DOI: JCDR/2012/3959-1989

Original Article

Microbiology Section

# Prevalence of Cryptococcal meningitis among Immunocompetent and immunocompromised Individuals in Bellary, South India – a Prospective Study

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## ABSTRACT

**Background and objectives:** Cryptococcal meningitis is now the leading cause of community acquired meningitis. It is generally thought to be associated with AIDS individuals. However, other predisposing factors like leukemia, lymphoma, Diabetes mellitus, connective tissue disorders and organ transplantation also contribute to the infection. Cryptococcal meningitis also occurs in apparently immunocompetent individuals. Opportunistic infections are the major life threatening complications of the acquired immunodeficiency syndrome (AIDS). Early diagnosis can help the clinician to treat cryptococcal meningitis and thus help in reducing the rate of mortality .The present study was taken up to study the occurrence of cryptococcal meningitis among the immunocompromised and immunocompetent individuals and also to analyse the predisposing factors in relation to its occurrence.

**Methods:** A total of 242 CSF samples of clinically suspected cryptococcal meningitis were screened for Cryptococcus neoformans irrespective of their immune status. Identification was based on direct microscopy, culture and biochemical reactions by conventional methods. CD4 cell count was performed by flow cytometry in all culture positive patients. The overall prevalence of cryptococcal meningitis was 8.3% and the prevalence of cryptococcal meningitis among immunocompromised patients was found to be 16.6%. 60% of the patients were in the age group of 21-40 years. Infection with HIV (100%) was the most common predisposing factor, followed by diabetes mellitus (40%), chronic smoking (20%) and prolonged steroid therapy (5%). Cryptococcus neoformans var. neoformans was the etiologic agent in all the culture positives in our study. Cryptococcal meningitis was AIDS defining illness in 50% of the patients. The mean CD4 Count was 59.55. 65% of the patients had a CD4 count of <100. High prevalence of cryptococcal CNS infections in HIV infected patients underscores the importance of precise and early microbiological diagnosis. A high index of clinical suspicion and mycological surveillance is required to help in an early diagnosis and appropriate therapy.

**Key Words:** Cryptococcal meningitis, AIDS, Immunocompromised,Cryptococcus neoformans, CNS infections