



Case Report

Empyema thoracic presenting as low back ache

Mohammad Shameem^{a,*}, Nazish Fatima^b, Jamal Akhtar^a, Asrar Ahmad^a^a Department of Tuberculosis and Chest Diseases, Jawaharlal Nehru Medical College, Aligarh Muslim University, Aligarh 202002, UP, India^b Department of Microbiology, Jawaharlal Nehru Medical College, Aligarh Muslim University; Aligarh 202002, UP, India

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ABSTRACT

A 24 years old female was presented with a 2 weeks history of fever (high grade), cough, fatigue, shortness of breath, chest pain right side and low back ache. Patient prefers to lie towards right side. CECT thorax reveals empyema thoracic with paravertebral extension. Patient was put on IV antibiotic according to culture and sensitivity. Clinical and Radiological improvement was evident after 1 week.

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1. Introduction

Empyema is a condition in which pus and fluid from infected tissue collects in a body cavity. The name comes from the Greek word empyein meaning pus-producing (suppurate). Empyema refers to a purulent collection in the pleural space and is usually due to an active chronic infection. Various causes include progression of primary pleural effusion, extension of infection of the thoracic lymphatic ganglia or subphrenic focus, hematogenous dissemination; it may also occur after therapeutic pneumothorax, oleothorax, and post-pneumectomy.¹

2. Case report

A 24 years old female was presented with a 2 weeks history of fever (high grade), cough, fatigue, shortness of breath, chest pain right side and low back ache. Patient prefers to lie towards right side. Physical examination revealed high grade fever (104 °F), Pulse rate-104/min, Blood Pressure 100/80 mm of Hg in right upper arm, Respiratory rate 30/min, with prominent accessory muscles of respiration, oxygen saturation 89%, Arterial Blood Gas analysis revealed respiratory acidosis, Jugular Venous Pressure not raised. The patient had no pallor, diaphoresis, clubbing or peripheral edema. Cardiovascular system examination was unremarkable. Central Nervous System examination was also unremarkable.

Swelling and Tenderness was present in the right paravertebral region. On inspection respiratory movements were decreased right

side, trachea was central. Palpation reveals decreased chest expansion at the level of nipple, decreased tactile vocal fremitus on the right side. Percussion note was dull on the right side. On auscultation intensity of breath sounds was decreased on the right side, no added sound was present. Abdominal examination was unremarkable.

Haemogram shows Hb% 13 gm%, Total leucocyte count-15,000/mm³. Differential count P₈₅, L₁₅, and Erythrocyte sedimentation rate – 15 mm in the 1st hour.

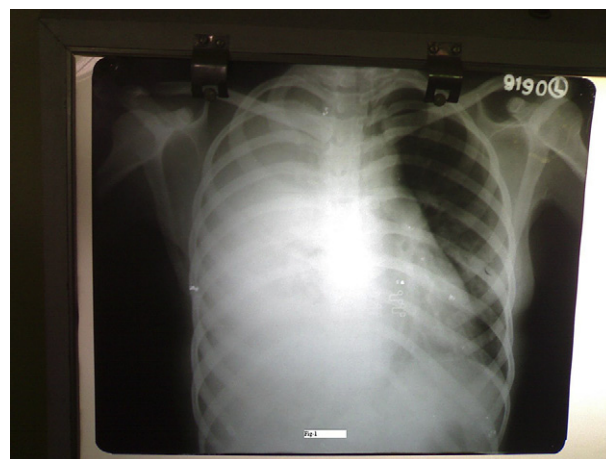


Fig. 1. Chest X-ray PA view shows homogenous opacity with blunting of right CPA without air-bronchogram.

* Corresponding author. Tel.: +91 9412731835.

E-mail address: doctor_shameem123@rediffmail.com (M. Shameem).

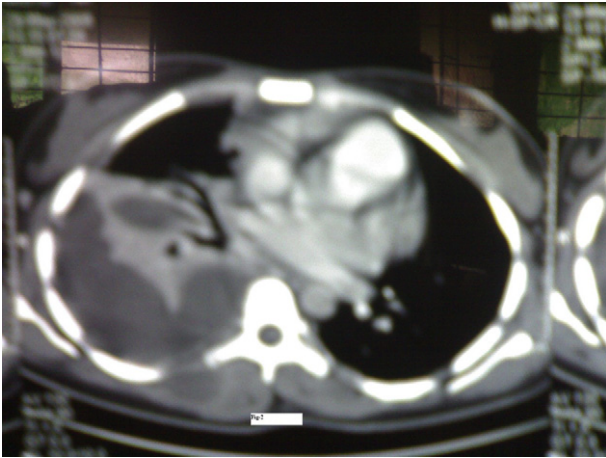


Fig. 2. CECT thorax reveals loculated thick pleural collection on the right side with atelectasis of adjacent lung segment with paravertebral extension.

