Histoplasmosis is a fungal disease caused by Histoplasma capsulatum. Histoplasmosis was first described a little over a century ago by an American physician, Samuel Darling, who was working in the Canal Zone in Panama. He described the disseminated form of the disease in a fatal case from Martinique (1). Histoplasmosis occurs throughout the world, but is most common in North and Central America. Isolated cases have been reported from Southeast Asia, Africa, and the Mediterranean Basin[2]. Histoplasma capsulatum is a thermally dimorphic fungus. Its natural habitat is the soil, contaminated by excreta of chicken, birds, and bats (3). Infection with H. capsulatum results from passive exposure that occurs during typical day-to-day activities or from active exposure related to occupational or recreational activities. Most cases are sporadic, related to passive exposure, and not associated with a known source. Most persons who have been infected have asymptomatic dissemination; only rarely will this lead to symptomatic disseminated histoplasmosis [4]. However, because dissemination is the rule, latent infection probably persists for a lifetime, and reactivation can result if the host becomes immunosuppressed. Presumably, this is the mechanism by which persons who were born in the endemic area and had not returned for years develop histoplasmosis years later [5, 6]. Although dissemination is common during the course of multiple H. capsulatum infections, symptomatic dissemination occurs primarily in immunosuppressed patients and infants [7-10]. Widely disseminated histoplasmosis may occur in patients with Hodgkin's lymphoma and acute leukemias treated with corticosteroids and cytotoxic drugs [11]. In years before AIDS, the prevalence of dissemination was estimated as 1 per 100,000 to 500,000 cases of histoplasmosis. (12) More recent estimates show that disseminated histoplasmosis occurs in approximately 55% of infected immunocompromised patients and 4% of infected immunocompetent patients (9,13,14). In normal, immune-competent persons, infection with airborne spores of Histoplasma usually results in the formation of a minute (5-mm), subpleural, caseated, calcified nodule in the lower lobe of lung and a calcified area in the regional hilar lymph node; these budding yeasts intracellularly as well as extracellularly(fig.1 and 2). Hyphae and pseudohyphae were not seen. Inflammatory response in the form of epithelioid cell granulomas along with multinucleated giant cells was also seen(fig.3).

The majority of human infections with Histoplasma organisms are asymptomatic pulmonary infections. When symptoms occur, usually 3 to 14 days after a more massive exposure, they are nonspecific, manifesting as fever and chills, headaches, myalgia, and weight loss. Because the fungi are transported by histiocytes, the reticuloendothelial system is primarily affected, and therefore the bone marrow, lymph nodes, spleen, and liver are most likely to be involved (17).

Many case reports are present where FNAC have been used to detect histoplasmosis, disseminated cutaneous histoplasmosis and axillary lymph node but FNAC has been seldom used for the detection of histoplasmosis of mesenteric lymph node.

**CASE REPORT**

A 46-year man with diabetes who presented with a 6-month history of fever, loss of appetite, weight loss, and abdominal pain; using ultrasonography, we found mesenteric lymph node enlargement, ileal wall thickening and hepatosplenomegaly. Ultrasonography directed fine needle aspiration showed yeast forms consistent with Histoplasma capsulatum.

**ABSTRACT**

Histoplasmosis is a rare and potentially fatal disease caused by the dimorphic soil fungus Histoplasma capsulatum. Bone marrow, lymph nodes, spleen, and liver are most likely to be involved in disseminated histoplasmosis. There are very few cases of mesenteric lymph node histoplasmosis diagnosed on fine needle aspiration cytology. We describe a case of 46-year man with diabetes who presented with a 6-month history of fever, weight loss, and abdominal pain; using ultrasonography, we found mesenteric lymph node enlargement, ileal wall thickening and hepatosplenomegaly. Ultrasonography directed fine needle aspiration showed yeast forms consistent with Histoplasma capsulatum.

