

A Young Lady with a Swelling over the Back: A Rare Case of Tuberculosis

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Abstract

Musculoskeletal tuberculosis accounts for 1-2% of all types of tuberculosis. Tubercular abscess of the chest wall accounts for 1-5% of all cases of musculoskeletal tuberculosis. Herein, we report a case of tubercular abscess of the chest wall. The occurrence of caries rib and cold abscess of the chest wall with concomitant pulmonary tuberculosis, and tubercular lymphadenitis of neck and mediastinum has rarely been described in an immunocompetent individual. The rarity of our case lies in the fact that the patient was immunocompetent with cold abscess due to caries rib, with rare association of pulmonary tuberculosis and tubercular lymphadenitis of neck and mediastinum.

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Keywords • Tubercular abscess • chest wall • rib • caries

Introduction

Tuberculosis (TB) is a major global health problem, and can be a multisystemic disease. Tuberculosis of the ribs usually presents with rib destruction and soft tissue mass of the chest wall, which is called tubercular abscess of the chest wall (TACW) or cold abscess of the chest wall.¹ The isolated involvement of caries rib without caries spine has rarely been described in previous literature. Cases of parenchymal tuberculosis and tubercular lymphadenitis with simultaneous caries rib and TACW have not been reported so far to the best of our knowledge. Herein, we report a case with such a rare disease.

Case Description

An 18-year-old female student referred to JSS Hospital, city of Mysore, state of Karnataka, South India with chief complaints of cough with white mucoid sputum since two months, swelling over the back on the left side since one and a half months, and weight loss since one month. There was no history of fever, breathlessness, chest pain or hemoptysis and no history of contact with a case of tuberculosis.

On examination, the patient was moderately built and nourished with weight of 46 kg, height of 153 cm and body mass index (BMI) of 19.5, pulse rate of 110/min, blood pressure of 110/80 mmHg. She had right posterior cervical lymphadenopathy with a node, which was single, non tender, mobile, firm in consistency, and measuring 3×2 cm. Local examination revealed a swelling in the left side of the chest on the posterior aspect in infrascapular region (figure 1). The swelling, measuring about 10×10 cm in size, was non tender, soft in consistency with no local rise of temperature. The swelling was also

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fluctuant and irreducible, had no cough impulse, and was situated in the subcutaneous plane. Respiratory system examination revealed dullness in the left infra-axillary area with reduced intensity of breath sounds. The examination of other systems revealed nothing remarkable.

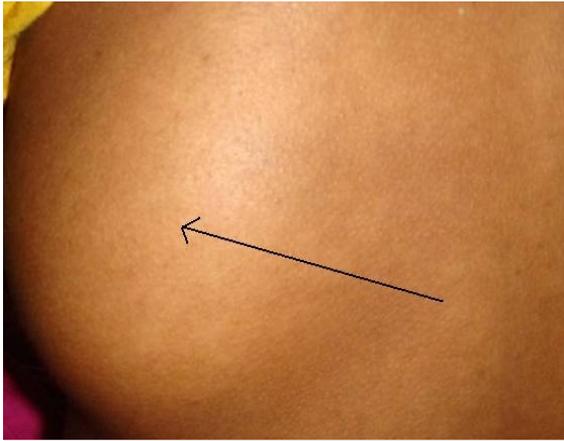


Figure 1: A swelling in left infrascapular region.

The patient's hemoglobin was 9.5 gm%, and the smear of her peripheral blood showed normocytic normochromic anemia. Her erythrocyte sedimentation rate was 110 mm. at the end of first hour. Complete blood cell and platelet counts were within normal limits. The random blood sugar was 86 mg/dl. Liver function and renal function tests were within normal limits. Plain chest radiograph showed non-homogenous opacity in the left lower zone with blunting of left costo-phrenic angle (figure 2). It also showed asymmetry of the soft tissue shadow on the left side of the chest with mediastinal lymphadenopathy.

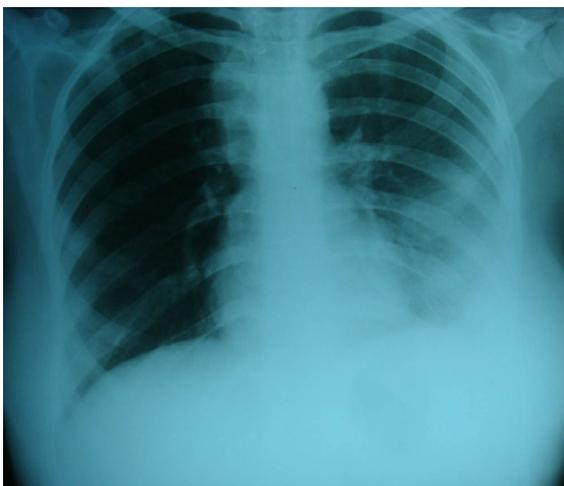


Figure 2: Initial Chest X-Ray showing non-homogenous opacity in the left lower zone with blunting of left costo-phrenic angle.

