

Disseminated histoplasmosis in a patient with HIV diagnosed by simple bedside investigations

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DESCRIPTION

A 41-year-old HIV-infected woman presented with prolonged fever at another hospital. Besides low CD4 count (8 cell/mm³) and pancytopenia, blood cultures, chest radiograph, chest-whole abdominal CT and bone marrow examination were unremarkable. Empirical treatment for tuberculosis was given. One week later, she developed rash and was transferred to our hospital. Physical examination showed multiple pruritic erythematous purplish maculopapular rashes with central necrotic areas predominantly on face, back-chest wall and both forearms (figure 1). Peripheral blood smear (figure 2) and skin scraping (figure 3) revealed multiple intracellular yeast-like organisms suggestive of *Histoplasma capsulatum*. Intravenous amphotericin B was given, followed by oral itraconazole. Her condition improved after 2 weeks of treatment. Antiretroviral medications were initiated 1 month later.

As clinical manifestations of disseminated histoplasmosis are usually non-specific,¹ high suspicion is important. Classical techniques for diagnosis include culture, microscopy and antigen/antibody detection. Culture is a gold standard that requires a significant amount of time so the other types of investigations are required before an empirical treatment is given. Microscopy has about 42% sensitivity² and its accuracy depended

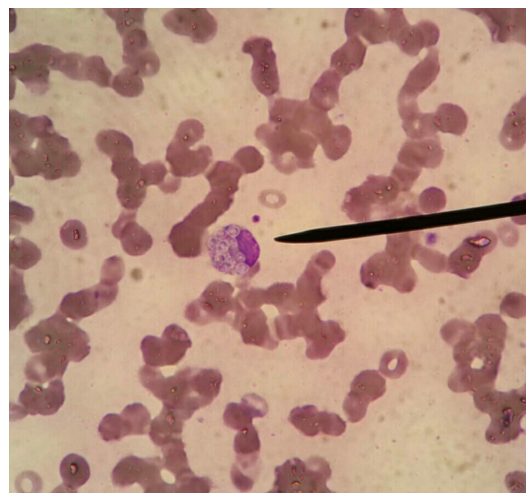


Figure 2 Peripheral blood smear (Wright stain, 1000×) revealed multiple intracellular yeast-like organisms in leucocytes.

on experience of clinicians and laboratory staff. *H. capsulatum* have a long incubation period (2–4 weeks), while duration of microscopy or antigen/antibody detection is short (1–2 hours). Antigen detection in a disseminated disease provides the highest sensitivity (urine, 92%).² Positive yield of

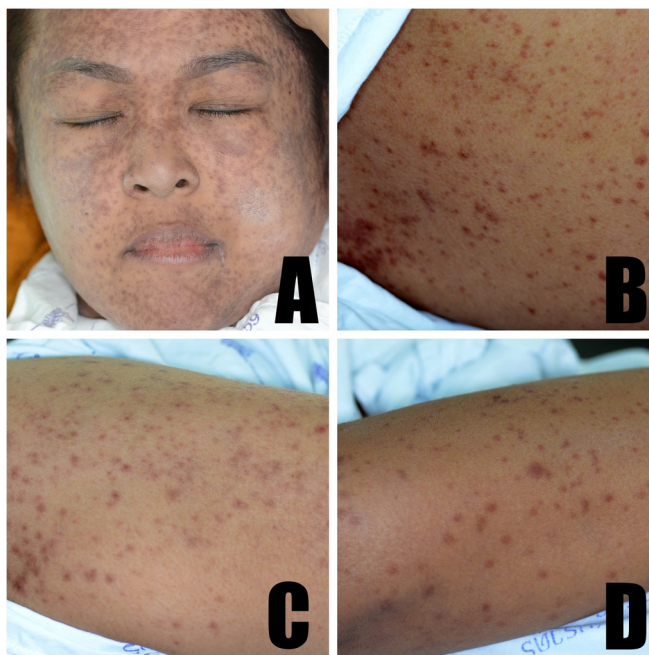


Figure 1 Multiple pruritic erythematous purplish maculopapular rashes with some central necrotic areas predominantly on the (A) face, (B) back-chest wall and (C,D) both forearms.



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test in immunocompromised patients will increase due to high burden of organisms (94.6% in AIDS vs 73.3% in immunocompetent).³ Sensitivity of antibody detection is around 71% and decreases in immunocompromised patients because of poor immunity (positive yield 78.9% in AIDS vs 88.9% in non-immunocompromised).³

False-positive result of antigen/antibody detection is possible in patients with other fungal infections or asymptomatic individuals in an endemic area. Specificity of antigen/antibody detection ranges for 85%–96% and 39%–100%, respectively.^{2,3} Skin test has been less commonly performed at bedside because of the cross-reactivity with other fungi and low sensitivity in ill patients.³ In summary, microscopy is a non-invasive test that could be rapidly performed despite low sensitivity. A positive microscopic finding could help to choose the empirical treatment while waiting for a more definitive test result.

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Learning points

- ▶ Disseminated histoplasmosis presents with non-specific signs and symptoms. Awareness of this disease should be emphasised.
- ▶ Despite relatively low sensitivity, a peripheral blood smear is a simple bedside investigation that must be carefully examined in febrile HIV-infected patients with non-specific signs and symptoms.

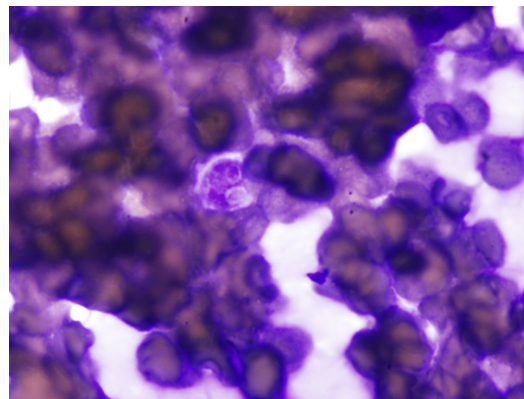


Figure 3 Skin scraping (Wright stain, 1000×) revealed multiple intracellular yeast-like organisms.

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