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Case Report

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Two cups of Tuberculosis in Chest

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Abstract

Lung abscess typically presents as a cavity with air fluid level on chest x-ray. We are presenting an x-ray of a middle aged diabetic who had bilateral lung abscesses, the etiology of which was found to be tubercular. Tuberculosis is a very rare cause of lung abscess worldwide, the most common being infection caused by polymicrobial agents with predominance of anerobes.

Keywords: lung abscess; cavity with air fluid level; tubercular lung abscess

Case Presentation

A 42 year old female was admitted in the emergency room of our institute with complains of fever with chills with night sweats since 2 months, cough with foul smelling sputum production from 1.5 months, gradually increasing shortness of breath along with decreased appetite and loss of weight since 1.5 months. She was normotensive and diabetic since last 7 years, well compliant on regular oral hypoglycaemics. Her glycaemic control had recently worsened with random blood sugar at presentation being 406mg/dl. The patient turned to us after treatment from various quacks and local practitioners. She was a baptised Sikh with no history of smoking, drinking or any other substance abuse. Upon examination, she was conscious, dyspnoeic with respiratory rate of 32/min, blood pressure 112/76 mmhg, fever 103^0F and heart rate of 120 beats/min. She had grade 3 clubbing and mild pallor. There was no icterus, edema, cyanosis, lymphadenopathy, joint pain or rashes over the body. Her oxygen saturation was 76% on room air. On auscultation, breath sounds were diminished at the apexes and mammary regions, coarse inspiratory crackles were audible over these areas. Cavernous breath sounds were audible in the right interscapular region. Mediastinum was central. The cardiovascular, gastrointestinal and central nervous system examination was grossly normal. Her arterial blood gas analysis suggested metabolic alkalosis with compensatory respiratory acidosis. The

haemoglobin was 9.2 gms, total leucocyte count was 7800/cmm with differential being neutrophils 65% and lymphocytes 35%. Her ESR was 91mm at the end of first hour. She tested nonreactive for HIV ELISA, Australia antigen and hepatitis C virus antigen. Renal function and liver function tests were normal. Her mantoux was negative and she tested negative for acid fast bacilli in sputum examination. The blood cultures, urine cultures and sputum cultures were sterile.

X-ray chest were requested and they showed a big cavity with air fluid level on the right lung field and another cavity, smaller in size, in the left side at an almost similar level (fig 1, 2). The CECT chest of the patient showed bilateral cavitatory lesions in the upper lobes with air fluid level suggestive of lung abscess (fig.3,4). Then she was sent for bronchoscopy followed by bronchoalveolar lavage (BAL). The microbiological examination of BAL showed AFB in both direct and concentrated smears. The patient was immediately started on antitubercular therapy (ATT). She responded to ATT and showed great improvement.

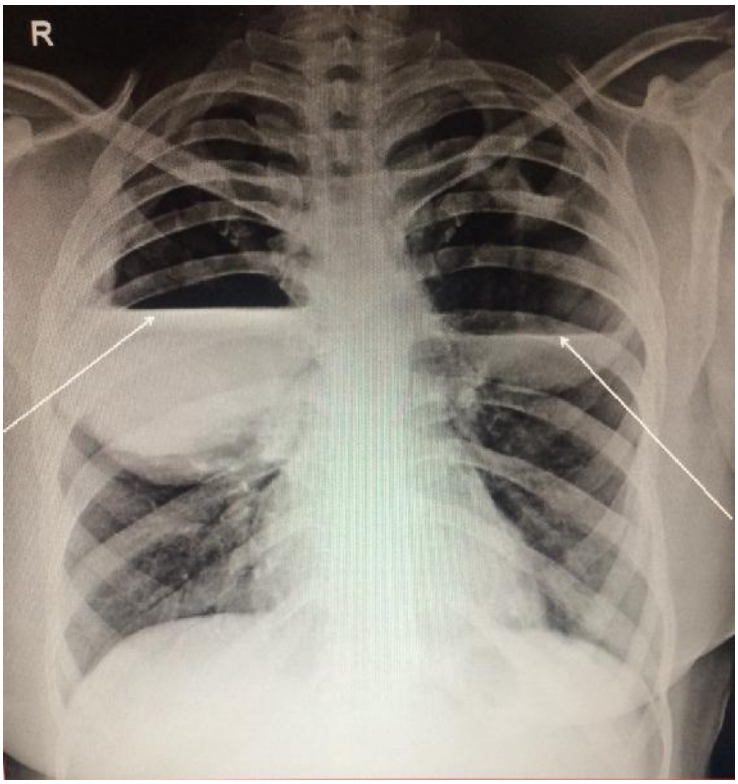

Fig.1 showing bilateral air- fluid levels in cavitatory lesions in A-P View of chest xray

Fig. 2 showing bilateral lung abscess on lateral chest xray view.

