Ind. J. Sci. Res. and Tech. 2015 3(5):7-9/Sarkar et al ISSN:-2321-9262 (Online)
Online Available at: http://www.indjsrt.com
Case Report

A CASE OF DISSEMINATED HISTOPLASMOSIS IN IMMUNOCOMPETENT PERSON

[*]K. Sarkar, A. Banarjee, D. Gonjhu and N. Pramanik
Department of Tropical Medicine, School of Tropical Medicine, Kolkata, India
**Author for Correspondence*

ABSTRACT
Histoplasmosis is a fungal disease caused by *Histoplasma capsulatum.* Most infections are asymptomatic or self-limiting but some may develop acute pulmonary infections or severe and progressive disseminated infection. Disseminated histoplasmosis frequently affects the adrenal gland; however, unilateral involvement in immunosuppressed patients is the usual presentation. Here we are reporting a case of a middle aged immunocompetent male with history of weight loss, fever, hepatomegaly and bilateral adrenal mass that was diagnosed to be suffering from disseminated histoplasmosis and successfully treated with Amphoterecin-B and Itraconazole.

Key Words: *Histoplasma Capsulatum*, Adrenal Mass, Disseminated Histoplasmosis and Immunocompetent

INTRODUCTION

Histoplasmosis is an infectious disease caused by the dimorphic fungus *Histoplasma capsulatum.* Histoplasmosis is common in AIDS patients or other immunocompromised state but it is relatively rare in non-immunocompromised person in India. The infection is self-limiting and restricted to lungs in 99% of individuals with no pre-existing immunological defects. The remaining 1%, however progress to either disseminated or chronic disease involving lungs, liver, spleen, lymph node, bone marrow, skin, mucous membrane and adrenal (Harnalikar et al., 2012). The clinical presentation of the disseminated disease includes pyrexia, anorexia, nausea, vomiting, weight loss and fatigue which are nonspecific and resemble other chronic infections and malignancies. So diagnosis is through high index of clinical suspicion and fungal culture remains the gold standard diagnostic test, which is often negative in less severe cases (Kashyap et al., 2014). We report the case of a 48-year-old immunocompetent male patient with progressive disseminated histoplasmosis with hepatomegaly and bilateral adrenal involvement.

CASE REPORT

A 48 year old male presented to us with low grade continuous fever with weight loss for last six months. Fever was associated with occasional mild dry cough, marked anorexia and generalized weakness and was not associated with chill or rigor, night sweat or evening rise of temperature. During this period he received several courses of different antibiotics and was on empirical anti-tubercular therapy for 20 days without any improvement. He had no other chronic disease and was not taking any medicine for long term. On physical examination he had mild anemia and hepatomegaly. His complete blood count showed mild microcytic normochromic anaemia (haemoglobin- 9.8 gm/dl, MCV- 76 fL) with high ESR (60 mm in 1st hour). Total white blood cell count was normal (TLC-3900: N69, L29, E1, M1). Liver function test showed hypoalbuminemia and slightly elevated liver enzymes (T bilirubin-0.9, T. protein- 8 gm/dl, SGOT- 64 IU/L, SGPT- 54 IU/L, alkaline phosphatase- 138). His blood for HIV-ELISA was nonreactive. Chest X ray was normal and ultrasonography of abdomen showed hepatomegaly with well-defined bilateral hypoechoic adrenal space occupying lesion. CECT of abdomen showed bilateral adrenal mass measuring 37mm x 42mm x 34mm in right and 37mm x 23mm x 18mm in left (Fig. 1). CT guided FNA was done and cytological examination showed presence of plenty of intracellular and extracellular budding yeast cells (Fig. 2). Later the fungal culture from the aspirate showed brownish white colony of histoplasma but it was done outside and we could not get the picture of positive culture. Then we treat him with amphoterecin-B infusion followed by oral itraconazole. Within 7 days of treatment his fever subsided and after 1 month of treatment with itraconazole he started to gain weight with increased appetite.cItraconazole concentration in blood could not be measured due to unavailability of the test facility in our institute. 10 months of treatment with itraconazole patient was asymptomatic with regression in adrenal mass size on follow up ultrasonography. Itraconazole was extended for another two months.

DISCUSSION

Histoplasmosis is an intracellular granulomatous fungal infection of reticuloendothelial system caused by the dimorphic fungus Histoplasma capsulatum. This fungus is present in soil, rotting trees, and is particularly abundant in bird faeces. In endemic areas the soil provides an acidic,damp environment with high organic content good for

mycelial growth. Birds are generally not infected by the fungus and don't transmit the disease; however, bird excretions contaminate the soil, thereby enriching the growth medium for mycelium and contaminated soil can be potentially infective for years (Chang & Susanto, 2007). Three main clinical manifestations of histoplasmosis are pulmonary, progressive disseminated and chronic cavitory forms: all may be accompanied with skin lesions, or rarely, the disease manifests as primary cutaneous histoplasmosis (Pal & Adhikary, 2013).

