The Rare Presentation Of Cryptococcal Meningitis And Cytomegalovirus Co-infection In A Non-HIV Immunocompromised Male

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Introduction

- Cryptococcemia incidence is increasing, especially among non-HIV infected individuals
- There is a paucity of literature reporting Cryptococcus neoformans and CMV meningitis co-infection
- Immunocompromised status is also a risk of reactivation of human cytomegalovirus
- This case discusses the rare presentation of disseminated cryptococcemia, secondary to cryptococcal meningitis with concomitant CMV in a non-HIV immunocompromised adult male

Case Report

A 54-year-old male with past medical history of rheumatoid arthritis on prednisone, methotrexate, leflunomide and tofacitinib presented with dizziness and diplopia. Notably, a blood culture from a week prior, drawn for fever, dizziness and tachycardia, was positive for yeast. The patient then developed acute onset headache and neck pain. CT scan of the brain was suspicious for hydrocephalus. Exam revealed pain with range of motion of the neck without stiffness or rigidity.

Initial lumbar puncture results as in Table 1. CSF culture grew Cryptococcus Neoformans. CSF was positive for CMV by PCR. India ink staining showed Cryptococcus-like organisms. Serum Cryptococcus titers were elevated 1:512. Blood culture showed Cryptococcus Neoformans, CSF AFB/HSV/VDRL/HIV were negative. MRI showed minimal increased enhancement of meninges along basilar aspect of brain and upper normal size ventricular system without significant hydrocephalus. Transthoracic echocardiogram was negative for vegetations.

The patient was placed on Ceftriaxone, Vancomycin, Flucytosine, Amphotericin B, Ganciclovir. Foscarnet was held for possible CMV meningitis due to controversial benefits and risk of toxicity. Ophthalmology was consulted for vision changes and CMV infection, no retinopathy found. Antibiotics were discontinued with negative bacterial cultures. Patient required lumbar-subarachnoid drain secondary to elevated intracranial pressure. CSF cultures 10 days after starting anti-fungal/anti-viral regimen were negative. Patient was discharged on Fluconazole and Valacyclovir.

There are limited reports of Cryptococcal and CMV meningitis co-infections.

Treatment for Cryptococcal meningitis and Cryptococcemia differs from the more common Candida fungemia.

Empiric treatment for Cryptococcus should be considered in an immunocompromised patient with meningitis and fungemia.

Appearance	Clear
Color	Colorless
RBC	9
WBC	58
Neutrophils	79%
Lymphocytes	18%
Protein	98 mg/dL
Glucose	25 mg/dL

Table 1. Initial lumbar puncture results

Please scan QR code for case images curated and labeled by Dr. Kyaw Tun

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