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Short communication

Cryptococcal Meningitis in Immunocompromised Patients: Report of Two Cases.

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Abstract

Two male patients with age 48 years and 36 years with history of HIV infection were investigated in the laboratory for cryptococcal meningitis. Cryptococcus neoformans was isolated on Sabouraud dextrose agar medium at 37 ºC from both the cases. The India ink stain showed the characteristic appearance of Cryptococcus neoformans. The organism was confirmed by standard methods.

Keywords: Cryptococcosis, Human Immunodeficiency Virus, Sabouraud dextrose agar, India ink, meningitis.

Introduction

The incidence of infections caused by the encapsulated yeast Cryptococcus neoformans has increased markedly over the past 20 years as a result of the HIV epidemic and increasing use of immunosuppressive therapies.[1] Cryptococcal meningitis is a common opportunistic infection and AIDS defining illness in patients with late-stage HIV infection, particularly in Southeast Asia and Southern and East Africa. [2,3] Cryptococcal meningitis also occurs in patients with other forms of immunosupression and in apparently immunocompetent individuals. In parts of sub-Saharan Africa with the highest HIV prevalence, cryptococcal meningitis is now the leading cause of community-acquired meningitis, ahead of Streptococcus pneumoniae and Neisseria meningitides.[4,5] In AIDS patients Cryptococcus neoformans is one of the common causes of meningitis. [6] In India, the cases of Cryptococcus have been reported from different centres. [7,8,9,10]

Materials and Method

Case 1

A 48 years old male patient known case of HIV-1 infection came with history of severe headache with vomiting since 15 days. Patient had no past history tuberculosis (TB), patient was diagnosed HIV-1 since last 10 years. He was on ART since one year. That time CD4 count was <300. Patient was fine for one month and thereafter that patient was non adherent to ART since last 6 months. Then suddenly patient developed severe headache with vomiting. Examination finding: pallor - positive, blood pressure - 120/80, No clubbing, No cyanosis, No lymphadenopathy. On admission neck rigidity positive, kerning sign positive. CSF sample was obtained by Lumbar puncture. Sample received in the Microbiology laboratory. Wet mount, Gram staining and India ink preparation revealed 4-7 μm, round budding yeasts with capsule and 6 -8 lymphocytes per high power field. CSF was cultured by standard method. [11] Creamy white, mucoid colonies were grown on Sabouraud dextrose agar medium and brownish colour colonies on Bird seed agar. The identification of Cryptococcus neoformans was done by growth at 37ºC and urease production. The patient responded to antifungal treatment (amphotericin B (IV) and fluconazol orally). Patient got discharged with ART. After 1 month again readmitted with severe headache and succumbed to death on same day.

Case 2

A 36 years male with HIV infection was admitted in the medical ward of Mahatma Gandhi Mission's Hospital, Navi Mumbai with complaints of fever (40°C) from 10 days and headache since last 3 weeks and neck rigidity for the last 10 days. Fundus examine S/O papiloedema on right eye. CSF was obtained by Lumbar puncture. Sample received in the Microbiology laboratory. Wet mount, Gram staining and India ink preparation revealed 4-7μm, round budding yeasts with capsule and 2-4 lymphocytes per high power field. CSF was cultured by standard method. 11 Creamy white colonies were seen on Sabouraud dextrose agar medium and brownish black colonies on Bird seed agar. The identification of Cryptococcus neoformans was made by growth at 37°C and urease production. The patient responded to antifungal treatment (amphoterecin B and fluconazol) within 3 days.

Discussion

The Cryptococcus neoformans is one of the most common fungal pathogens seen in AIDS patients and it is a fourth commonest cause of life threatening infection in AIDS patients, after Cytomegalovirus, Pneumocystis jeroveci and Mycobacterium avium intracellulare. [12] The incidence of Cryptococcal meningitis in HIV infected patients has been reported to be 3.6% in U.K, 4.5% in Southeast France,6-10 % in U.S.A. and 3% in India.[13,14,15,16] As AIDS has become pandemic, the cases of Cryptococcal meningitis can increase the mortality of patients if not treated immediately.

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