

Tuberculosis: an unusual presentation

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Abstract

Patient with tuberculosis may present with atypical, unusual or complex features. The reported case is of 31 years lady admitted with fever, breathlessness and features of cardiac failure. She was detected to have right lower lung consolidation, minimal bilateral pleural effusion, features suggestive of sub-acute pericarditis and subsequent chest x-ray revealed miliary mottling as well. Later on Acid Fast Bacilli were detected in sputum and pleural fluid. Clinicians need to keep complex presentation of TB in mind to manage the case at its earlier stage to avoid residual complication.

Key words: TB, Lower Lung Field, Bilateral Pleural Effusion, Effusive Pericarditis

Patients having tuberculosis disease sometimes present with atypical, unusual or complex features. Disease may involve one organ, two or more organ simultaneously or be disseminated throughout the body^{1, 2}. TB is one of the important causes of pyrexia of obscure aetiology in high TB burden countries and developing world. Being disease of protean manifestations, it may pose a diagnostic dilemma to medical practitioners even in endemic areas where clinical suspicion is high^{3, 4}. Here we report a young lady having right lower lung consolidation, minimal bilateral pleural effusion, effusive constrictive pericarditis and miliary mottling.

Case Report

A 31 years old lady, hailing from low socioeconomic strata admitted in medical ward of Mahtama Gandhi Medical College and Research Centre Pillaiyarkuppam, Pondicherry, with orthopnoea of three days duration. She had been having low grade fever unassociated with rigors or chills and cough with scanty expectoration for one month. Oedema over feet and progressively increasing dyspnoea were noticed by her fifteen days later. There was no past history suggestive of heart disease or TB.

Her jugular venous pressure was raised up to angle of the jaw, pulse 130/minute, regular, moderate volume, no pulsus paradoxus, respiratory rate 40/minute, temperature 99°F, BP 100/70 mm Hg and pitting oedema over feet was present. Apical cardiac impulse was not palpable, 3rd heart sound and pericardial friction rub audible. Bilateral wheeze and crackles were found on upper part of chest on auscultation,

tubular breathing over right lower part of chest. Soft and tender hepatomegaly was detected.

Ten days old chest x-ray (CXR) PA view showed cardiomegaly (CTR 14.5:26 cm), possibly pericardial effusion, minimal bilateral pleural effusion and right lower lung consolidation (Fig 1). Repeat CXR at admission revealed non homogenous opacity over right mid and lower zones, minimal bilateral pleural effusion and possibly pericardial effusion (Fig 2). Echocardiography showed thickened pericardium and small pericardial effusion (Fig 3). Ultrasound of abdomen showed hepatomegaly with dilated inferior vena cava and minimal ascitis (Fig 4). Electrocardiography showed sinus tachycardia and T wave inversion in most of the leads. Montoux test was negative. Haemoglobin was 7.5 gram percent, WBC 5100/cmm- Neutrophil 42%, Lymphocytes 53%, Eosinophil 5% and ESR 115 mm. Peripheral blood smear showed microcytic, hypochromic RBCs with moderate anisopoikilocytosis. Total serum proteins were 6.3 gram% with albumin 2.3 gram%, serum bilirubin, ALT, AST, Alkaline phosphatase; creatinine, urea and blood sugar were within normal limits. Pleural fluid was exudates and contained 85% lymphocytes; Gram's stain showed occasional pus cells and ZN stains revealed AFB. Pleural fluid, sputum and blood cultures were sterile. Subsequent sputum examination revealed AFB.

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Patient was put on anti TB medications, steroids and other supportive treatment. The fever and tachycardia was controlled. There was reduction in JVP and pericardial friction rub disappeared. Follow up CXR showed miliary mottling, patchy opacity over right base suggesting resolving consolidation and minimal effusion. Repeat ECHO showed pericardial

thickening with minimal effusion. The case was later referred to higher centre for surgical evaluation. The case showed some interesting features in the form of lower lung field TB, bilateral pleural effusion and sub-acute stage of TB pericarditis. The miliary mottling on chest radiograph appeared subsequently.



Fig 1: Ten days prior to admission chest x-ray PA view showing cardiomegaly (CTR 14.5:26 cm), possibly pericardial effusion, minimal bilateral pleural effusion and right lower lung consolidation



Fig 2: Repeat chest x-ray PA at admission showing non homogenous opacity over right mid and lower zones, minimal bilateral pleural effusion and possibly pericardial effusion.



Fig 3: Echocardiography showing thickened pericardium, small pericardial effusion



Fig 4: Ultrasound Abdomen showing Dilated Inferior Vena Cava

Discussion

The lower lung field is defined as that area on PA Chest Radiograph which extends below an imaginary horizontal line traced across the hila. It includes parahilar regions, middle lobe, lingula and lower lobes³. Involvement of lower lung in pulmonary TB in a sizeable number of population came to be increasingly recognised only after the first quarter of last century. Lower lung field TB has been reported in India⁴. The most frequent radiological finding is consolidation. In more than half of the cases, right lung involvement has been reported³. Pleural effusion due to TB has been described to be almost unilateral, but bilateral pleural effusion occur in less than 10% of cases and indicate disseminated or miliary TB⁵. Miliary pattern on chest radiograph is hallmark of miliary tuberculosis. In a study of miliary tuberculosis Sharma et al reported chest radiograph consistent with miliary tuberculosis in 88% of the patients². In some classical radiological changes evolved over the course of disease. Our patient presented with right lower lung consolidation, bilateral pleural effusion, but miliary pattern appeared only in subsequent chest x-ray during the course of hospitalization.

Cardiovascular involvement in tuberculosis occurs in 1-2% of patients with TB and mainly affects pericardium⁶. In India, TB accounts for nearly two-thirds of the cases of constrictive pericarditis^{7,8}. The sub-acute stage of tuberculous pericarditis presents with features due to presence of pericardial fluid and those due to pericardial constriction as a result of thickening of visceral pericardium. This stage could occur within few weeks of onset of infection. The patient has cardiomegaly, pedal oedema and raised JVP^{9,10}. Our patient showed clinical, radiological and echocardiographic evidence of pericardial effusion and thickening of visceral pericardium.

In conclusion, it appears that this patient had miliary spread from right lower lung field tuberculosis, resulting in bilateral pleural effusion and pericarditis early in the course of disease during pre-hospitalization period. The patient was thus hospitalized in the sub-acute phase of tuberculous pericarditis which dominated the clinical presentation. The miliary pattern on chest x-ray appeared later.

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