

Tuberculosis presenting as Lung mass

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Abstract

Pulmonary tuberculosis remains one of the major health problems through out the world. Pulmonary Tuberculosis has variable presentation, may present as a mass lesion. Here we are reporting a rare case presenting with dry cough with intermittent fever since 1 month, significant weight loss and one bout of hemoptysis 2 days back . A mass lesion noted in the right lower zone on chest x- ray and confirmed by Computed Tomography (CT) scan. Ultra sound aided Fine Needle Aspiration Cytology (FNAC) confirmed as tuberculosis.

Key words: Tuberculosis, Mass lesion, Lung Mass, FNAC

Introduction

Tuberculosis (TB) remains a major global health problem, responsible for ill health among millions of people each year. In 2013, an estimated 9.0 million people developed TB and 1.5 million died from the disease. TB ranks as the second leading cause of death from an infectious disease worldwide, after the human immunodeficiency virus (HIV) [1].

There are many similarities between tuberculosis and lung cancer presenting as mass lesion. Both are very common, have high prevalence, involve lung parenchyma and above all, characterised by similar symptoms [2]. But, there are many differences between these two entities like they have different etiologies (pulmonary tuberculosis is infectious while lung cancer is non-infectious disease). Symptoms such as fever, cough, expectoration, hemoptysis, weight loss and anorexia are common to both tuberculosis and lung cancer [3]. In India, where tuberculosis is spreading in an uncontrolled way, it is not uncommon to find a lung cancer patient being treated for tuberculosis initially. Most common mode of presentation of tuberculosis on chest x-ray was cavity is in consolidation. Upper zones of chest x-ray were more commonly involved in tuberculosis. Lower lung field tuberculosis is more

commonly seen people with immunosuppression. It is very rare that tuberculosis presenting as mass lesion on chest radiograph in immunocompetent person.

Case Report

A 23 yr old male patient presented with dry cough and intermittent fever since 1 month, hemoptysis since 2 days. No history of dyspnea and no history of chest pain were noted. He also has significant weight loss. No history of tuberculosis previously. Not a known diabetic or hypertensive. He was a non smoker and immune status was normal. Bowel and bladder habits are regular. No pallor, No icterus, no cyanosis, no clubbing and no generalized lymphadenopathy. On inspection chest wall movements were symmetrical on both sides, vocal fremitus was decreased on right infra scapular area. On percussion dull note was noted in right infra scapular area. Absent breath sounds noted in right infra scapular area. vocal resonance decreased on right infra scapular area.

Chest x-ray PA view showed mass lesion of size 4.3x 4.2 cm in right lower zone. CT chest showed 4.3x 4.2 cm mass with smooth margins, in the right lower lobe, without calcification and cavitation abutting to chest wall. No pleural effusion and mediastinal lymphadenopathy was noted. FNAC under ultrasound guidance revealed as granulomas with caseating necrosis suggestive of tuberculosis. Patient started on

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Anti Tuberculosis Treatment (ATT). Patient responded

well on to antituberculosis treatment. {Figure 4}



Fig 1: A chest radiograph PA view

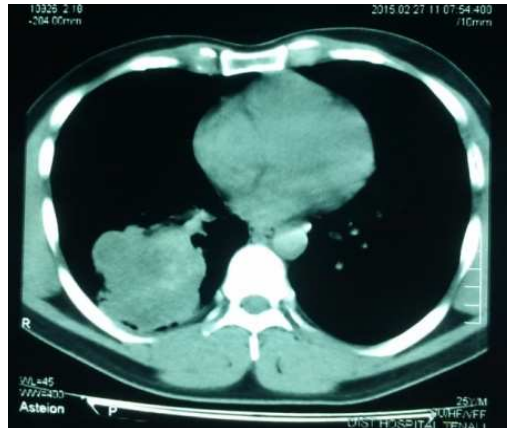


Fig 2: CT scan showing Right Lower lobe lung Mass abutting chest wall



Fig 3: CT Scan showing Right lower lobe lung mass abutting chest wall



Fig 4: Chest radiograph-Response to ATT

Discussion

TB is an infectious disease caused by the bacillus *Mycobacterium tuberculosis*. It typically affects the lungs (pulmonary TB). Pulmonary tuberculosis and lung cancer have common symptoms like cough, expectoration, fever, hemoptysis, weight loss, and breathlessness. However, careful history and examination can help clinician to suspect Tuberculosis [4] Tuberculosis most commonly present with cough more than 2 weeks, fever with evening rise of temperature, weight loss, anorexia. Chest X-ray, sputum examination will help in diagnosis [5]. If patient present with mass lesion on chest x ray should evaluated because diseases like tuberculosis is potentially treatable. At chest skiagram, tuberculosis may manifests as 5

main entities: Parenchymal disease, lymphadenopathy, miliary disease (evenly distributed diffuse small 2-3-mm nodules, with slight lower lobe predominance), pleural effusion, and cavitation. Parenchymal lesions are characterized by dense, homogeneous, or non-homogenous parenchymal consolidation in any lobe (mostly upper lobe predilection) and fibrotic changes [6]. Postprimary tuberculosis may present with consolidation, particularly in apical and posterior segments of the upper lobes; cavitation being the hallmark of disease.

One of the Main differential diagnosis for mass on chest X-ray is lung cancer. On chest X-ray Malignant lesions

have irregular margins with radiating strands. Further have hilar prominence (in case of central tumors), pulmonary nodule (in case of peripheral tumors), widening of the mediastinum (suggestive of spread to lymph nodes), total or partial atelectasis of a segment, lobe or lung (mechanical effect causing obstructive/intra luminal growth causing collapse), unresolving consolidation (pneumonia), cavitation (eccentric, irregular margin with nodularity), elevated diaphragm (caused by phrenic nerve palsy) or pleural effusion (25.1%). Conventional chest roentgenogram detects lesions of size more than 5mm, where as CT thorax are more sensitive and can detect lesion of size upto 1mm diameter [7,8].

Ultrasound is useful in locating mass lesion and visualization of co-existing pleural effusion and pneumothorax and pleural nodules [9]. We have done ultra sound aided FNAC for this case. Pulmonary Tuberculosis may present as mass lesion in upper lobes in 7%.but mass presenting in lower lobe is unusual. Tuberculosis accounted for 27% of all infections, initially presumed to be lung mass on imaging studies [10]. Fungal infections accounted for 46% of these infections. Involvement of lower lobe is more common in diabetic patients and immunocompromised patients [11].

Malignancy is associated with elderly individuals, chronic smokers and radiographically lesions is more than 3cm in size [12].

Conclusion

To conclude, Upon review of literature anterior and apical segment of right upper lobe are most common site for tuberculosis presenting as pulmonary mass. In Present case of a non diabetic and immunocompetent person involvement of lower lobe is relatively rare.

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