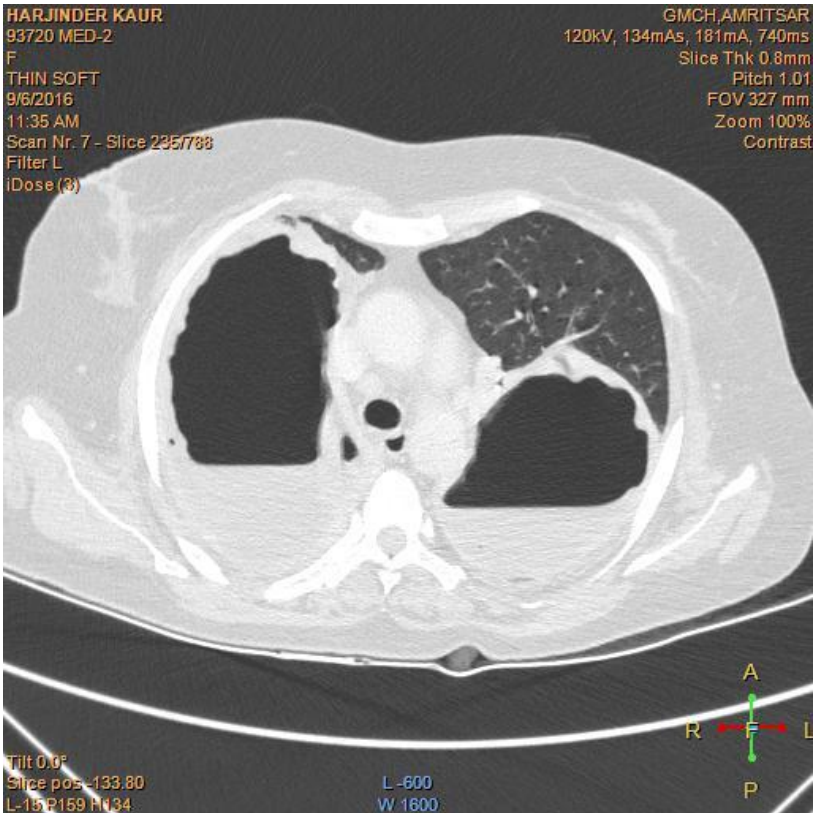

Fig. 3 showing CECT scan of the chest showing bilateral lung abscesses

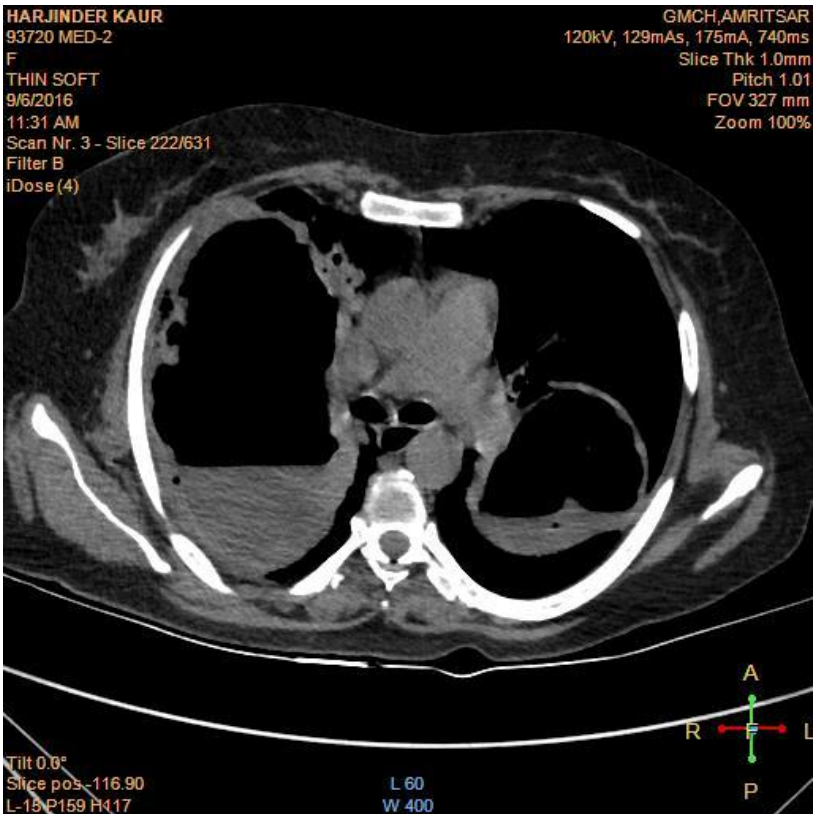

Fig. 4 showing CECT scan of the chest showing bilateral lung abscesses

Discussion

Lung abscess is a type of liquefactive necrosis of the lung tissue and formation of cavities (more than 2 cm) containing necrotic debris or fluid caused by microbial infection.[1] Although, the incidence of lung abscess has declined since the introduction of antibiotic treatment, it still carries a mortality of up to 10%-20%.[2] Most common etiology of lung abscess is infection by anaerobes, followed by mixed polymicrobial infections.[3] Common pathogens include *Staphylococcus aureus*, *Klebsiella* spp, *Pseudomonas aeruginosa*, *Burkholderia pseudomallei*, group A streptococcus, *Streptococcus pneumoniae*, *Nocardia*, *Mycobacteria*, parasites and fungi.[4] Some studies across the world [5,6] have also found aerobic predominance instead of anaerobes in the polymicrobial flora of lung abscess cases as well. But tuberculosis has been reported very rarely as a culprit of lung abscess.[7]

There are several imaging techniques to diagnose lung abscess. Chest X-ray is the first and foremost suggested investigation considering its low cost and easy availability. Ultrasound of the thorax and Computed tomography (CT scan) of the chest are performed in suspicious cases or to further refine the diagnosis. CT is more sensitive than radiography[8] because, although very rarely, chest x-ray can miss the small lesions or lesions in the hidden areas.[9] On x-ray, the classical appearance of a pulmonary abscess is a cavity containing an air-fluid level.[10] In general abscesses are round in shape, and appear similar in both frontal and lateral projections. The abscesses can be single or multiple. After an extensive search on web and the relevant books on the subject in the rich library of our institute, we were not able to find a better picture of bilateral cavitatory lesions of lung abscess than the one we are presenting here. The organism isolated in our case was AFB, which again, is quite unusual. The classical x-ray appeared as if two cups of tuberculosis are resting in the chest!

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