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Case Illustrated

Disseminated *Emmonsia* in an HIV-HBV co-infected man

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ABSTRACT

The differential diagnoses in patients with advanced HIV/AIDS presenting with fever and systemic illness is wide and warrants both infectious and non-infectious considerations. The need to make an early and accurate diagnosis is important to effect correct therapy and thus improve outcome. We describe a patient with several co-morbidities and an unusual disseminated fungal infection.

A 36-year-old man, with newly diagnosed HIV infection and a CD_4 T-cell count of 88 cells/mm^3, presented with a 6-week history of malaise, weight loss, fever and a non-productive cough. Apart from weight loss, his clinical examination was unremarkable. A chest radiograph demonstrated bilateral nodular (<1 mm) interstitial infiltrates suggestive of miliary tuberculosis. His liver aminotransferase enzymes were elevated but he was not jaundiced. Viral hepatitis serology confirmed HBeAg-positive chronic hepatitis B virus infection with a HBV DNA viral load of >log 8.3 copies/ml. Given his constitutional symptoms and radiological findings, empiric standard 4 drug anti-tuberculous therapy was initiated.

His clinical course was complicated by persistent temperature spikes and the development of a diffuse erythematous maculopapular rash with central necrosis (Images 1 and 2). Because of a lack of response to anti-TB therapy and a subsequent negative sputum GeneXpert^R result for *Mycobacterium tuberculosis*, his skin and liver were biopsied. Images 3 and 4 denote the liver biopsy findings of both hepatitis B and budding yeasts suggestive of histoplasmosis. No granulomas were observed. The skin biopsy

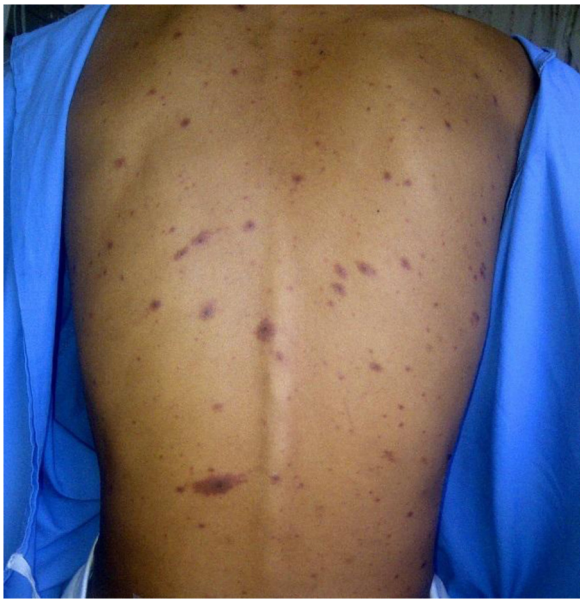

Image 1. Diffuse erythematous maculopapular rash.

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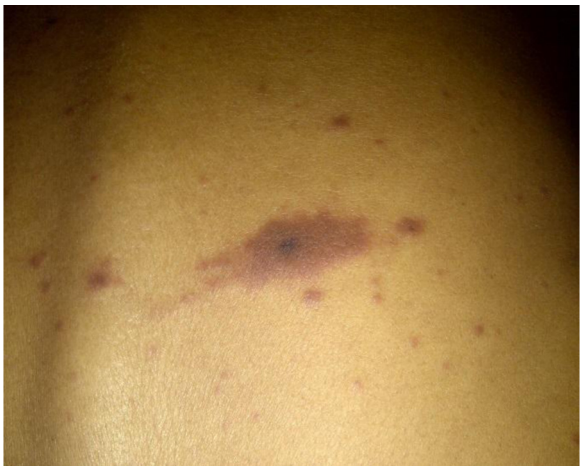

Image 2. Close-up view of skin rash noting central necrosis.

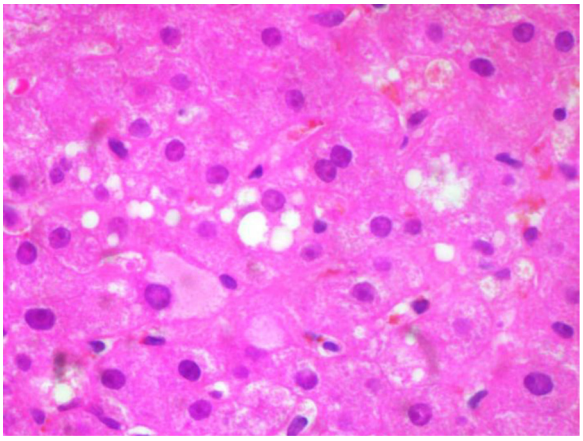

Image 3. Needle biopsy of the liver showing ground-glass hepatocytes, microvesicular steatosis and haemosiderin pigment in Kupffer cells with minimal necroinflammatory activity (H&E; high power magnification).

was notable for the presence of apoptotic nuclear debris, no granulomas or vasculitis and small fungal yeasts palisading around superficial dermal capillaries (Images 5 and 6).

