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Document heading **doi: 10.21276/apjhs.2016.3.4S.3** **Case report**

Lung Abscess – Missed, then Found!

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ABSTRACT

Lung abscess, a liquefactive necrosis of the lung tissue, presents as an air-fluid level in a cavity on chest X-ray. But sometimes it can entirely be missed on chest X-rays and can cause delay in diagnosis and so appropriate management. In such situations, computed tomography of chest can clinch the diagnosis. We are presenting here such a situation where lung abscess was detected on CT chest, whereas the chest radiography totally missed it.

Keywords: CT Chest in lung abscess, X-ray in lung abscess

Introduction

A 55 year old female got admitted in the emergency department of Guru Nanak Dev Hospital and Govt. Medical College, Amritsar (GNDH) with chief complaints of breathlessness for two weeks which comes on exertion and decreases on rest but increases on lying down. Then about a week ago, she started having fever, of moderate to severe grade. She consulted some local practitioner but did not get any relief, so she was referred to our institute. The patient was non-diabetic and normotensive. There is past history of tuberculosis, 12 years back, for which she did not take full course of therapy. There is no history of falling unconscious in recent past. On physical examination, mild pallor was present. There were bilateral crepitations were present upto middle of the lung fields bilaterally, more on right side. Her pulse rate was 94/min at admission and blood pressure was 150/100 mmHg. Her hemoglobin level was 9.0 gm/dl and total leukocyte count 9,000/cm with differential of N78, L16, M4 & B2. Her Electrocardiogram showed left bundle branch block pattern. A diagnosis of left heart failure with respiratory tract infection was made and treated accordingly, But patient did not showed any improvement. On second day, her ESR came out be 90 mm at the end of one hour. Her chest X-ray (Picture 1) was done which showed fibrotic changes on right side with a patch of consolidation. To get more clear-cut information, a contrast enhanced computed tomography (CECT) of chest was also ordered immediately which showed (Picture 2) lung abscess of 4.6x3.6x3.6cm with air fluid level in right lower lobe of lung, along with consolidation, with sequelae of old tubercular infection. Her sputum was negative for acid fast bacilli by direct and concentration method, her CB NAAT was also negative. She was treated along the lines of standard treatment of lung abscess and she was responding favorably.

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Discussion

Lung abscess is a type of liquefactive necrosis of the lung tissue and formation of cavities containing pus caused by microbial infection, which usually follows aspiration pneumonia. The size of the cavity of more than 2 cm is considered for diagnosis of lung abscess [1]. Multiple cavities of size less than 2cm size are considered part of necrotizing pneumonia [2]. Although, the incidence of lung abscess has declined after the antibiotics became available for treatment of lung abscess but it still carries a mortality of up to 10%-20% [3]. Most common etiology of lung abscess

is infection by anaerobes, followed by mixed polymicrobial infections[4].Common pathogens include Staphylococcus aureus, Klebsiella spp, Pseudomonas aeruginosa, Burkholderia pseudomallei, group A streptococcus, Streptococcus pneumonia, Nocardia, mycobacteria, parasites and fungi[5].

There are several imaging techniques which can are used for diagnosis and evaluation of the lung abscess. The modalities commonly used include chest X-ray, CECT of the thorax and ultrasound of the thorax. On x-ray, the classical appearance of a pulmonary abscess is a cavity containing an air-fluid level [6,7]. Chest X-rays are easily available and economic but CT is far more informative and sensitive than conventional radiography of chest. Conventional radiography not only can miss the lung abscess in some cases, as in our case here, but also cannot provide information about the lesions than can mimic or present as air-fluid level on X-ray. Such conditions include excavating bronchial carcinomas and metastases, localized empyema associated with brnchopleural fistula, hydatid cyst of lung, Wegener granulomatosis, infected emphysematous bullae and cavitary pneumoconiosis[1]. Hemorrhage into a large pulmonary infarction[8] is also an uncommon but important differential which carries mortality of over 70% if not diagnosed in time, can also be missed on conventional radiography. So it is always advisable to go for CECT of chest whenever there is an air-fluid level on X-ray of chest to get accurate information of the lesion and in some situations, CECT can be the imaging technique that actually show the air-fluid level in chest!

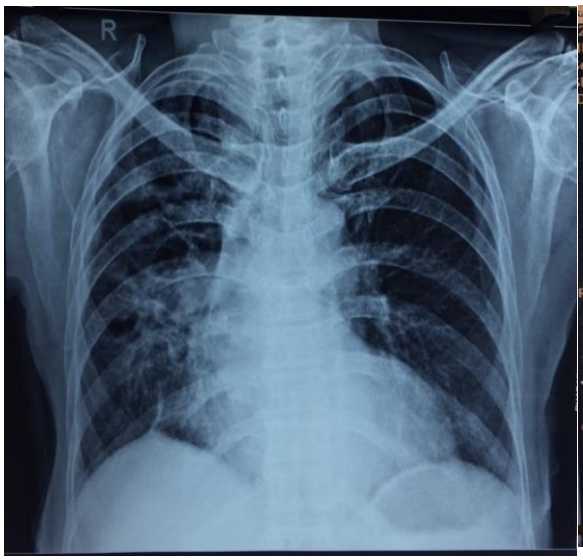

Fig 1: chest X-ray showing fibrotic changes on right side with a patch of consolidation

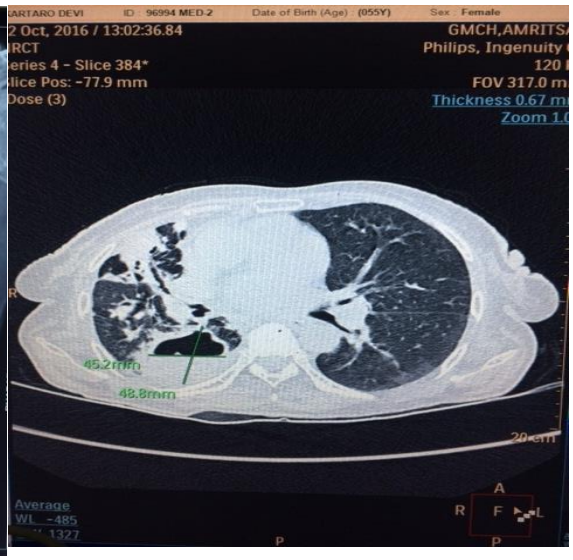

Fig 2: A contrast enhanced computed tomography (CECT) of chest

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