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Cryptococcal meningitis burden in immunocompromised hosts, as seen in a neurological setup, India



R. kumar. R*, E. Jyothi

National Institute of Mental Health and Neuro Sciences, Bangalore, India

Background: In developing countries like India, cryptococcal infections are of immense importance as it is one of the major HIV-related opportunistic infections. In order to develop global strategies and priorities for prevention & treatment, it is important to estimate the burden of cryptococcal meningitis of which there have been limited attempts in India. This four year study reports the incidence of cryptococcal meningitis in a tertiary neurocare centre in India with special consideration for the incidence rates among the immunocompromised and immunocompetent.

Methods & Materials: Cerebrospinal fluid (CSF) samples were collected from the patients with meningitic signs & symptoms and were taken up for chronic meningitis workup which included among other tests, CSF cell count & typing, cytospin, India ink preparation and fungal culture. In doubtful cases, capsular polysaccharide antigen detection by latex agglutination was performed.

Results: During the study period, 10226 CSF samples were processed for chronic meningitis. 281(2.75%) samples gave positive result for cryptococci, of which 228(81.14%) samples belonged to immunocompromised patients, 17(6.05%) to immunocompetent patients and the immune status in the case of 36(12.8%) samples were unknown. The positive cases were predominantly male (69%) with predominant age group being 31–40 years (42%) followed by 11–20 years (24%) and 41–50 years (23%). CSF cell count showed that 31% cases were in the range of 0–10 lymphocytes/cubic millimetre, closely followed by 11–50 cells/mm³(24%). In 12% of the cases, the samples were loaded with the yeast cells which made manual cell counting impossible.

Conclusion: In 81.14% of the patients, cryptococcal meningitis was the AIDS defining illness. Our study shows that males are more susceptible to cryptococcal infections than females, a reflection of the higher HIV prevalence among males in the Indian population. The HIV patients have a lesser CSF cell count when compared with the immunocompetent patients. This has been reflected in our study as we found that the majority of the immunocompromised cases fell into the range of 0–10 cells/mm³. India ink negativity does not rule-out cryptococcal meningitis. But as a rapid technique for the detection of capsulated yeasts, it is a very useful and inexpensive method of screening and confirmation.

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Epidemiology of zoophilic dermatophytes in Sarajevo, Bosnia and Herzegovina



A. Prohic*, M. Kantor

University Clinical Center, Sarajevo, Bosnia and Herzegovina

Background: The progressive increase of zoophilic dermatophytes, especially *Microsporium (M.) canis*, in the aetiology of human dermatophytoses has been observed in many regions in Europe. The aim of our study was to determine the prevalence of zoophilic dermatophytes by genus and species and their clinical manifestations in Sarajevo area, during a ten-year period 2003–2013.

Methods & Materials: Samples were obtained from 5693 patients who presented with suspected tinea infections at the Department of Dermatovenerology and examined in the Mycological Laboratory of the Institute of Microbiology, Parasitology and Immunology, Sarajevo University Clinical Center. All samples (skin scrapings and nail fragments) were treated with lactophenol to detect the possible presence of fungal elements and inoculated on Sabouraud glucose agar. The isolated fungi were classified based on macroscopic and microscopic morphology.

Results: Dermatophytes were isolated from 22% patients. The majority of the isolated dermatophytes were zoophilic (93%) followed by antropophilic (6%) and geophylic (1%) dermatophytes. *M. canis* was the most causative agent, responsible for 91% of infections. Less frequently were isolated *T. schoenleinii* (2%), *T. violaceum*, *T. rubrum* and *T. mentagrophytes* var. *mentagrophytes* (1.5% each), *M. gypseum* and *T. tonsurans* (1% each) and *M. ferrugineum* (0.5%). Lesions of tinea capitis were the most prevalent type of *M. canis* infection (34%), followed by tinea corporis (27%), tinea faciei (12%), tinea pedis, tinea unguium, tinea manuum and tinea cruris (11%, 7%, 5% and 4%, respectively).

Conclusion: Our findings indicate constantly increase of zoophilic dermatophytes, especially *M. canis* in recent years in Sarajevo area. Like in many countries in southern Europe, in Bosnia and Herzegovina as well, antropophilic dermatophytes were replaced by zoophilic species. Eradication requires elimination of the nature source of the infection represented mainly by stray animals.

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