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CASE REPORTOPEN ACCESS

A Rare Case of Empyema Necessitans Presenting As Chest Wall Swelling

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A B S T R A C T

Empyema necessitansis a condition where the empyema has diffused and is loculated in the extra pleural space. Empyema necessitans is a very rare and morbid condition requiring urgent intervention to promote optimal outcomes. It is usually caused by Tuberculosis (TB) infection or immunocompromised condition. Its manifestation, which is often vague in the beginning, leads to diagnostic dilemmas and delays in management. We describe a rare case of empyema necessitans in a 51 years-old male who presented with leftside chest wall swelling. Ultrasonography of the anterior chest wall revealed a left anterior chest wall collection with intrathoracic extension. HRCT shows segmental collapse with cavitary changes with atelectatic bands in left upper lobe and left costo-pleural thickening with minimal left pleural effusion with hypodenseloculated collection of 36cc in left anterior chest wall region Percutaneous drainage of the collection was performed, and the pus sent for Mycobacterium tuberculosis culture was negative.

Keywords: Empyema, tuberculosis infection.

INTRODUCTION

In the previous century, Empyema necessitans (EN) was a sporadic disease. It is aextraperitoneal herniation of pleural abscess appears as localized swelling. This has common presentation like chest pain with swelling, lethargy malaise and loss of weight [1]. Usually this is a decompression process of intrathoracic collection by extending itself through weakness of chest wall forming pus collection as soft tissue swelling [3-9]. Most Common cause for pleural empyema is Mycobacterium Tuberculosis (TB) and in some Tuberculosis (TB) and in some cases of Gram -positive pyogenic infection in immunocompromised patients which is rarely manifest as Empyema necessitans [2].

Case Report

A 54 years old male presented with complaints of heaviness and swelling in left lower chest wall with low grade fever for 2 months. There was no history of chest pain, cough, dyspnea, hemoptysis, vomiting. On examination- there was a swelling of 8×6 cm of size at the lower left chest wall overlying the 8^{th} 9^{th} 10^{th} costal margins. Swelling has positive cough impulse, with normal overlying skin. On palpation the swelling was smooth, cystic, nontender, fluctuant, non-mobile and dull on percussion. There was decreasedair entry on left side with bronchial breathing. All routine investigations and serology were normal with raised ESR (33mm). Xray Chest was suggestive of almost normal finding but the HRCT suggestive of segmental collapse with cavitary changes with atelectatic bands in left upper lobe andleftcosto-pleural thickening with minimal left pleural effusion with hypodenseloculated collection of 36cc in left anterior chest wall region. Intercostal chest tube drainage was doneat left 5^{th} intercostal space under all aseptic condition along with percutaneous aspiration of chest wall swelling.There was Thick white pus which had investigated for CBNAAT, cytology, culture and sensitivity, pus for acid fast bacillus. Pus culture was negative for growth followed by pus has plenty of polymorphs and lymphocyte cells on routine microscopy. CBNAAT was negative, Patient was kept on

empirical antibiotics, antitubercular drugs and analgesics and managed conservatively. Patient showed significant improvement. Chest tube had removed on 7th day.

Breathing pattern improved on follow up.

Image-1: Patient with chest wall swelling

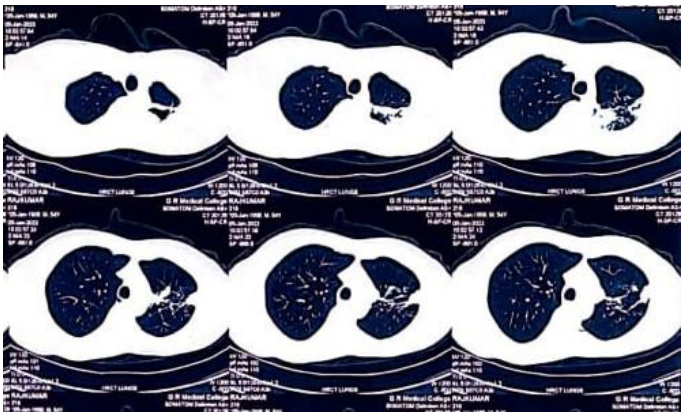

Image-2: HRCT Chest shows collapse segment with cavitary changes

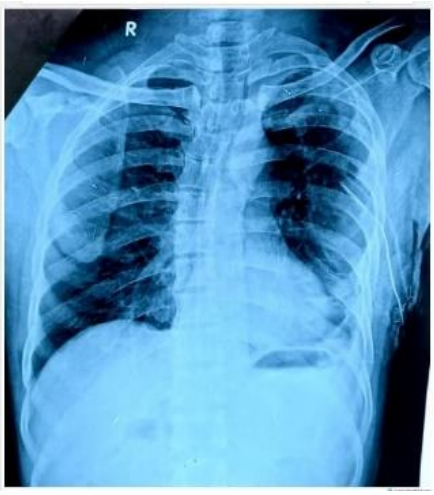

Image 3: Chest xray with ictd

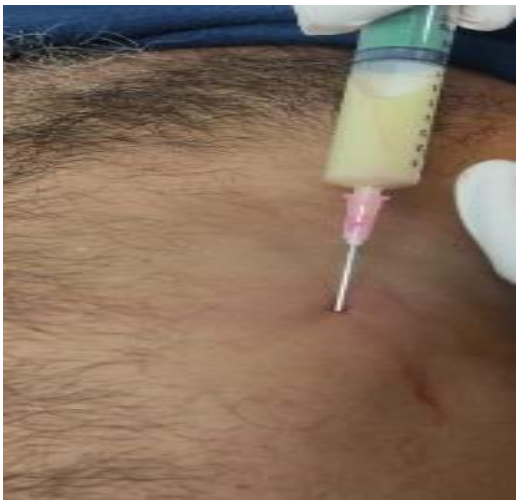

Image 4: Pus aspiration from chestwall swelling

DISCUSSION

Empyema necessitans is the complication of empyema thoracis in which pus makes its way through soft tissue to the skin. Most common site is anterior chest wall other sites are back, diaphragm, mediastinum. In the modern day with the administration of new antibiotics empyema managed accurately but some cases remain resistant and present as empyema necessitance.

Empyema necessitans is a result of neglected or inadequately treated empyemaThis may be asymptomatic at first and proceed at a slow and steady pace. Tuberculous EN can be treated with both surgical and medical treatments. In our case patient improved with antibiotics and antitubercular drugs. Potts KJ *et al*., also described a 33years old female developed pulmonary TB with empyema necessitance and was treated with only antitubercular drug [10].Parsons *et al*., recommend that most cases can be managed successfully with an intercostal chest tube insertion a drainage, along with appropriate antibiotic therapy [11].

EN has the potential to cause bone and soft tissue erosion. In our case bone erosion was absent.pulmonary mycobacterium tuberculosis, Actinomyces, and nontuberculous organisms such Staphylococcus aureus are the most prevalent causes.

CONCLUSION

Now a days empyema necessitans is rare due to use of antibiotics. Although several case reports are described in the scientific literature, there has yet to be a comprehensive systematic review.Aim is early identification of the organism, initiation of antibiotics with drainage of infected pleural effusion as soon as possible to avoid any fatal consequences. Control of Other Co-morbidity like diabetes mellitus, is also important for a healthy quality life and prevention of further complications.

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