PICTORIAL

LUNG ABSCESS AND AIR-FLUID LEVEL

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A 49-year-old male, chronic smoker with a background of diabetes mellitus and hypertension presented with a one-month history of productive cough, reduced appetite, and weight loss. He reported no history of alcoholism, fever, breathlessness, haemoptysis, and chest pain. The chest radiograph showed a cavitating lung lesion with air-fluid level in the right upper lobe (figure-1). CT of the thorax later revealed a well-defined irregular thin-wall enhancing cavitating lesion with air-fluid level within (7.0×6.5×5.6 cm), seen at the apical segment of the right upper lobe, which was indicative of lung abscess (figure-2). There were no enlarged hilar or mediastinal lymph nodes. The workup for pulmonary tuberculosis and malignancy was negative. He was administered with intravenous amoxicillin-clavulanic acid 1.2 g every 8 hours. A repeat thoracic CT done at a 2-week interval did not show any radiological improvement. In view of poor response to antimicrobial therapy, CT-guided percutaneous catheter drainage was attempted but there was no output from the drain. The sputum culture yielded *Klebsiella pneumoniae* and *Serratia marcescens*, susceptible to piperacillin-tazobactam and cefuroxime. He received intravenous piperacillin-tazobactam for 2 weeks, followed by a prolonged course of oral cefuroxime for 3 months. The lung abscess completely resolved upon completion of antibiotic therapy.

Lung abscess is a type of liquefactive necrosis of the lung tissue and formation of cavities containing necrotic debris or fluid caused by microbial infection. Lung abscess can be classified as acute (less than 6 weeks) or chronic (more than 6 weeks).[1] Lung abscesses are frequently polymicrobial and the most common organisms isolated from lung abscesses are *Prevotella*, *Fusobacterium*, and *streptococci*.[2] Air-fluid level sign is the hallmark of lung abscess. Lung abscesses are often unilateral, single and involved posterior segments of the upper lobes and the apical segments of the lower lobes as these areas are gravity dependent when lying down. Presence of air-fluid levels implies rupture into the bronchial tree or rarely growth of gas forming organism.[3] The mainstay of treatment of lung abscess involves proper systemic antibiotics and if indicated, percutaneous drainage or surgical management.[1] In this present case, prolonged antibiotic therapy has resulted in resolution of lung abscess that was not amenable to percutaneous drainage.

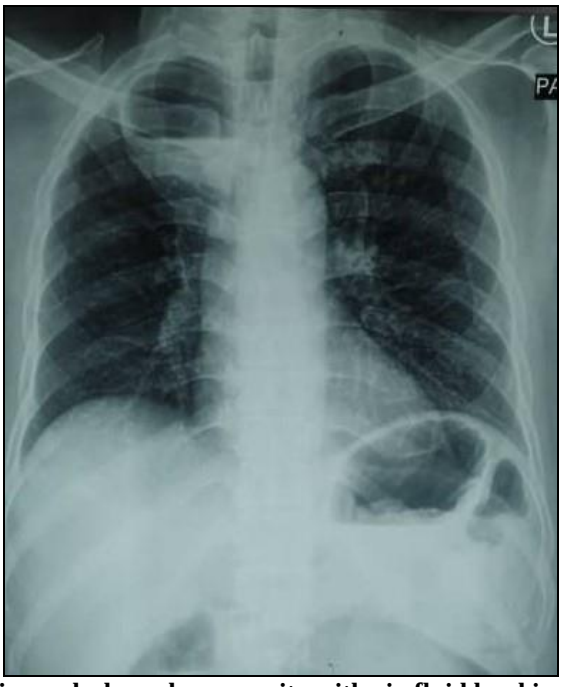

Figure-1: Chest radiograph shows lung opacity with air-fluid level in the right upper lobe

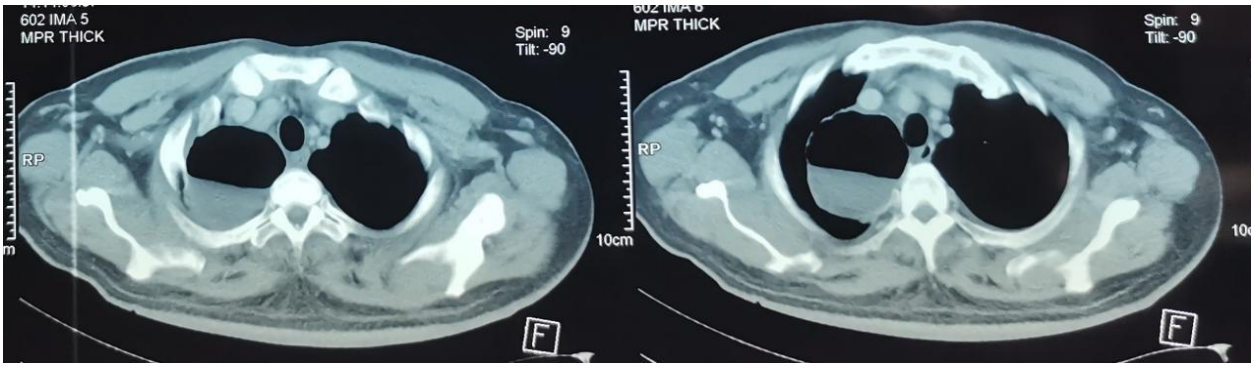

Figure-2: CT of the thorax shows a well-defined irregular thin-wall enhancing cavitating lesion with air-fluid level within (7.0×6.5×5.6 cm), seen at the apical segment of the right upper lobe.

Keywords: Lung abscess; Air-fluid level; Cavitating lung lesion

Conflict of interest: There were no conflicts of interest.

Consent: Written informed consent was obtained from the patient for publication of this manuscript.

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