

A 32 Year-Old Male With Ulcerative Colitis and Cirrhosis Presents With Lung and Brain Masses

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Introduction

- Blastomycosis is an endemic dimorphic fungi found in the Mississippi/Ohio River Valleys and Great Lakes that rarely causes CNS disease.
- We report a case of disseminated blastomycosis with pulmonary and neuro-blastomycosis in an immunocompromised patient

Case Presentation

- A 32 year-old male with history of homelessness, obesity, untreated ulcerative colitis (UC), cirrhosis secondary to primary sclerosing cholangitis, and limited ability to follow up was found to have a left upper lobe mass (Figure 1) during evaluation for chest pain
- He underwent complete surgical resection; microbiology showed dimorphic fungi (Figure 2). Cultures grew *Blastomyces dermatitidis*
- Not treated with azoles post surgery due to complete resection, cirrhosis and unclear utility of azoles
- 3 months later, he presented with headaches after a steroid taper for his UC.
- MRI brain showed a L frontal and R cerebellar mass – (Figure 3)
- On surgical resection, pathology showed thick-walled, broad-based budding yeast consistent with *Blastomyces* (Figure 4), confirmed by culture/broad range PCR.
- He was treated with liposomal amphotericin B but developed acute kidney injury after 10 days, prompting a switch to voriconazole. 24 hours after starting voriconazole, LFTs quintupled.
- While awaiting improvement in LFTs, he developed a significant GI bleed leading to his demise

Images

Figure 1: LUL mass on CT

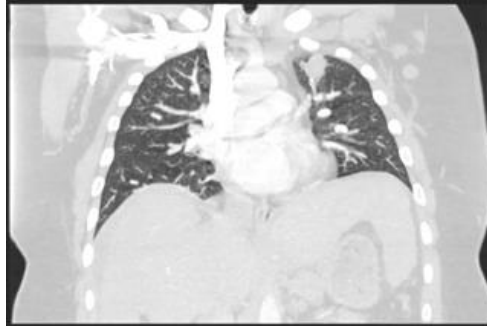


Figure 2: Lung cultures at 20°C and 37°C



Figure 3: MRI Brain

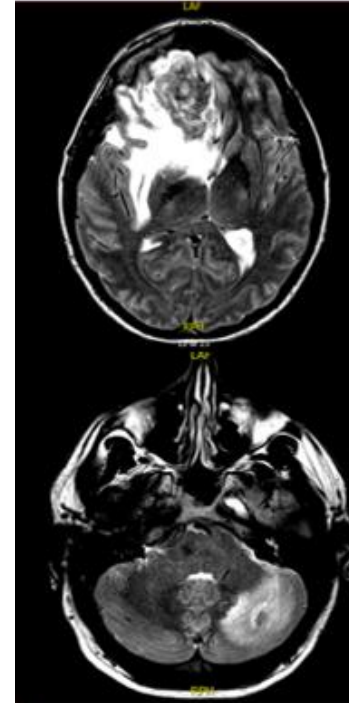
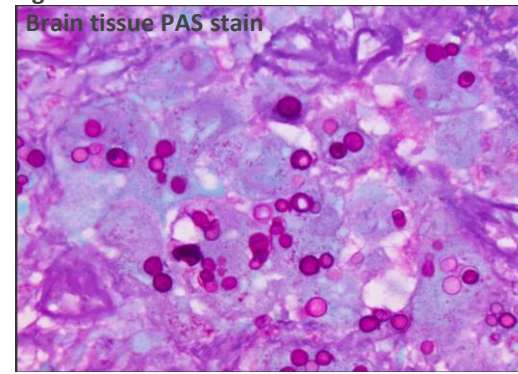


Figure 4: Brain tissue PAS stain



Discussion

- CNS involvement of *Blastomyces* is atypical, occurring in 5-10% of patients with extrapulmonary disease. Immunocompromised patients are at higher risk.
- Can present as intracranial mass lesions, meningitis, or spinal/epidural abscesses
- Delayed diagnosis is common, in one case series patients had symptoms for a median of 90 days before a diagnosis was made.
- MRI is the preferred imaging modality over CT
- Diagnosis is suggested based on characteristic CNS symptoms/imaging with a prior diagnosis of blastomycosis, or by identification of *Blastomyces* by tissue/CSF gram stain, or histopathology
- IDSA guidelines recommend liposomal amphotericin B for 4-6 weeks followed by step down to an oral azole for at least 12 months.
- Recent data suggests shorter induction courses of 2 weeks of amphotericin followed by azoles can be done
- Newer case series suggest voriconazole might be more effective as it obtains higher CNS levels than itraconazole and is more active in vitro than fluconazole.
- Mortality from Neuroblastomycosis is ~18%

References

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