

CASE REPORTS

Disseminated Histoplasmosis in Acquired Immunodeficiency Syndrome - A Case Report

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Summary :

A 41-year-old married tribal businessman from Teknaf was seen in a local clinic in Chittagong. He presented with continued high fever, sore throat, oral candidiasis, loose motion, weight loss, lymphadenopathy and hepatosplenomegaly. He had no history of sexual promiscuity,

drug abuse or blood transfusion. He visited Myanmar on several occasions where he had done tattoo on his body. He was diagnosed as a case of AIDS with disseminated histoplasmosis.

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Introduction :

Histoplasmosis is an uncommon disease caused by dimorphic fungus *H. capsulatum*. Though endemic in some parts of North America the disease is uncommon in Asian countries. In the human body the fungus is found as intracellular small budding yeast mainly within the macrophages. The fungus enters the lung by inhalation where neutrophils and macrophages form the earliest host line of defense. Macrophages exert less efficient anti-fungal activity than neutrophils, and the yeast-form can multiply within them leading to lysis of them and infection of new cells. The major defense against the fungi is exerted by T-cell mediated immune response. Mainly the CD4 helper T lymphocytes and to a much lesser degree CD8 cytotoxic T lymphocytes are main cells involved in containing and clearing the infection. CD4 cells are crucial to the healing of infection while CD8 cells have an additive effect to CD4 lymphocytes for the optimal eradication of the organism^{1,2}.

In most cases, histoplasmosis is a benign self-limiting disease, particularly in immunocompetent individuals. Disseminated histoplasmosis occurs in immunodeficient patient. In endemic areas, 2% to 5% of human immunodeficiency virus (HIV) infected patients may develop disseminated histoplasmosis³. In this communication we describe a case of histoplasmosis in a HIV infected patient.

Case History :

Mr. M T, a 41-year-old tribal businessman from Teknaf, Cox's bazar was seen in a local clinic in Chittagong in December 2003. He presented with continued high fever not responding to broad-spectrum antibiotics. He had prostration, anorexia, sore throat and weight loss for six weeks, and loose motion for three days. He had no such history in the recent past. He gave history of visit to Myanmar on several occasions for business purpose. He had no history of exposure, drug abuse or blood transfusion. Clinical examination revealed pallor, dehydration, oral moniliasis, cervical lymphadenopathy, hepatomegaly and splenomegaly, and tattoo marks on the deltoid region of both arms and back of the trunk. His lungs were clear and heart revealed no abnormality. Vital signs were, Pulse-120/min, BP-80/60 mm Hg, Res.- 32/min, Temp-105⁰ F.

Investigations showed- Hb-7.7 gm/dl, Total WBC - 3800/cumm, Platelet count- 150,000/ cumm, P-85%, L-10%, M-0%; E-01% and myelocytes-04%. Absolute lymphocyte count was 380/cumm. Endoscopy of UGIT revealed moniliasis throughout the whole length of the oesophagus. Bone marrow examination revealed low cellular marrow with both

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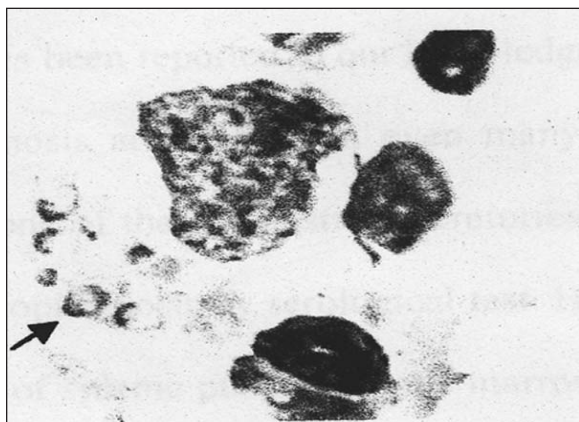
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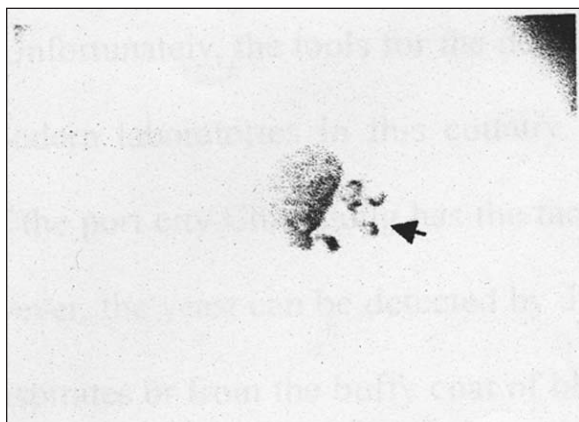
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intracellular and extracellular *Histoplasma capsulatum*. Anti HIV anti-body was positive (ELISA & Immunochromatography, line-immunoassay).

