Disseminated Cryptococcus Neoformans Infection with Liver Involvement in Patient with Acquired Immunodeficiency Syndrome (AIDS)

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Clinical Image

A 30-year-old African American male presented with right upper abdominal pain and anorexia. Physical examination was unremarkable except for tender hepatomegaly. Laboratory findings revealed pancytopenia, HIV viral load of 34,020 copies/mL, CD4 count of 10/μL, normal liver enzymes and negative for Anti-HCV antibodies and HBV surface antigen. Imaging studies revealed hepatosplenomegal, with a large area of ill-defined low attenuation of the right hepatic lobe.

Figure 1: Computed Tomography (CT) of the abdomen and pelvis with IV contrast showed ill-defined low attenuation of the right hepatic lobe.

Figure 2: Liver parenchyma with non-necrotizing granulomata within the lobules (hematoxylin-eosin, original magnification x100).

Figure 3: Non-necrotizing granuloma comprised of macrophages and multinucleate giant cells. Note how the macrophage is filled with numerous organisms. The organisms have a clear zone and occasional central nucleus (hematoxylin-eosin, original magnification x400).
hepatic lobe (Figure 1). Liver tissue sampling showed cryptococcal granulomatous hepatitis (Figure 2-4) and the serum cryptococcal antigen was strongly positive of 1:5120. Malignancies and other opportunistic infections were excluded. The patient was treated with anti-retroviral therapy, liposomal Amphotericin-B and Flucytosine for four weeks and switched later to high-dose fluconazole with improved abdominal symptoms. In individuals with AIDS, the most common causes of liver diseases are opportunistic infections and AIDS-related neoplasms. Despite being rarely reported, Cryptococcal hepatic involvement requires early recognition, targeted diagnostics and appropriate treatment.

**Figure 4:** Gomori methenamine silver stains the cell walls and outlines the spherical encapsulated Cryptococcus neoformans organisms (GMS special stain, original magnification x400).