

Intracavitary Mass Lesion in an HIV Patient

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1. Clinical Image

A 54 year-old man, HIV seropositive since 2011, with highly active antiretroviral therapy (HAART) and a previous diagnosis of pulmonary tuberculosis presented with a history of fever, productive cough and weight loss of 15 days duration. Physical examination revealed a temperature of 38 °C, cachectic status, dyspnea, hemoptysis, tachycardia, and tachypnea and disseminated bilateral crackles. Chest radiography showed a fungus ball with an air crescent in the right upper lobe (Figure 1). A computed tomography thorax scan revealed a well formed cavity lesion compatible with a right lobe upper aspergilloma (Figure 2 and 3). A direct examination of the Broncho alveolar lavage (BAL) smears shows septate hyphae with branching at acute angles, suggestive of *Aspergillus*. In the fungal culture of the BAL, *Aspergillus flavus* species was identified. Serological test for *Aspergillus flavus* was negative. With the diagnosis of intracavitary aspergillosis, treatment with Amphotericin B followed by Iitraconazole was started with a good outcome and clinical improvement.

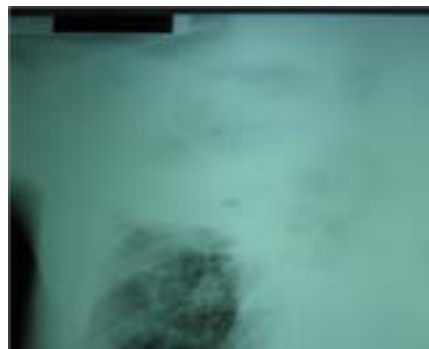


Figure 1: Chest radiography showing a fungus ball with an air crescent in the right upper lobe.

Aspergillosis is a mycotic disease caused by *Aspergillus* species. *Aspergillus* is a genus of ubiquitous soil fungi. The histologic, clinical, and radiologic manifestations

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of pulmonary aspergillosis are determined by the number and virulence of the organisms and the patient's immune response [1,2]. Saprophytic aspergillosis (aspergilloma) is characterized by *Aspergillus* infection without tissue invasion. It typically leads to conglomeration of intertwined fungal hyphae admixed with mucus and cellular debris within a preexistent pulmonary cavity or ectatic bronchus [3]. Although patients may remain asymptomatic, the most common clinical manifestation of saprophytic aspergillosis is hemoptysis [4,5] Chest radiography is useful in demonstrating the presence of a mass in a pre-existing cavity. At radiography, mycetomas are characterized by the presence of a solid, round or oval mass with soft-tissue opacity within a lung cavity. Typically, the mass is separated from the wall of the cavity by an air-space of variable size and shape, resulting in the "air crescent" sign. The aspergilloma usually moves when the patient changes position [2]. An *Aspergillus* fungal ball is a frequent cause of massive haemoptysis in patients with pre-existing lung cavities, which is fatal in 10% of cases. Bronchoscopy with BAL is generally helpful in the diagnosis of pulmonary aspergillosis, especially in patients with diffuse lung involvement. The sensitivity and specificity of a positive result of BAL fluid are about 50% and 97%, respectively. In addition to obtaining samples for fungal stain and culture, it may also be useful in detecting *Aspergillus* antigens in the BAL fluid, and excluding other infections [6]. CT-guided percutaneous administration of amphotericin B can be effective for aspergilloma, especially in patients with massive haemoptysis. Itraconazole may be useful in the management of selected patients with aspergilloma because it has a high tissue penetration [7].

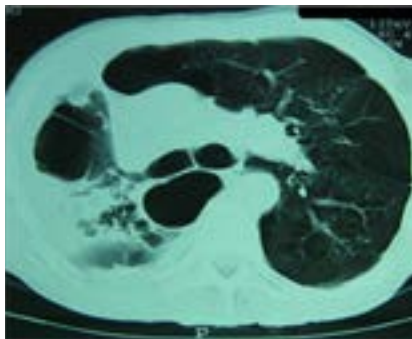


Figure 2: Chest computed tomography image showing a right upper lobe aspergilloma.

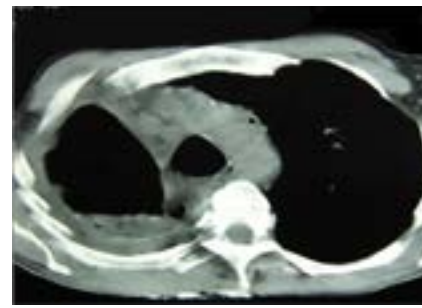


Figure 3: Simple aspergilloma that developed within a post-tuberculous cicatricial cavity.

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