The patient was diagnosed as a case of Acquired Immunodeficiency Syndrome (AIDS) with disseminated histoplasmosis. He was treated with ceftriaxone, amikacin, metromdazole and itraconazole. Unfortunately the patient died of septicemic shock two days after the diagnosis.



Histoplasma capsulatum in macrophage of bone marrow smear



Histoplasma capsulatum in macrophage of bone marrow smear

Discussion :

Like other opportunistic infection histoplasmosis is common in immunocompromised individuals. The incidence of histoplasmosis is increasing in AIDS, organ transplants and in those who need prolong immunosuppressive therapy⁴. In AIDS the incidence may approach to 25%^{5,6}.

Fig 1,2: *H. capsulatum* (1000x) in macrophage of bone marrow smear, Leishman stain In AIDS histoplasmosis occurs as a progressive systemic disease with prolonged high fever, weight loss, mucocutaneous lesions, hepatosplenomegaly, lymphadenopathy, loose motion and pancytopenia etc⁷. Unless treated promptly with systemic anti-fungal drugs the disease is rapidly fatal with 100% mortality.

Histoplasmosis is not common in Bangladesh. Though a few cases have been detected, not a single case of histoplasmosis has ever been reported in Bangladesh among AIDS victims (Personal communication). It rarely affects individual other than immunosuppressed. With the alarming global increased incidence of AIDS it presents a tremendous threat of becoming a not uncommon disease with the progressively increasing incidence of HIV positive cases. The climates are ideal for the growth of the fungi in Bangladesh. Recent AIDS bulletin has recorded 248 cases of HIV infected individual among which were 26 AIDS Patients (DGHS, MOH&FP, December 1, 2002). But according to the WHO reports, estimated number of HIV infected cases and AIDS are far more (UNAIDS Global HIVAIDS, 2001). In none of these cases has histoplasmosis been reported to our knowledge. Unfortunately, the tools for the detection of histoplasmosis are lacking in even many modern laboratories in this country. We found that none of the diagnostic laboratories of the port city Chittagong has the facility to detect histoplasmosis by serological test. However, the yeast can be detected by direct examination of splenic puncture, bone marrow aspirates or from the buffy coat of blood. The fungi can also be grown in appropriate artificial culture media. We detect our case by direct examination of bone marrow (Fig-1, 2). As an invasive technique, bone marrow aspiration and splenic puncture is not risk-free particularly in HIV infected cases. Besides, there is always a chance of missing the parasites in cases of low level of parasitaemia.

Unlike the neighboring country like India and Myanmar the prevalence of HIV infection is still low in Bangladesh. Among the reasons for this low incidence is believed that the social customs, religious, values and restricted habit of not practicing sexual promiscuity are important. But tattoo may appear as an important way of contacting HIV infection particularly in those communities where

tattoo is not an uncommon social practice. Though tattoo is a rare practice by Bangladeshi people it is not uncommon among the tribal. Our patient had done his tattoo in Myanmar. As we could not detect any of the common recognized means of contacting HIV infection in our patient we thought that, probably, tattoo by the use of commonly used needle was responsible for the infection. Our patient had visited Myanmar several times where the incidence of HIV infection is very high. Though he did not admit about sexual contact with the Burmese people. Transmission of HIV infection to our patient through sexual contact still remains a possibility.

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