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## **CASE REPORT**

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### **Aspergilloma in Immunocompromised Patient**

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#### **Abstract**

Aspergilloma is a fungus ball containing aspergillus hyphae with mucus and cellular debris and considered a type of chronic pulmonary aspergillosis as a result of colonization of preexisting lung cavity with aspergillous species. in this article will present a case of Aspergilloma along with the discussion of causes, presentation, diagnosis and treatment in immunocompromised patient.

**Keywords:** Aspergilloma, Aspergillosis, Cavitory mass

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## 1 | INTRODUCTION

Aspergilloma is a non-invasive form of pulmonary aspergillosis usually presenting as a fungus ball in pre-existing lung cavity. It usually affects immunocompromised patients. Cases of pulmonary aspergillosis without any evidence of previous lung cavitation are rarely reported. We present here a case of pulmonary aspergillosis in cannabis and alcoholic addict patient without pre-existing lung cavities.

## 2 | CASE PRESENTATION

40 Years old Saudi patient presented to emergency room complaining of haemoptysis for 5 days, he has undergone de-addiction for alcohol and cannabis addiction recently but reverted back to these. He is a chronic smoker (approximately 70 pack years).

Past history- patient is known with Uncontrolled Diabetes not on regular treatment for past many years. No history of any other illness. Occupation is health care worker>

On examination generally looked thin built 40 YRS. Old male. WEIGHT 58 KGS., HEIGHT 170 CMS. , B.M.I. 20.07 KG./SQ.M.PULSE : 78/M, B.P. : 114/68 MMS. HG., SPO2 : 97 % ON R.A., TEMP. : 36.8 DEG.C., R.R. : 18/M Systemic : Normal

## 3 | INVESTIGATIONS

LABORATORY :Hb. 13.4 gm./dl., W.B.C. 11,740/cu.mms., Neutro. 67 %, Lympho. 24 %, Mono. 7 %, Eosino. 1 %, Baso. 1 %, E.S.R. 65 mms. in 1st hr., Platelets 224,000/cu.mms.

P.T. 11.5 secs., P.T.T. 31.2 secs., INR 0.9

R.B.S. 346 mg./dl., HbA1c 12 %

S. Creatinine 0.65 mg./dl., S. Urea 19.26 mg./dl.

S. Na 142 mmol/L, S. K 4.33 mmol./L

H.I.V. 1 & 2, H.C.V., HBsAg. : All Non-Reactive

Sputum Examination for A.F.B. : 4 Samples were Negative by Smear Examination and also by Direct P.C.R.

RADIOLOGICAL : Chest X-Ray – Right Upper Zone showed a non-homogeneous nearly cavitating opacity (figure 1).

C.T.Chest :Cavitary mass lesion in the Apical segment of Right Upper Lobe with thin irregular wall with a low density non-dependent central area surrounded with air known as air crescent sign (figure 2,3).

