

MICROBIOLOGICAL, CLINICAL AND EPIDEMIOLOGICAL PROFILE OF DERMATOPHYTOSES IN ADULTS AND DETERMINATION OF ANTIFUNGAL SUSCEPTIBILITY BY MICROBROTH DILUTION METHOD

ABSTRACT

Background:

Dermatophytes are the most common cause of superficial mycoses. In the recent past there has been an onslaught of chronic and recurrent dermatophytosis in all parts of our country. The recurrence is mainly due to the emerging antifungal resistance among the dermatophytes which is attributed to the injudicious use of antifungals in the treatment of dermatophytosis. This may be attributed to the co-morbid conditions of the patients but the role of antifungal resistance in these chronic and recurrent infections cannot be disputed. Hence, Invitro antifungal susceptibility testing is essential to optimize the therapy by selection of an appropriate drugs and to detect the presence of antifungal resistance.

Aims:

1. To isolate and speciate Dermatophytes in patients with Superficial Mycoses.
2. To determine the Antifungal Susceptibility patterns of Dermatophyte species.
3. To analyse the clinical and epidemiological profile of Dermatophytosis.

Methodolgy:

Cross sectional prospective study was done among 150 patients with clinical diagnosis of Superficial Mycoses attending Out Patient Department of Department of Dermatology, RGGGH. Study period was from March 2017 to February 2018.

Under aseptic precautions, Skin scrapings from tinea lesions, Nail clipping in patients with onychomycosis, plucked infected hairs from patients with scalp & hair root infections were collected from the patients clinically diagnosed with Superficial mycoses.

Results:

Out of 150 patients, females were predominantly affected than males. The male female ratio was 1:2.6. The most common age group was affected was 21-40years (49%). Tinea corporis (63%) was the most common clinical presentation followed by Tinea cruris (11%). The direct microscopy was (KOH mount) positive in 61% of clinically diagnosed cases. Culture positivity was 46% in the present study. *Trichophyton rubrum* (48%) was the most common species isolated in this study followed by *Trichophyton mentagrophytes* (43%). Among the two antifungal agents' ketoconazole was found to be more potent than fluconazole with MIC <0.25µg/ml for both the predominantly isolated species of *T.rubrum* and *T,mentagrophytes*. But 48% of *T.rubrum* and 7% of *T,mentagrophytes* were resistant to Fluconazole and 24% of *T.rubrum* and 20% of *T,mentagrophytes* were resistant to Ketoconazole.

Conclusion:

Periodic evaluation of antifungal susceptibility testing is important to find out the MIC range of etiological agent against commonly used antifungal drugs. Hence collaborative effort between Dermatology and Microbiology (Mycology) departments are very essential in arriving of specific diagnosis which in turn would aid in therapeutic success by selection of the most appropriate antifungal drugs and to curtail practice of empiric therapy and antifungal resistance.

Keywords: Dermatophytes, Potassium Hydroxide mount, Microbroth Dilution method, Minimum inhibitory concentration