

## MEDICAL ILLUSTRATION

## Disseminated Histoplasmosis in an Indonesian HIV-Positive Patient: A Case Diagnosed by Fine Needle Aspiration Cytology

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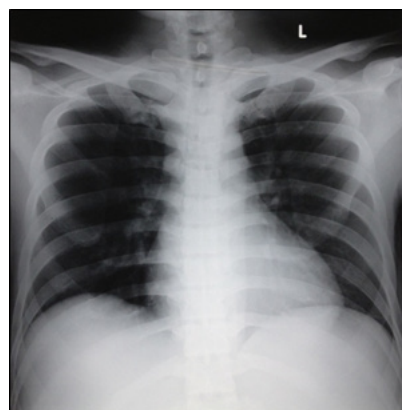
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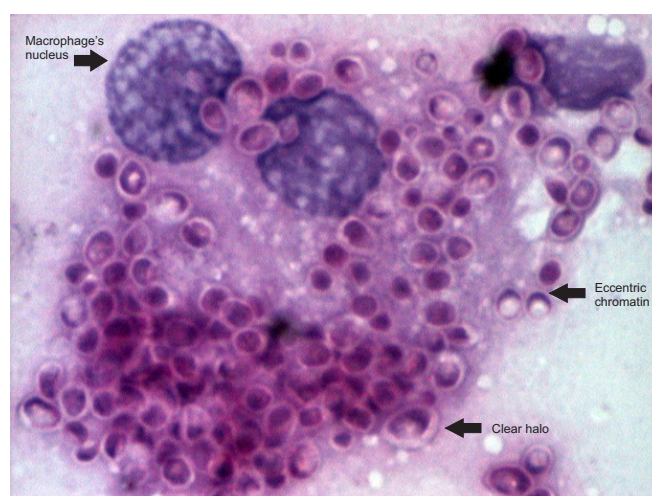
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**Figure 1.** Cervical node enlargement



**Figure 2.** Normal chest radiography



**Figure 3.** Histiocytes showing intra and extra cytoplasmic *H. capsulatum*'s yeasts (Giemsa x1000)

A 30-year-old Javanese-Indonesian man was admitted with complaints of 3 months persistent fever, weight loss, and fatigue. He had never known his past history of unprotected HIV until the admission. His only risk factor is unsafe sex. The patient seemed well nourished. Physical examination revealed blood pressure 100/60 mmHg, pulse 100 beats per minute, respiratory rate 20 times per minute, and temperature 38.8°C. Multiple cervical and inguinal lymphadenopathies were also found (**Figure 1**). Electrocardiogram showed anterolateral ischemic finding, whereas chest X-ray were normal (**Figure 2**). Laboratory test results revealed pancytopenia with hemoglobin of 8.2 g/dL, leucocyte count 2000 cells/mm<sup>3</sup>, platelet 78000 cells/mm<sup>3</sup>, hematocrit 25.8%, AST 162 IU/L, ALT 81 IU/L, decreased albumin of 2.72 g/dL. The clinical differential diagnosis were lymphoma or tuberculosis lymphadenopathy.

Fine needle aspirations of a left cervical lymph node were accomplished. Microscopic morphology stained with giemsa exposed the presence of oval and round yeast-like organisms with eccentric chromatin and clear halo inside and outside histiocytes, consistent with the morphology of *Histoplasma capsulatum* (**Figure 3**). Examination using Acid Fast Bacilli staining (Ziehl Nielsen) presented negative result.

The patient passed away just after all of these examinations were done.

The terrestrial boundaries of the occurrence of infectious diseases are now distorted because of economic development and migration of the people across the nation. The extensive usage of chemotherapy and steroids, the implementation of organ transplants, and the pandemic of AIDS have released the unfamiliar infectious agents causing morbidity around the world.<sup>1</sup>

The cytopathologist usually is the first diagnostician to find the cause of an infectious agent. Thus, it is important that the cytopathologist to be familiar with the morphology of the infectious agents and its cellular or tissue reaction. In some points the division between pathology and microbiology is very unclear due to the growth of the science. Moreover, currently the number of pathologist who has trained with adequate knowledge of microbes

is scarce.<sup>1</sup> Furthermore, in our opinion safe laboratory facilities for cytopathology is better to be established to cover the possible increase of infectious disease that need a diagnostic action.

The finding of *Histoplasma capsulatum* (Hc) in the present case report of an AIDS patients by fine needle aspiration cytology (FNAC) might indicate the increase infections caused by this pathogenic fungus. Patients with immunocompromized condition, especially those with advanced HIV infection, have the greatest risk for severing fatal disseminated histoplasmosis (DH).<sup>2-5</sup>

Histoplasmosis cases in HIV/AIDS patients are usually underestimated in the tropical countries such as Indonesia due to any other tropical endemic infectious diseases such as malaria, tuberculosis or other disease such as lymphoma. Furthermore, the health facilities deficiency and low financial situations pushes patients to treat themselves for example in case of fever. Underestimation of DH and AIDS cases at the terminal stage will suspend the effectiveness of the system to fight against this emerging infectious disease.<sup>6</sup>

The patient in the current study was admitted to the hospital because of fever, weight loss, multiple lymphadenopathies (**Figure 1**) and fatigue, resembling the symptoms of tuberculosis. The pancytopenia that occurred might explain whenever there is bone marrow involvement. The abnormality of liver enzyme might elucidate the involvement of the liver. The Hc was found by FNA from the cervical lymphadenopathy specimen. The normal chest x-ray (**Figure 2**) might rule out the pulmonary participation. Thus, this patient was suffering from disseminated histoplasmosis.

*Histoplasma capsulatum* (Hc) performs as intracytoplasmic small round or oval bodies with the diameter 1-4 µm, surrounded by recognizable clear halo with a central or eccentric stained chromatin. FNA, bronchial aspirates, bone marrow biopsy, or peripheral blood smear specimens stained with Giemsa, May Grunwald Giemsa (MGG), Wright, periodic acid of Schiff (PAS), or Gomori methenamine silver are the simplest, rapid, inexpensive but relatively effective for the diagnosis although

the sensitivity is less than 50%.<sup>1,2</sup> However, microbiological culture for fungal organisms is recommended to precisely detect the organism.<sup>7</sup>

In summary, DH should be considered as one of the diagnosis in patients with persistent fever, weight loss and immunodeficiency syndrome due to HIV or others. Fine needle aspiration is an inexpensive method helpful to diagnose DH, despite its low sensitivity. To avoid delay of diagnosis, a more sensitive, specific, and effective method is needed. Furthermore, a safe and well-equipped laboratory should be established to face this emerging infectious disease in Indonesia.

## REFERENCES

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