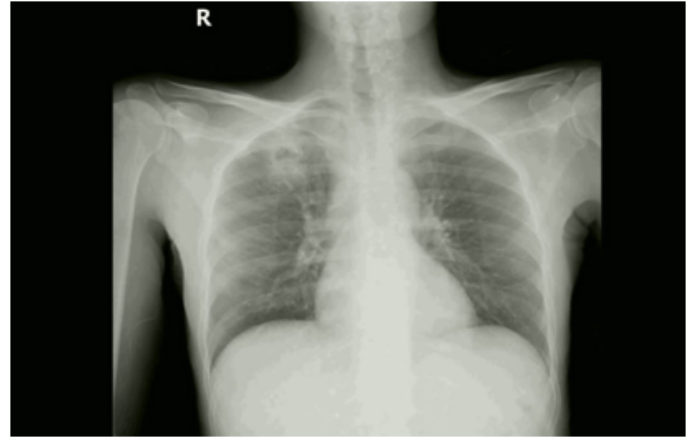


Figure 1: Chest x-ray showed right upper zone cavitating lung opacity

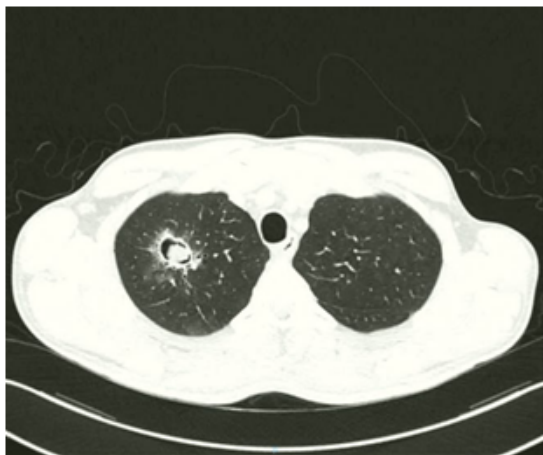
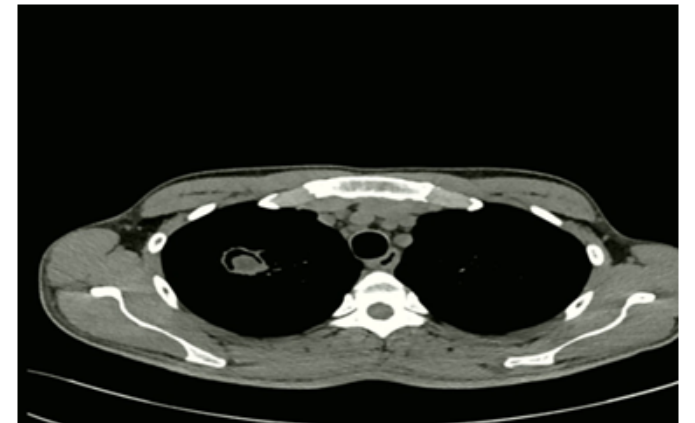


Figure 2, 3: CT chest showed cavitary mass lesion in the apical segment of the right upper lobe with thin irregular wall surrounded with air known as air crescent sign.

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#### 4 | DIFFERENTIAL DIAGNOSIS

Differentials of pulmonary aspergilloma include hydatid cyst, tuberculoma, lung abscess, or primary lung malignancy. Each of them should be considered in initial work up for diagnosis.

#### 5 | TREATMENT

Patient has localized right upper lobe aspergilloma. With the risk of recurrent haemoptysis, patient was referred for surgical lobectomy.

#### 6 | DISCUSSION

Aspergillus species are saprophytes seen in the environment worldwide<sup>1</sup>. Patients usually acquire aspergillosis infection through airborne spore inhalation. Once reaching the alveoli, these spores germinate to form fungi leading to infarction, necrosis, oedema and hemorrhage<sup>2</sup>.

Here, we present a case of pulmonary aspergilloma in immunocompetent patient. Pulmonary aspergillosis is usually seen in immunocompromised patients who are on high dose of corticosteroids or cancer chemotherapy or bone marrow transplantation<sup>1</sup>. Although, this case was not immunocompromised, he reported history of cannabis addiction and alcohol addiction. Cannabis is known to be contaminated with fungus spores especially aspergillous fumigatus<sup>3</sup>. There have been many case reports of pulmonary aspergillosis following the smoking of cannabis<sup>4,5</sup>. Also there were reported cases of invasive aspergillosis associated with chronic alcoholism<sup>6,7</sup>.

Regarding the presenting complaints, chronic pulmonary aspergillosis usually presents with chronic cough, fever, weight loss and haemoptysis of variable severity<sup>8</sup>. Haemoptysis is one of the most serious complications of pulmonary aspergillosis and has been reported in 64%-83% of cases with aspergilloma<sup>9</sup>.

Radiologically, most cases of aspergilloma are detected in the upper lobes, in residual tuberculosis cavities<sup>10</sup>.

Unusual presentation of the present case was that no signs of cavitation were observed before Aspergillus infection. Kang et al<sup>11</sup> previously described cases of pulmonary aspergillosis in immunocompetent hosts without a pre-existing lung lesion. Typical chest CT findings include cavitory lesions in upper lung lobes with fungus ball-like shadows, air crescent signs and meniscus signs. Most of these findings can also occur in other infectious lung diseases, such as tuberculosis<sup>12,13</sup> and should be put in differential diagnosis of aspergillosis.

Oral antifungal therapy is the mainstay of treatment in subacute invasive pulmonary aspergillosis and symptomatic pulmonary aspergilloma<sup>14</sup>. Surgical resection should be reserved for life saving haemoptysis cases with localized unilateral disease and failure of medical treatment. Bronchial artery embolization could be a good therapeutic option for massive haemoptysis before surgery<sup>15,16</sup>.

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