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Case Study

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ISOLATED ADRENAL HISTOPLSMOSIS: A CASE REPORT

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ABSTRACT

Histoplasmosis is an infection caused by a dimorphic fungus *Histoplasma capsulatum.* The infection is acquired by inhalation of its spores. Although most infections are asymptomatic, self-limiting acute pneumonitis and hilar lymphadenopathy may occur with inhalation of large aerosol. Adrenal involvement is seen in disseminated disease but sometimes it may be the only site of demonstrable disease. Early diagnosis and treatment may save the patient from catastrophic adrenal insufficiency. We report a rare histopathology proven case of isolated adrenal histoplaqsmosis in a 43 years old immunocompetent male patient.

INTRODUCTION

Histoplasmosis is a systemic mycosis caused by *Histoplasma capsulatum.* It is a saprophytic fungus and is thermally dimorphic and exists in yeast form inside the human body at 37°C and mold form in the environment and at 25°C–30°C. The disease is endemic in the United States, Africa and Asia. Its natural habitat is the soil rich in bird and bat droppings. The infection is mainly acquired by inhalation of its spores but infection may also occur by other routes such as fomites, direct inoculation, solid organ transplant and sexual contact. The spores of the fungus get converted in the alveoli into the Yeast form. The Yeasts are taken up by the alveolar macrophages where replication of the yeast occurs and through the reticuloendothelial system dissemination occurs to the regional lymph nodes and other organs of the body.[1] Disseminated disease occurs in some patients with impaired host defense mechanism such as patients with acquired immunodeficiency syndrome (AIDS), post transplant patients and patients with serious underlying disorders and frequently involves liver, spleen, lymph nodes, bone marrow and adrenals.[2-4] A patient with disseminated histoplasmosis usually presents with nonspecific symptoms such as malignancies, tuberculosis, sarcoidosis and other chronic infections.[5] Hereby, we report a case of adrenal histoplasmosis in a 43 years old male patient.

CASE REPORT

A 43 year old male, resident of Palampur, Himachal Pradesh, presented with complaints of pain in his right lower abdomen and fever for past two months. There was no history of weight loss, cough, sputum or hemoptysis. There was no history of diabetes mellitus or any other comorbidity. He was a government employe and was not involved in any work in fields. On general physical examination, he was conscious, co-operative and well oriented. He was afebrile and normotensive. Systemic examination was also within normal limits. Laboratory investigations including complete hemogram, blood glucose, liver function tests and kidney function tests were within normal limits. Erythrocyte sedimentation rate was 25mm/1st hour and glycosylated Hemoglobin (HbA1c) was 5.8%. Blood culture was negative for bacterial and fungal growth. Chest X-ray was normal. CECT abdomen was suggestive of a well defined hypodense mass lesion measuring 64 x 61 x 56 mm in right adrenal. It was showing moderate heterogeneous enhancement and necrotic areas within. Mass was displacing the kidney, liver and IVC. Adjacent fat planes were normal. Adrenal tuberculosis and malignancy were kept as differential diagnosis. Right adrenalectomy was done. Imprint smear from adrenal mass was suggestive of Histoplasmosis. Histopathological examination report was also suggestive of Histoplasmosis. (Fig 1 & 2) Multipe yeast forms were present within macrophages and also present extracellularly. Patient was started on injection amphotericin-B.

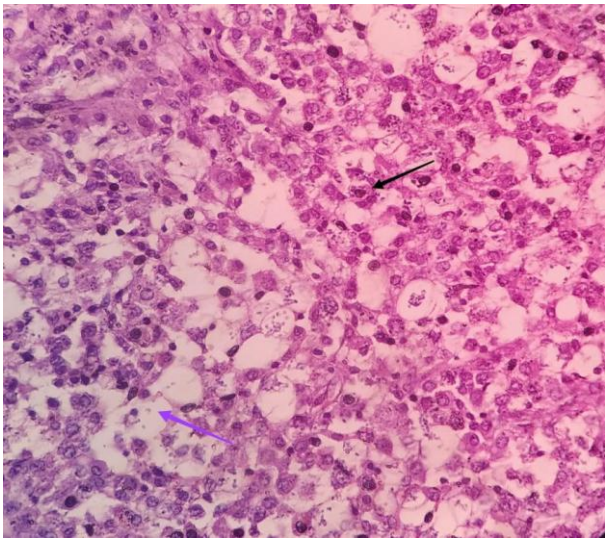

Fig. 1: Yeast forms within macrophages (black arrow) and extracellular (blue arrow).

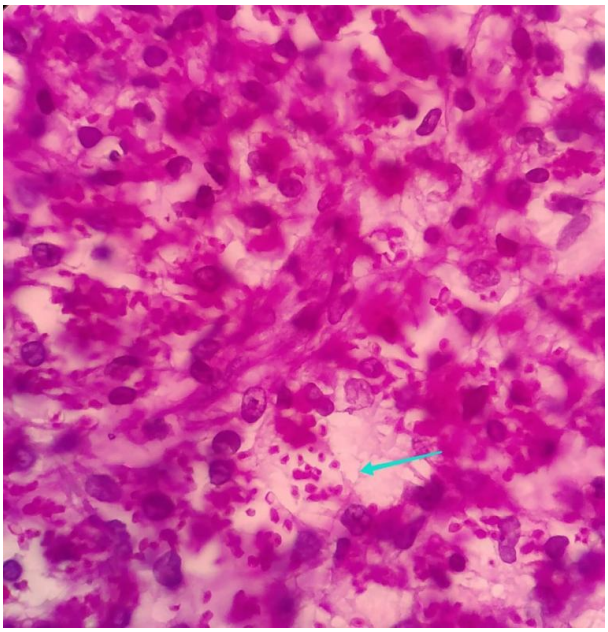

Fig 2: Arrow showing Histoplasma revealing PAS positivity.

