The challenges of diagnosing disseminated histoplasmosis in a non-endemic setting

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Background:
A 36 year-old Ugandan male, resident in New Zealand for 15 months was referred to the infectious diseases clinic with 6 months history of weight loss, night sweats, odynophagia and a progressive skin rash. Examination revealed moderate sized lymphadenopathy in the neck, axillae and groins, hepatosplenomegaly and pustular skin rash on the face, upper arms and trunk. HIV antigen antibody test was positive with CD4 count of 13 cells/ul and HIV viral load of 427,932 copies/ml. Other laboratory investigations revealed anaemia, leucopoenia, high ferritin, elevated lactate dehydrogenase, and deranged liver function tests.

Approach:
The diagnosis of disseminated histoplasmosis was considered given the epidemiology and clinical features. Histology from skin biopsy, bone marrow and lymph node showed encapsulated yeasts. Lymph node, skin biopsy and subsequently blood cultures cultured a white fluffy mould, identified by pan-fungal PCR as *Histoplasma capsulatum complex*. Morphology was consistent with *Histoplasma capsulatum*. Serum and urine samples were sent for histoplasma antigen testing, to provide a baseline for monitoring of therapy and were strongly positive, above the level of quantification.

Outcomes:
The patient was treated with 2 weeks of liposomal amphotericin, then transitioned to oral itraconazole, at which point he commenced antiretroviral therapy with emtricitabine, tenofovir disproxil and dolutegravir. At 2-month review, he has improved clinically with a significant CD4 count rise and undetectable HIV viral load. However, there has been progression of the skin rash, which may be consistent with immune reconstitution inflammatory syndrome.

Innovation and Significance:
This case highlights the importance of considering the diagnosis of histoplasmosis, which is extremely rare in a non-endemic setting. Delays in diagnosis have been frequently reported and are associated with high case fatality rates. Molecular diagnostics and antigen testing are important diagnostic tools, though antigen testing it is only available in a single laboratory in the United States.

Disclosure of Interest Statement:
No conflict of interests to declare.