CRYPTOCOCCAL MENINGITIS IN A DIAGNOSED AIDS PATIENT- A CASE REPORT

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PRESENTATION OF CASE

A forty three year old man with HIV infection was admitted in the medical ward of Government Medical College and Hospital, Nagpur with complaints of headache, fever (38.5° C) and neck rigidity for the last 4 days. CSF obtained by lumbar puncture was received in the Department of Pathology during night duty as resident pathology duty for TLC and DLC. Wet mount, Gram staining methylene blue and India ink preparation revealed 4 - 7 µm, round budding yeasts with capsule and 8 - 10 lymphocytes per high power field. CSF was cultured by standard procedures. Creamy white colonies were seen on Sabouraud dextrose agar medium. The identification and pathogenicity of *Cryptococcus neoformans* was established by growth at 37°C, urease production test. Antigen detection was also done and titre, both in CSF and serum was 1615.

Figure 1. Wet Mount- Cryptococcus

Figure 2. Gram Stain- Cryptococcus

Figure 3. Methylene Blue (40x) Cryptococcus

Figure 4. India Ink Preparation- Capsular

Figure 5. Sabouraud's Dextrose Agar showing Cryptococcus Colony

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DIFFERENTIAL DIAGNOSES

Pyogenic meningitis, viral meningitis, Guillain-Barre' syndrome, tubercular meningitis and Mollaret's meningitis. All these differential diagnoses are ruled out with confirmatory tests.

PATHOLOGICAL DISCUSSION

Cryptococcus neoformans is one of the most common opportunistic infection in AIDS. *Cryptococcus neoformans* exists in asexual or sexual forms.¹ The asexual form is characterised by oval-to-spherical budding yeast cells with a polysaccharide capsule, while the sexual or perfect stage is characterised by the presence of basidiospores.¹ The sexual form has not been described in association with clinical specimens and is observed only during mating. The asexual form with capsule is frequently seen in clinical specimens.²

Virulence is due to oxidase, protease enzymes and carbohydrate capsule, which can be demonstrated by negative staining with 10% Nigrosin or India Ink. Non-capsular mutant forms lack pathogenicity. Dioxide concentration favours capsule bioformation. Infections occur through inhalation of yeast cells in respiratory pathogens, then remain dormant depending on the host in immune system. Dissemination is due to serious defects in host immune system. The risk factors include advanced HIV stage, corticosteroid use, lymphomas, sarcoidosis, lymphoproliferative disorders, hypogammaglobulinaemia, systemic lupus erythematosus, cirrhosis and peritoneal dialysis.^{3,4}

DISCUSSION OF MANAGEMENT

The patient responded to antifungal treatment (amphotericin B and fluconazole) but died later on due to renal failure.

FINAL DIAGNOSIS

Cryptococcal meningitis in immunocompromised host.

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