DISCUSSION

Histoplasma capsulatum is a Dimorphic fungus. The yeast form exists in the human body at body temprature. The mycelial form exists in soil at 25°C–30°C. The natural habitat for mycelial form is soil rich in nitrogen such as areas contaminated with bird and bat guano. Globally, histoplasmosis is endemic in central and eastern states of the United States, South America, Africa and Asia. In India, most of the cases have been reported from the north and north-east states along the rivers Ganges, Yamuna and Brahmaputra.[6] Most commonly the disease exists in Pulmonary form and is usually self limiting. The patient is either asymptomatic or presents with influenza like illness.[7] Disseminated form of the disease is rare and may manifest as chronic disease in immunocompetent host or acute progressive disease in immunosuppressed hosts. It may affect reticuloendothelial system, lungs, gastrointestinal tract, urinary tract, CNS, bone marrow and adrenal glands. The adrenal glands are frequently involved through hematogenous route in disseminated histoplasmosis mainly in immunocompromised patients such as AIDS patients, transplant recipients, those with hematologic malignancies and patients on corticosteroids. Although rare, adrenal histoplasmosis has been reported in immunocompetent patients in India as well as in other countries. The differential diagnosis of adrenal histoplasmosis includes primary adrenal malignancy, tuberculosis, adrenal blastomycosis and adrenal coccidioidomycosis. In a country like India where tuberculosis is very common, it is often misdiagnosed as tuberculosis and the patient is put on antitubercular therapy.

The patients of adrenal histoplasmosis usually reveal bilateral adrenal masses of varied imaging features. On ultrasonography, they show bilateral adrenal masses with uniformly hypoechoic to heterogenous echopattern. CECT scan of abdomen reveals bilaterals symmetrical adrenomegaly with preservation of the contour of the gland, central hypodensity with peripheral enhancement and presence of calcification.[8] Adrenal FNAC can suggest the diagnosis which is further confirmed by culture, polymerase chain reaction and urine antigen. It can also differentiate between tuberculosis and histoplasmosis.[9] H. *capsulatum* is an intracellular dimorphic fungus which is commonly seen within the cytoplasm of the macrophages and exhibit narrow based budding.[10] The organism can also be seen extracellularly as the fragile cytoplasm of the macrophages may get disrupted. Rapid onsite cytopathological evaluation can help in early diagnosis of the infection and hence the treatment can be started at the earliest to avoid life threatening adrenal insufficiency.[11]

CONCLUSION

Adrenal histoplasmosis is not much uncommon in India, and it may affect immunocompetent individuals also. A high degree of clinical suspicion is required. Diabetes may be a risk factor for disseminated histoplasmosis. Amphotericin B and itraconazole are the drug of choice for the treatment. In the regions where endemic, possibility of histoplasmosis should always be kept in a patient with enlarged, hypoattenuating bilateral adrenal glands with peripheral rim enhancement and enhancing internal septations. Image guided FNAC should be performed without delay for early diagnosis and treatment so as to avoid life-threatening adrenal insufficiency.

REFERENCES

1. Rog CJ, Rosen DG, Gannon FH. Bilateral adrenal histoplasmosis in an immunocompetent man from Texas. Med Mycol Case Rep., 2016; 14: 4-7.

2. Crispel KR, Parson W, Hamlin J, Hollifield G. Addison's disease associated with histoplasmosis: report of four cases and review of literature. *Am J Med.*, 1956; 20: 23–9.
3. Goodwin RA, Jr, Shapiro JL, Thurman GH, Thurman SS, Des Prez RM. Disseminated histoplasmosis: clinical and pathological correlations. *Medicine*, 1980; 59: 1–33.
4. Goswami RP, Pramanik N, Banerjee D, Raza MM, Guha SK, Maiti PK. Histoplasmosis in eastern India: the tip of the iceberg? *Trans R Soc Trop Med Hyg*, 1999; 93: 540–2.
5. Afsana F, Hossain KN, Tareque A, Amin MF, Pathan MF. A case of adrenal histoplasmosis. BIRDEM Med J., 2018; 8: 77-80.
6. Gupta A, Ghosh A, Singh G, Xess I. A twenty-first-century perspective of disseminated histoplasmosis in India: Literature review and retrospective analysis of published and unpublished cases at a tertiary care hospital in North India. Mycopathologia, 2017; 182: 1077-93.
7. Kumar N, Singh S, Govil S. Adrenal histoplasmosis: Clinical presentation and imaging features in nine cases. Abdom Imaging, 2003; 28: 703-8.
8. Rozenblit AM, Kim A, Tuvia J, Wenig BM. Adrenal histoplasmosis manifested as Addison's disease: unusual CT features with magnetic resonance imaging correlation. *Clin Radiol*, 2001; 56: 682–4.
9. Grover SB, Midha N, Gupta M, Sharma U, Talib VH. Imaging spectrum in disseminated histoplasmosis: case report and brief review. *Australas Radiol*, 2005; 49: 175–8.
10. Gopal K, Singh S, Gupta R. Fine needle aspiration cytology in bilateral adrenal masses in a 58-year-old man. Acta Cytol, 2010; 54: 234–6.
11. Eloubeidi MA, Luz LP, Crowe DR, Snowden C, Morgan DE, Arnoletti PJ. Bilateral adrenal gland enlargement secondary to histoplasmosis mimicking adrenal metastases: diagnosis with EUS-guided FNA. Diagn Cytopathol, 2010; 38: 357–9.