**KEYWORDS**: Histoplasmosis, FNAC, Mesenteric

**INTRODUCTION**

Histoplasmosis is a fungal disease is caused by Histoplasma capsulatum. Histoplasmosis was first described a little over a century ago by an American physician, Samuel Darling, who was working in the Canal Zone in Panama. He described the disseminated form of the disease in a fatal case from Martinique (1). Histoplasmosis occurs throughout the world, but is most common in North and Central America. Isolated cases have been reported from Southeast Asia, Africa, and the Mediterranean Basin [2]. Histoplasma capsulatum is a thermally dimorphic fungus. Its natural habitat is the soil, contaminated by excreta of chicken, birds, and bats (3). Infection with H. capsulatum results from passive exposure that occurs during typical day-to-day activities or from active exposure related to occupational or recreational activities. Most cases are sporadic, related to passive exposure, and not associated with a known source. Most persons who have been infected have asymptomatic dissemination; only rarely will this lead to symptomatic disseminated histoplasmosis [4]. However, because dissemination is the rule, latent infection probably persists for a lifetime, and reactivation can result if the host becomes immunosuppressed. Presumably, this is the mechanism by which persons who were born in the endemic area and had not returned for years develop histoplasmosis years later [5, 6]. Although dissemination is common during the course of multiple H. capsulatum infections, symptomatic dissemination occurs primarily in immunosuppressed patients and infants [7-10]. Widely disseminated histoplasmosis may occur in patients with Hodgkin's lymphoma and acute leukemias treated with corticosteroids and cytotoxic drugs [11]. In years before AIDS, the prevalence of dissemination was estimated as 1 per 100,000 to 500,000 cases of histoplasmosis. (12) More recent estimates show that disseminated histoplasmosis occurs in approximately 55% of infected immunocompromised patients and 4% of infected immunocompetent patients (9,13,14). In normal, immune-competent persons, infection with airborne spores of Histoplasma usually results in the formation of a minute (5-mm), subpleural, caseated, calcified nodule in the lower lobe of lung and a calcified area in the regional hilar lymph node; these form a primary complex entirely similar to the one commonly seen in tuberculosis (15,16).

The majority of human infections with Histoplasma organisms are asymptomatic pulmonary infections. When symptoms occur, usually 3 to 14 days after a more massive exposure, they are nonspecific, manifesting as fever and chills, headaches, myalgia, and weight loss. Because the fungi are transported by histiocytes, the reticuloendothelial system is primarily affected, and therefore the bone marrow, lymph nodes, spleen, and liver are most likely to be involved (17).

Many case reports are present where FNAC have been used to detect adenral histoplasmosis, disseminated cutaneous histoplasmosis and axillary lymph node but FNAC has been seldom used for the detection of histoplasmosis of mesenteric lymph node.

**CASE REPORT**

A 46-year man with diabetes who presented with a 6-month history of fever, loss of appetite, weight loss, and abdominal pain; using ultrasonography, we found hepato-splenomegaly, ileal wall thickening and enlargement of multiple mesenteric lymph nodes ranging in size from 2.5 - 4cm (fig. 1)

His hemoglobin was 10.9 g/dL, total leukocyte count: 5400 cells/cumm with 70% neutrophils, ESR: 43 mm/hr and platelets: 2.3 lakhs/mm3. Peripheral smear showed normocytic normochromic anemia. Random blood sugar was 193 mg%. Liver and renal function tests were normal. The chest X-ray showed a non-homogenous opacity in the left upper lobe. HIV status was repeatedly negative. Blood culture was sterile.

A work-up for tuberculosis, including enzyme-linked immunosorbent assay (ELISA) and Montoux test, was negative.

FNAC was performed under ultrasound guidance from enlarged mesenteric lymph node, which revealed uniform round to oval budding yeasts intracellularly (within histiocytes) as well as extracellularly(fig.1 and 2). Hyphae and pseudohyphae were not seen. Inflammatory response in the form of epithelioid cell granulomas along with multinucleated giant cells was also seen(fig.3).

**Figure 1 Photomicrograph of Mesenteric Histoplasmosis (Low power MGG 10X40)**

**Figure 2 Photomicrograph of Mesenteric Histoplasmosis (High power MGG 10X100)**
lymph nodes.

for rapid diagnosis of histoplasma infection involving mesenteric lymphadenopathy in adults.

FNAC is a simple safe and inexpensive procedure that can be utilized to diagnose histoplasma infection. Our findings emphasize the necessity for having a high index of suspicion of histoplasmosis in the appropriate clinical context.

**CONCLUSION**

This case confirms the importance of considering disseminated histoplasmosis as a possibility while considering possible etiology of mesenteric lymphadenopathy in adults.

FNAC is a simple and inexpensive procedure that can be utilized for rapid diagnosis of histoplasma infection involving mesenteric lymph nodes.