parapsilosis*. However, other investigators have reported *C. albicans* and *C. parapsilosis* as the most predominant species of onychomycosis in Tehran.^{3,6} Other yeasts less commonly detected were *C. krusei*, *C. guilliermondii*, *C. pseudotropicalis*, *C. humicola* and *C. lipolytica*. There is still little data available about the epidemiology of onychia and paronychia in Iran; however we conclude that the disease has considerable importance in Ahwaz and in contrast to other reports *C. tropicalis* is among

Corresponding author: Ali Zarei Mahmoudabadi, Department of Medical Mycology and Parasitology, School of Medicine, Jundishapur University of Medical Sciences, Ahwaz, Tel: (0611) 3330074, 2214007, Fax: (0611) 3332036, Email: zarei40@hotmail.com

Candidiasis in Ahwaz

the main etiologic agents.

ALI ZAREI MAHMOUDABADI, B.Sc., M.Sc., Ph.D.

From the Department of Medical Mycology and Parasitology, School of Medicine, Jundishapour University of Medical Sciences, Ahwaz, Iran.

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