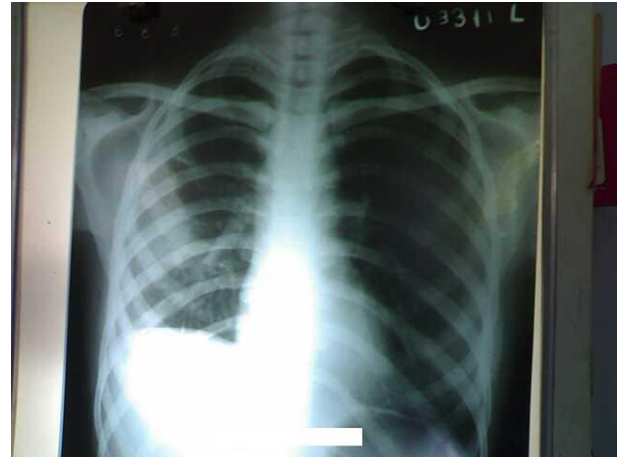


Fig. 4. Chest X-ray PA view shows radiological clearing.

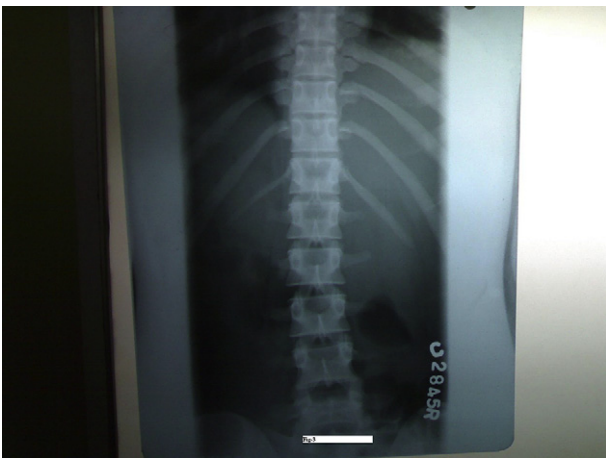


Fig. 3. X-ray dorso-lumbar spine shows no abnormality.

Chest X-ray PA view (Fig. 1), reveals homogenous opacity occupying right hemithorax without air-bronchogram, CECT thorax (Fig. 2) reveals loculated thick pleural collection on the right side with atelectasis of adjacent lung segment with paravertebral extension. X-ray dorso-lumbar spine (Fig. 3) reveals no abnormality. Montoux test was negative.

Ultra sonographic thoracocentesis was done, culture of which showed growth of *Staphylococcus aureus*, sensitive to Vancomycin, teicoplanin, linezolid.

Patient was put on intravenous Vancomycin for 1 week, and the patient responded to the treatment in fever, pain. Radiological clearing of the shadows was evident on chest X-ray (Fig. 4).

3. Discussion

Almost any microorganism may be identified as the cause of vertebral osteomyelitis, although *S. aureus* is the most common pathogen.² The detection of vertebral osteomyelitis and paravertebral abscesses should lead to a careful search for tuberculosis,

which is well known to produce paravertebral abscesses,³ but as this case demonstrates, large abscesses due to classic pyogenic microorganisms may also appear without apparent signs of infection. This patient suffered from a paravertebral abscess with communicating right-sided pleural empyema. Extension of pleural empyema caused by microorganisms to the dural sac is uncommon. Infection of the epidural space occurs in approximately 0.2–1.2 per 10 000 hospitalized patients.⁴ Invasion of the dural sac and medullar compression due to extension of pleuropulmonary disease has been described for invasive aspergillosis & mycobacteria.⁵ However, infection by more conventional microorganisms is even rare. *S. aureus* is isolated in 54% of epidural abscesses followed by *Escherichia coli*.⁶

Early diagnosis of the medullar compression is essential to prevent irreversible neurological sequel. Diagnosis is based on the neurological examination and the initial symptoms together with MRI that is elective diagnostic test.⁷

Conflict of interest

None of the authors have a conflict of interest to declare in relation to this work.

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