

عنوان مقاله:

Identification of Candida species isolated from patients with onychomycosis by PCR-RFLP method and determination of their susceptibility to antifungal drugs in Mashhad

محل انتشار:

بیستمین کنگره بین المللی میکروب شناسی ایران (سال: 1398)

تعداد صفحات اصل مقاله: 1

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خلاصه مقاله:

Introduction and objective: Onychomycosis are the most common nail disorder and affects almost 5% of the world population. Yeasts especially candida species (Candida SP) are very important as a responsible pathogen for nail infections. Due to the resistance of some candida SP to antifungal drugs and because of the fact that the outbreak of this disease and its causes are different in various regions, the present study was designed to identify candida species in patients referred to the diagnostic laboratories of Mashhad University Hospitals and to determine their susceptibility to antifungal drugs. **Materials & Methods:** In this study, a total of 210 patients clinically suspected to have onychomycosis were examined by both direct examination and culture. Clinical materials were collected from the abnormal nails. After direct examination using KOH 20%, the nail samples were inoculated on sabouraud dextrose agar containing chloramphenicol with and without cycloheximide. The cultures incubated in 250c and 370c aerobically for 4 weeks and checked twice weekly for any growth. Initial identification was done based on conventional methods and by using Candida chrome agar. After DNA extraction, PCR-RFLP method was done for identification of candida species. **Results:** Of the 210 patients examined, 51(24.2%) were mycologically proven cases of candidal onychomycosis. Female with 37 (72.5%) affected more frequently than male 14 (27.5%) and in both sexes, those who were 30-39 years old, more infected. The age range of the patients studied was 2-78 years old. Fingernails with 38 (74.5%) affected more frequently than toenails 11 (21.6%); 2 patients had both infections on finger and toe nails. The most frequent detected candida species was Candida parapsilosis (n=23), followed by C.albicans (n=21), C.tropicalis (n=2), C.glabrata (n=2), C.guilliermondii (n=2) and C.famata (n=1). MIC90 clotrimazole, nystatin, itraconazole and fluconazole was 2 µg / ml, 1 µg / ml, 0.016 µg / ml and 0.5 µg / ml for Candida parapsilosis respectively. The highest resistance was observed in non-albicans species to fluconazole and clotrimazole, so that resistance to these drugs was 50% in C.parapsilosis. The resistance to clotrimazole was also 50% in C.glabrata. **Conclusion:** C. parapsilosis

and *C. albicans* were the most common species involved Onychomycosis patients in Mashhad. The most resistant species to the antifungal drugs were *C. tropicalis* and *C. glabrata*

کلمات کلیدی:

Candida, PCR-RFLP, Onychomycosis, antifungal drug

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