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I-ASAD- *In vitro* antifungal susceptibility testing of 5 antifungal agents against dermatophytic species by CLSI(M38-A) micro dilution method

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Cases of dermatophytoses have increased over the past few decades. In the last few years, a number of newer less toxic antifungal drugs have become available for clinical use. The increased use of antifungal, often for prolonged periods, has led to the recognition of the phenomenon of acquired antifungal resistance among previously susceptible strains or species and to the increased incidence of infections with less common species. Our study mainly focused on the *in vitro* susceptibility of clinical isolates of dermatophytes. The microbroth dilution method was performed according to CLSI standards. In the present study, antifungal susceptibility testing was done by micro dilution method of dermatophytes against 5 antifungal agents namely, ketoconazole (imidazoles) fluconazole, itraconazole (triazoles), griseofulvin and terbinafine and their activity against significant number of strains, representing a wide spectrum of dermatophyte species is assessed.

Dermatophytic strains: A total of 119 strains of dermatophytes belonging to 10 species were tested. They were *T. rubrum* (n=40), *T. mentagrophytes* (n=19), *T. violaceum* (n=15), *M. gypseum* (n=12), *E. floccosum* (n=9), *M. audouinii* (n=8), *T. schoenleinii* (n=5), *M. canis* (n=5), *T. tonsurans* (n=4) and *T. verrucosum* (n=2). The MIC ranges of all the 119 isolates of dermatophytes tested for antifungal susceptibility showed that terbinafine had the lowest MIC range of 0.001 to 0.64 µg/ml followed by ketoconazole at a MIC range of 0.01-3.84 µg/ml. The itraconazole showed a MIC range of 0.082-20.45 µg/ml whereas the griseofulvin and fluconazole showed a highest MIC range of 0.32-5.12 µg/ml. The MIC₅₀ of terbinafine was low at 0.02 µg/ml followed by ketoconazole 0.24 µg/ml. The MIC₅₀ of itraconazole and griseofulvin was 1.28 µg/ml. The highest MIC₅₀ with 2.56 µg/ml was recorded for fluconazole. The MIC₉₀ of terbinafine was low at 0.32 µg/ml followed by ketoconazole with 1.92 µg/ml. The MIC₉₀ Itraconazole was 2.50 µg/ml and for griseofulvin it was 2.56 µg/ml. The highest MIC₉₀ of fluconazole was high at 10.24 µg/ml. In our study, we observed that terbinafine had the lowest MIC values compared to ketoconazole, itraconazole, griseofulvin and fluconazole.

Biography

Gadangi Indira has completed her PhD on comprehensive study of dermatophytosis of Warangal district, A.P from Kakatiya University and working on a major research project funded by UGC at present. She is the HOD of Department of Microbiology in Pingle Govt. U.G and P.G College at Warangal. She has published more than 15 papers in reputed journals, and given proceedings of both national and international seminars.

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