

DOI: 10.21767/2471-8521.100017

Disseminated Histoplasmosis with Breast Abscess in a Female with AIDS: Report of a Case and Review of the Literature

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Received date: July 25, 2016; Accepted date: August 26, 2016; Published date: September 06, 2016

Citation: Corti M, Messina FF, Santiso G, Maiolo E, Valerga M, et al. (2016) Disseminated histoplasmosis with breast abscess in a female with AIDS: Report of a case and review of the literature. Med Mycol Open Access 3: 3. doi: 10.21767/2471-8521.100017.

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Introduction

Histoplasmosis is a systemic mycosis, endemic in areas of subtropical and tropical climate. It is prevalent in North, Central and South America as well as in wide areas of Africa and Asia. *Histoplasma capsulatum* var. *capsulatum* is a dimorphic fungus that can cause a disseminated and severe disease in patients with impairment of cell-mediated immunity [1]. Disseminated histoplasmosis is a frequent opportunistic infection in AIDS patients in Argentina, with an incidence around 4% of the patients who required admission to the hospitals [2,3].

Herein, we present a case of a female with diagnosis of disseminated histoplasmosis with a breast gland abscess in a patient with AIDS.

Case Report

A 32 year-old female, HIV seropositive since 2002, with multiple withdrawal of highly active antiretroviral therapy (HAART) and a previous diagnosis of AIDS because she had diagnosis of disseminated histoplasmosis two years before. She was admitted to our Department of HIV/AIDS related illnesses with a history of fever, weight loss and epistaxis of 15 days duration. Physical examination revealed a temperature of 38°C, cachectic status, cutaneous papules and multiple crusted lesions, adherent, on the entrance of the nostrils (Figure 1). Breast examination showed asymmetric gynecomastia with abnormal growth of the left breast with marked left nipple retraction and a palpable mass of 3 x 3 cm in her left breast (Figure 2). The nodule was hard, mobile and painful and located on the left breast upper outer quadrant. A spontaneous purulent secretion by the nipple was seen.



Figure 1: Crusted lesions on the entrance of the nostrils.

Investigation was performed, which showed hematocrit 32%, glycemia 92% mg, renal and liver function were normal. Hemocultures by lysis-centrifugation were negative. The CD4 T-cell count was of 84 cells/ μ l (5%). Chest X-ray was normal; abdominal ultrasound demonstrated a heterogeneous liver enlargement compatible with steatosis and homogeneous splenomegaly. Breast ultrasonography examination with high frequency transducer was performed and revealed hypoechoic retroareolar lesion of 2 x 1,5 cm. Direct examination of purulent breast nipple secretion obtained with Pasteur pipette and stained with Giemsa showed macrophages containing intracellular and extracellular spherical to ovoid yeast-like organisms surrounded by a small light halo compatible with *Histoplasma capsulatum* (Figure 3). Also, scarification of skin lesion showed intracellular yeasts compatible with *Histoplasma capsulatum*.



Figure 2: Left nipple retraction with purulent secretion.

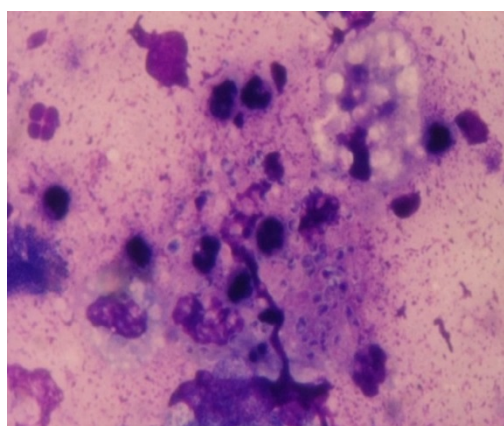


Figure 3: Giemsa stain showed macrophages containing intracellular and extracellular yeast-like organisms compatible with *Histoplasma capsulatum*.

Serologic test were negative, using immunodiffusion and double diffusion method.

Based on the microbiological findings, diagnosis of disseminated histoplasmosis was made; the patient was initially treated with 0.8 mg/kg/day of amphotericin B up to reach a total accumulated dose of 600 mg. Afterwards, he received 400 mg/day of oral itraconazole with clinical improvement and laboratory normalization. Treatment with amphotericin B followed by itraconazole resulted in complete remission of lesions.

Discussion

Histoplasmosis is the third potentially fatal opportunistic mycosis in patients with AIDS. Although disseminated

cryptococcosis with CNS involvement, pneumocystosis and oropharyngeal candidiasis are present in patients with AIDS, in endemic areas, disseminated histoplasmosis is the most frequent mycosis in this population [4]. Disseminated disease is the most severe clinical form of histoplasmosis and is more likely to occur in immunocompromised individuals, especially those with advanced HIV/AIDS disease. Acute disseminated cases derive from the reactivation of latent foci of infection and are more severe in patients with AIDS than in those with other immunodeficiencies [5]. Disseminated histoplasmosis in AIDS patients is characterized by prolonged fever, weight loss, respiratory symptoms, pancytopenia, hepatosplenomegaly and mucocutaneous lesions.

Granulomatous mastitis secondary to *Histoplasma capsulatum* is a very infrequently reported entity; generally the patient presents with a history of a gradually increasing unilateral breast mass, as we could see in our case [6]. Also, physical examination may reveal skin retraction and signs of inflammation on the overlying skin, as in our patient.

Salfelder et al. [7] report 4 cases of granulomatous mastitis presenting as pseudotumors of the breast. Two of them were due *Histoplasma capsulatum*.

The most common mammographic finding is an asymmetrical density with a thickening of overlying skin. This aspect of the lesion may be clinically and radiographically difficult to distinguish from breast cancer [8].

Microscopic observation of characteristic yeast inside the cytoplasm is considered useful for the diagnosis, whenever observed by an experienced professional. In our case the material obtained from breast abscess was very little to be cultured.

The main differential diagnosis of granulomatous mastitis secondary to *H. capsulatum* includes other fungal infections, *Mycobacterium tuberculosis*, sarcoidosis, and idiopathic granulomatous mastitis [6].

Treatment of *H. capsulatum* breast abscess may include the complete excision followed by initial treatment with amphotericin B and oral itraconazole. Secondary prophylaxis with itraconazole is necessary in AIDS patients up to immune reconstitution associated with highly active antiretroviral therapy (HAART).

Conclusion

In conclusion, histoplasmosis should be considered in the differential diagnosis of the breast compromise as mastitis or abscesses in AIDS patients, especially when it is associated with prolonged febrile illness, weight loss and mucocutaneous lesions.

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