

Histoplasmosis presenting as an intrathoracic mass

Sir,

Histoplasmosis is a granulomatous disease of fungal etiology, caused by intracellular dimorphic fungus *Histoplasma capsulatum*. The organism is more prevalent in certain parts of North and Central America and also rarely reported from the soil of the Gangetic plains of India.^[1] Infection occurs most commonly through inhalation, leading to various clinical presentations.^[2] Depending on the intensity of exposure of the infection and immunity of the exposed person, the range of clinical presentation may vary from asymptomatic to progressive disseminated histoplasmosis.^[3] Histoplasmosis can mimic tuberculosis (TB) both clinically and histopathologically and thus many cases may potentially be erroneously diagnosed as TB, especially in a TB endemic country like India. We present a rare case of an intrathoracic mass which was incidentally discovered on imaging and was later confirmed to be a pulmonary histoplasmosis on histopathology.

An 18-year-old nonsmoker young male presented with complaints of cough, chest pain and weight loss for 6 months. On clinical ground, he was started antitubercular therapy, but his symptoms were deteriorating with increased chest pain and cough. Workup for his chest pain at the referring hospital had included a chest X-ray [Figure 1] which revealed a suspicious mediastinal mass. This was followed by computed tomography (CT) thorax with contrast which demonstrated a large well-defined mass lesion in the right lower lobe abutting costal and mediastinal pleura, left atrium, suprahepatic part of the inferior vena cava, and right pulmonary vein with ill-defined interface. The lesion was also seen insinuating in retrocardiac region with mild extension toward left

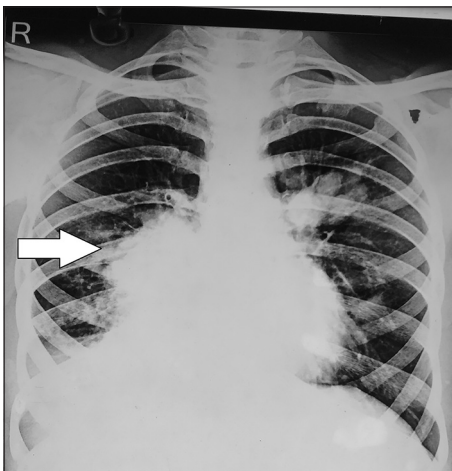


Figure 1: Chest X-ray posteroanterior view showing a mediastinal mass

lung. CT-guided biopsy of mass lesion showed lung parenchyma with interstitial fibrosis along with necrosis and dense inflammatory infiltrate comprising mainly foamy histiocytes, neutrophil-lymphocytes, and plasma cells. Gomori methenamine silver stain [Figure 2] shows fungal organisms as rounded black-colored structures in the cytoplasm confirming the diagnosis of histoplasmosis. Routine blood investigations revealed hemoglobin of 12.1 gm%, total count of 10,000/cmm (neutrophils: 68%, lymphocytes: 27%, and eosinophils: 5%). Viral markers including HIV, HBsAg, and HCV were negative.

The patient was treated with antifungal treatment in the form of itraconazole 200 mg two times in a day. On follow-up visit, he showed improvement clinically and follow-up chest X-ray posteroanterior view showed resolution of mass lesion [Figure 3].

Histoplasmosis is not endemic in India. Most of the cases have been reported from the Gangetic plains of Uttar Pradesh and West Bengal. On the basis of histoplasmin skin sensitivity testing, the prevalence of histoplasmosis in India varies from 0% to 12.3%.^[4] Histoplasmosis usually develops through inhalation of fungal spores. Within few weeks to months, it hematogenously spread to reticuloendothelial system. The range of clinical presentations includes asymptomatic pulmonary histoplasmosis, acute diffuse pulmonary histoplasmosis, chronic pulmonary histoplasmosis, disseminated histoplasmosis, endobronchial histoplasmosis, fibrosing mediastinitis, mediastinal granulomas, and lung nodules. The majority of healthy persons infected with *H. capsulatum* develop a self-limiting disease. Severe or

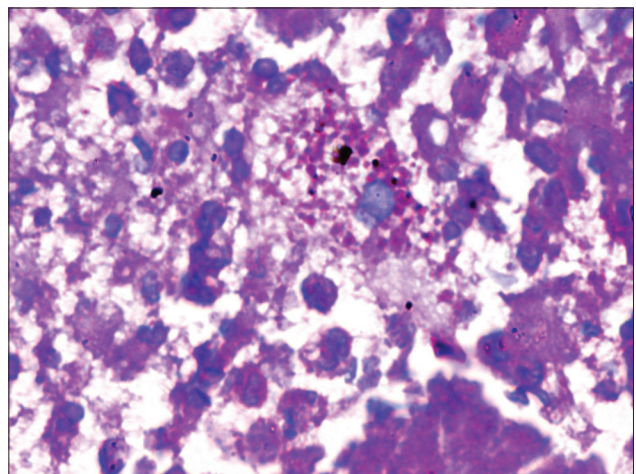


Figure 2: Intrathoracic mass biopsy histopathological examination with Gomori methenamine silver stain showing fungal organisms as rounded black-colored structures in the cytoplasm suggestive of histoplasmosis



Figure 3: Chest X-ray posteroanterior view demonstrating resolution of mass lesion

disseminated forms of histoplasmosis usually occur in immunocompromised hosts.^[5,6] Lung biopsy and fungal culture has been widely recognized as the gold standards for diagnosing pulmonary histoplasmosis. Unlikely with the literature, our patient was presented with large solid mass of the right lower lobe abutting the surrounding structure with extension toward left lung. The diagnosis of histoplasmosis was established by histopathological examination and special staining of tissue obtained by percutaneous CT-guided biopsy. The patient was put on antifungal treatment in the form of Itraconazole and shows clinical as well as radiological improvement. The case was more interesting because no factor responsible for immunosuppression could be demonstrated in the patient.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for his images and other clinical information to be reported in the journal. The patient understands that his name and initial will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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