Computed tomography (CT) of the thorax showed features suggestive of pulmonary tuberculosis in the left lower lobe (figures 3 and 4). The CT also showed destruction and pathological fracture of the left sixth rib with a collection of low density fluid in the left pleural cavity, left side of the chest wall and the region inferior to left breast, which were suggestive of Cold abscess. There was no communication between the pleural cavity and the soft tissue swelling. A few paratracheal and retrocaval lymph nodes were also seen.

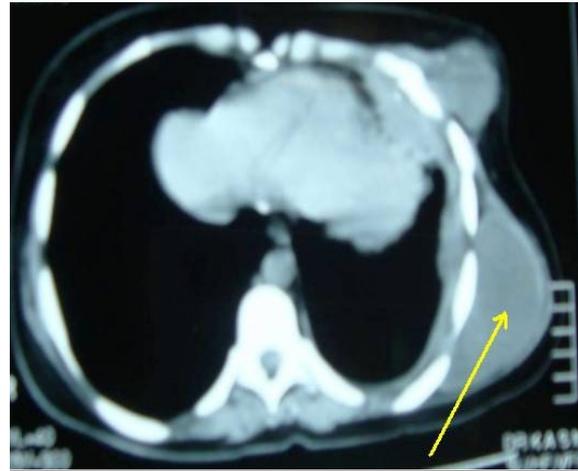


Figure 3: Computed tomography of the thorax. Arrow shows a cold abscess.

Fine needle aspiration cytology (FNAC) from the chest wall swelling showed smears positive for Acid-Fast Bacilli. The FNAC of right cervical lymph node showed features of tubercular lymphadenitis. Sputum analysis revealed Acid Fast Bacilli in all three samples.

Patient was scheduled to receive anti Tubercular Therapy (Category I) with four drugs including Isoniazid, Rifampicin, Ethambutol and Pyrazinamide on the fifth day after admission. She underwent drainage of the abscess on the seventh day. Repeat plain radiograph of the chest after two weeks of treatment showed clearance of the shadows and mediastinal lymphadenopathy (figure 5).

Discussion

Tuberculosis is a major global health problem, and any organ system can be involved. Tubercular parietal chest wall abscess is a rare form of extrapulmonary TB. Parietal chest wall TB is rare, and TB of the rib still rarer.

Musculoskeletal TB accounts for 1-2% of all types of TB. Tuberculosis of the chest wall accounts for 1-5% of all cases of Musculoskeletal TB.¹ Osteo-articular disease is always secondary

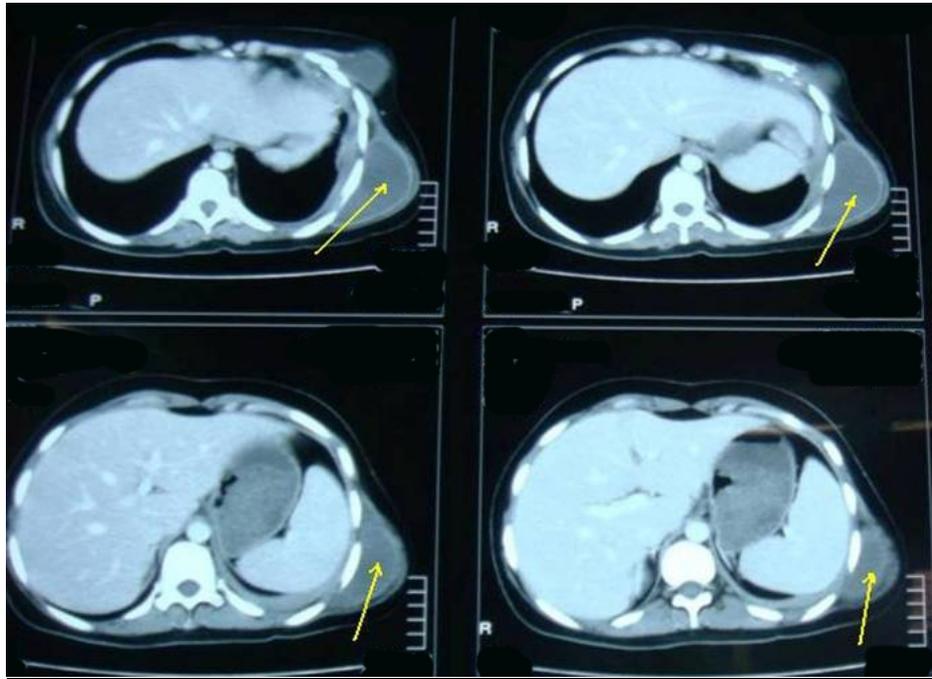


Figure 4: Computed tomography of the thorax. The arrow shows a cold abscess. It also shows features suggestive of destruction and pathological fracture of the left sixth rib with low density fluid collection in the left pleural cavity, left side of the chest wall and the region inferior to left breast suggestive of cold abscess.