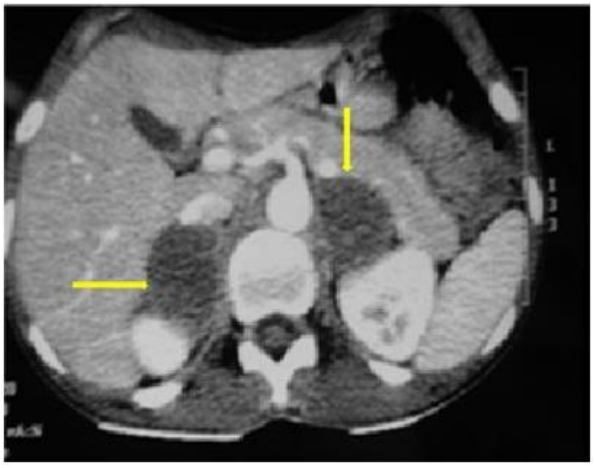

Figure 1: Bilateral hypodense adrenal mass

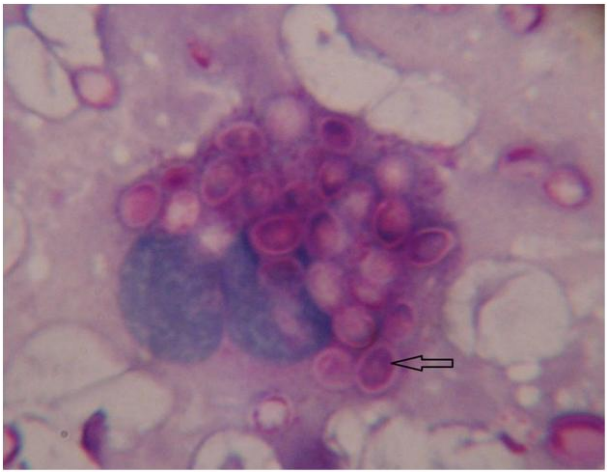

Figure 2: Capsulated Yeast form of Histop

Disseminated histoplasmosis is sporadically reported disease in India. In overview of histoplasmosis reported in India from 1968 to 1992, Padhye et al., (1994) listed 25 cases as authentically diagnosed. He concluded histoplasmosis in India has mainly extra pulmonary manifestations and in the majority it involved oral cavity. Subramanian et al., (2005) has published a retrospective analysis of 19 patients with disseminated histoplasmosis from 1988 to 1999 and concluded diabetes mellitus and HIV as a major comorbid condition. Disseminated histoplasmosis may affect almost all systems, including the reticuloendothelial system, lungs, gastrointestinal tract, renal tract, central nervous system, bone marrow, adrenal glands and skin. Adrenal involvement is common (60 to 90%) but overt adrenal insufficiency is found in fewer than 10 per cent of cases (Goodwin et al., 1980). Histopathology using stains for fungi and cultures, antigen detection, and/or serologic tests for Histoplasma-specific antibodies may be employed to diagnose histoplasmosis (Wheat, 2009). But the serological tests are not available readily in resource limited areas. Cytological examination shows that the intracellular forms are situated within the cytoplasm of histiocytes, where they appear as numerous small spherical or oval yeast forms surrounded by a clear ring of space that resembles a capsule.

Lipid formulation of amphotericin B (3.0–5.0 mg/kg daily intravenously for 1–2 weeks) followed by itraconazole (200 mg 3 times daily for 3 days and then 200 mg twice daily, for a total of at least 12 months) is recommended for severe and moderately severe disease (Wheat et al., 2007). The deoxycholate formulation of amphotericin B (0.7–1.0 mg/kg daily intravenously) is an alternative to a lipid formulation in patients who are at a low risk for nephrotoxicity 9. For mild to moderate disease only itraconazole is used. In the above mentioned case as it was a disseminated histoplasmosis he was treated with amphotericin B followed by itraconazole.

This case emphasizes the fact that disseminated histoplasmosis may occur in immunocompetent patients and has to be considered in the differential diagnosis of prolonged fever, weight loss, hepatomegaly and adrenal masses. Adrenal insufficiency has to be monitored and antifungal therapy should be maintained for at least one year.

REFERENCES

Harnalikar M, Kharkar V& Khopkar U (2012). Disseminated Cutaneous Histoplasmosis in an Immunocompetent Adult. *Indian Journal of Dermatology*, **57**(3) 206-209.

Kashyap R, Gupta D, Gupta N, Machhan P & Preyander R (2014). Progressive disseminated histoplasmosis in an immunocompetent patient misdiagnosed as disseminated tuberculosis. *Journal Indian Academy of Clinical Medicine*, **15**(1) 78-79.

Chang RC & Susanto I (2012). Histoplasmosis. *e-medicine J.* Available from http://www.emedicine.com/med/topic1021. 2007. Accessed 26 Jan 2012.

Pal N & Adhikary M (2013). Cutaneous histoplasmosis in a HIV seronegative patient. *Journal of Natural Science, Biology and Medicine*, **4**(2) 477-479.
Padhyae AA, Pathak AA, Katyar VJ, Hazare VK & Kaufman L (1994). Oral histoplasmosis in India: Case report and overview of the cases reported during 1968-1992. *Journal of Medical and Veterinary Mycology*, **32** 93-103.
Subramanian S, Abraham OC, Rupali P, Zachariah A, Mathews MS & Mathai D (2005). Disseminated histoplasmosis. *Journal of the Association of Physicians of India*, **53** 185-189.
Goodwin RA Jr, Shapiro JL, Thurman GH, Thurman SS & Des Prez RM (1980). Disseminated histoplasmosis: Clinical and pathologic correlations. *Medicine (Baltimore)*, **59**(1) 1-33.
Wheat LJ (2009). Approach to the diagnosis of the endemic mycoses. *Clinics in Chest Medicine*, **30** 379.
9. L. Joseph Wheat1, Alison G. Freifeld3 et.al. Clinical Practice Guidelines for the Management of Patients with Histoplasmosis: 2007 Update by the Infectious Diseases Society of America.