Our working diagnosis was disseminated Histoplasmosis, however a blood culture yielded a yeast that was confirmed on molecular testing to be an emmonsia species [1].

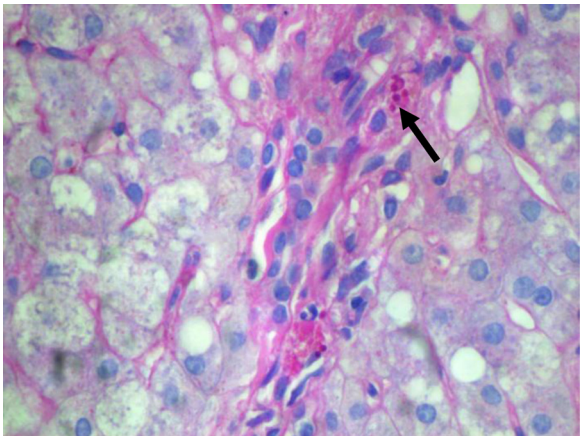

Image 4. Needle biopsy of the liver showing small fungal yeasts in the cytoplasm (arrow) of portal tract macrophages (PAS/diastase; high power magnification).

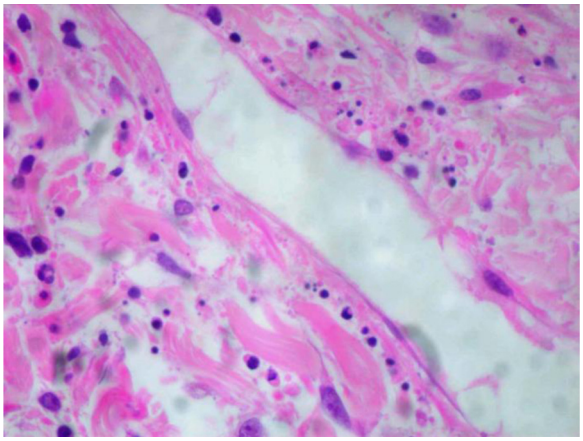

Image 5. Skin punch biopsy showing nuclear debris from apoptotic neutrophils around a capillary in the superficial dermis (H&E; high power magnification).

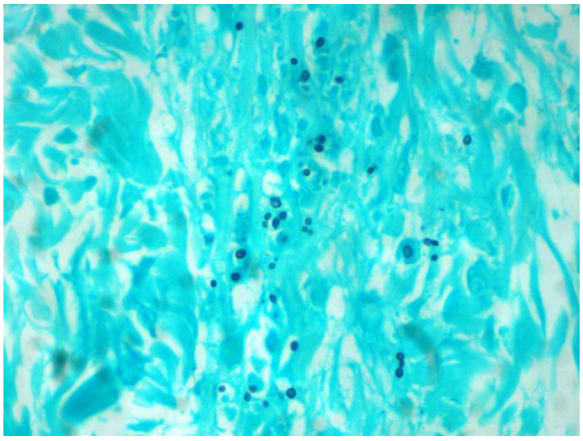

Image 6. Skin punch biopsy demonstrating small fungal yeasts with narrow-based budding present in the dermis (Grocott silver stain; high power magnification).

Anti-TB therapy was stopped and intravenous amphotericin B was initiated as induction antifungal therapy. Two weeks later he was converted to oral Itraconazole. His fever resolved followed by a gradual resolution of the rash and clinical improvement. Appropriate antiretroviral therapy with tenofovir, emtricitabine and efavirenz to manage his HIV-Hepatitis B co-infection was initiated upon completion of the 2 weeks of intravenous amphotericin B [2].

Disseminated fungal infections should be suspected in patients with advanced HIV/AIDS that present with systemic illness. A new dimorphic fungus related to *Emmonsia pasteuriana* has recently been identified at our institution and is the likely pathogen in our patient [1].

The case highlights the value of the early use of appropriate diagnostic techniques in patients with advanced HIV/AIDS and multi-systemic illness given the many differential diagnoses in such patients. The patient continues to do well in follow up.

References

[1] Kenyon C, Bonorchis K, Corcoran C, Meintjes G, Locketz M, Lehloenya R, et al. A dimorphic fungus causing disseminated infection in South Africa. N Engl J Med 2013;369(15):1416–24.

[2] Núñez M, Mendes-Correa MC. Viral hepatitis and HIV: update and management. Antivir Ther 2013;18(3 Pt B):451–8.