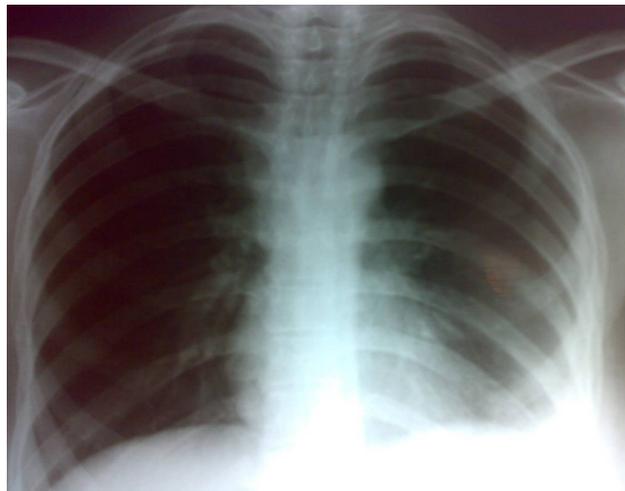


Figure 5: Chest X-Ray after two weeks of treatment with antituberculosis drugs. It shows clearance of the shadows and mediastinal lymphadenopathy.

to a primary lesion in the lung. The disease may also involve lymph nodes including mediastinal, mesenteric or cervical, and visceral lesions.

Depending on the predominant clinical or pathologic feature, there are many terminologies such as caries rib or cold abscess, etc for TACW.¹ But all the terms come under the same disease entity i.e, tuberculous abscess of the chest wall with or without rib involvement.¹ It has been postulated that TB of bone results from lymphatic or hematogenous dis-

semination of bacilli from a source of primary infection in lungs.¹ Combined effects of pressure necrosis by granulation tissue and the direct action of invading bacilli result in bone erosion in TB.¹ It has been hypothesized that infection of lymph nodes in the chest wall is a result of pleuritis due to invasion of the tubercle bacilli.² Cold abscesses of chest wall are extraparenchymal collections consisting of caseous material from the necrosed lymph nodes.¹ These can track through the chest wall

to form visible swellings on the surface without redness or tenderness.¹ Sternum, costochondral junctions, rib shafts, costovertebral joints and vertebrae can be involved in tuberculous abscesses of the chest wall.¹ Involvement of intrathoracic lymph nodes with relatively lesser involvement of lung parenchyma and pleura can also occur.¹ Computed tomography is necessary for assessing tuberculous chest wall lesions, as it elucidates the nature and extent of soft tissue collections, intrathoracic adenopathy and bone erosion.¹

Papavramidis et al have reported a case of anterior chest wall tuberculous abscess.³ Our patient, a young immunocompetent lady, had a posterior chest wall tuberculous abscess/cold abscess, which was due to caries rib. Fine needle aspiration cytology from the abscess showed smears positive for acid-fast bacilli. Our patient also had sputum positive pulmonary tuberculosis and tubercular lymphadenitis of neck and mediastinum.

Cold abscess of the chest wall is a rare disease. There are not many literature reports on the treatment of the disease. Therefore, an optimal treatment strategy is controversial. Though anti tubercular therapy (extended course) is the cornerstone of the treatment of tuberculous abscess of the chest wall, surgical treatment also plays a vital role. Surgical resection of the underlying rib and decortication of the pleura has been recommended.^{4,5}

Conclusion

The occurrence of caries rib and cold abscess of the chest wall with concomitant pulmonary tuberculosis and tubercular lymphadenitis of

neck and mediastinum has rarely been described in an immunocompetent individual. The rarity of our case lies in the fact that the patient was immunocompetent with cold abscess due to caries rib and rare association of pulmonary tuberculosis and tubercular lymphadenitis of neck and mediastinum. Tubercular parietal chest wall abscess is a rare form of extrapulmonary TB. Parietal chest wall TB is rare, and TB of the rib still rarer. Computed tomography is necessary for assessing tuberculous chest wall lesions. Anti tubercular therapy (extended course) is the cornerstone of the treatment of tuberculous abscess of the chest wall and surgical treatment also plays a vital role.

Conflict of Interest: None declared

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