

CASE REPORT

Tuberculous Pleural Effusion Presenting with Prevertebral and Cervical Emphysema: An Unusual Presentation

¹Anju Chauhan, ²Samuel Rajan, ³Ishwar Singh

ABSTRACT

We present a case of a 45-year-old male presenting with acute onset swelling on anterior aspect of neck, dysphagia and dyspnea. Clinical examination revealed bilateral submandibular space emphysema and retropharyngeal bulge. The preliminary diagnosis was made of an evolving deep neck space infection. Further, computed tomography (CT) of chest and neck was done which showed heterogenous collection in retropharyngeal space with air pockets and right-sided pleural effusion. Pleural tap was sent for cytology and adenosine deaminase (ADA) levels, which were found to be significantly raised. Thus, a final diagnosis of tuberculous pleural effusion was made and patient was started on anti-tubercular treatment.

Keywords: Emphysema, Pleural effusion, Tuberculosis.

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INTRODUCTION

Tuberculosis is a major healthcare problem in developing countries which presents with a myriad of symptoms affecting almost all the systems of body. Although most of the patients of TB have pulmonary TB, extrapulmonary TB affecting the lymph nodes and pleura serves as initial presentations in 25% of adults.¹ Patients with tuberculous pleural effusion usually present with acute illness, most commonly with nonproductive cough and pleuritic chest pain. An acute illness mostly occurs in younger individuals who are immunocompetent. On occasions, the onset is less acute with mild chest pain, low grade fever, weight loss and easy fatigability. Any undiagnosed pleural effusion must be subjected to diagnostic tests to rule out tuberculosis as it might lie occult for a long-time and subsequently lead to severe illness.

^{1,2}Senior Resident, ³Director and Professor

¹⁻³Department of ENT, Maulana Azad Medical College New Delhi, India

Corresponding Author: Anju Chauhan, Senior Resident Department of ENT, Maulana Azad Medical College, New Delhi India, Phone: 9899614150, e-mail: anju2716@gmail.com

CASE REPORT

A 45-year-old male presented to ENT emergency with complaints of swelling in the anterior aspect of neck since 5 days and dysphagia and dyspnea since 1 day. On examination, there was fullness in the anterior aspect of neck involving bilateral submental and submandibular region which on palpation revealed crepitus. There was no tenderness or fluctuation in the neck swelling. On oral examination, there was a bulge in the posterior pharyngeal wall in the midline. On aspiration, there was no pus, only air was aspirated. X-ray soft tissue neck revealed an air shadow in the prevertebral space from C1 to C5 vertebral level (Fig. 1). Chest X-ray revealed mild right-sided pleural effusion just enough to cause blunting of CP angle. X-ray spine was done which was unremarkable. Ultrasound-guided pleural tap was done, and fluid was sent for cytology and adenosine deaminase (ADA) levels. Cytology showed leucocytosis with polymorphonuclear cells being predominant. Adenosine deaminase levels were 142 U/l. Subsequently, computed tomography (CT) of chest and neck was done which showed heterogenous collection in retropharyngeal space with air pockets and right-sided pleural effusion (Figs 2 and 3). No abscess or collection was documented in the submandibular region. Thus, a diagnosis of tuberculous pleural effusion was made and patient started on antitubercular drug therapy.



Fig. 1: X-ray soft tissue neck showing prevertebral air shadow

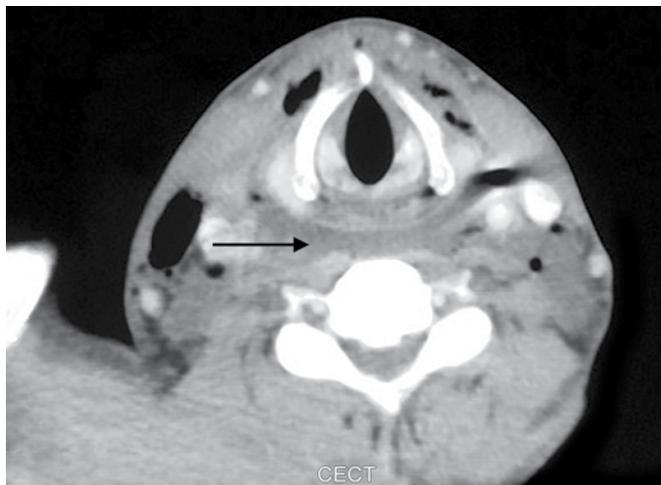


Fig. 2: Computed tomography of neck showing increased prevertebral thickness with hypodense collection

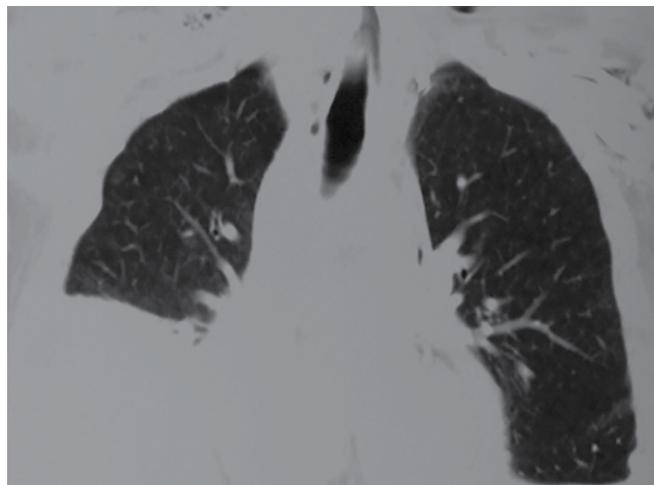


Fig. 3: Computed tomography of chest showing right-sided pleural effusion

DISCUSSION

Tuberculous pleural effusion can be a manifestation of both primary infection and disease reactivation. The latter is most common in developed countries. It is thought to occur when a subpleural caseous focus ruptures in the pleural space.² As a general rule, acute illness tends to occur in younger patients who are more immunocompetent. Patients may be dyspneic if effusion is large. On occasions, patients may present with less acute symptoms, such as low grade fever, mild chest pain, nonproductive cough and fatigability. The diagnosis of tuberculous pleural effusion is based on pleural fluid ADA levels the cut-off being more than 40U/l.¹ Its specificity is 92% and sensitivity being 90%.³ The combination of elevated ADA along with pleural fluid lymphocyte/neutrophil ratio greater than 0.75 is more sensitive than ADA level alone.⁴ The treatment of tuberculous pleural effusion has three goals: (1) to prevent the subsequent development of active tuberculosis, (2) to relieve the symptoms of the patient, and (3) to prevent the development of a fibrothorax.⁵

In our patient, the symptoms were mainly swelling in the anterior aspect of neck with mild dyspnea and dysphagia. Both dysphagia and dyspnea could be attributed to the retropharyngeal bulge seen on oral examination. Thus, the presentation and initial examination of the patient did not point towards a chest pathology. Further, a chest X-ray was done which revealed minimal pleural effusion with blunting of CP angle. It was only after ADA levels were done after tapping of pleural effusion that a diagnosis of tuberculous pleural effusion was made.

To our knowledge, tuberculous pleural effusion presenting with symptoms of cervical and retropharyngeal emphysema with minimal chest symptoms has not been documented yet in literature. In this case, we confirmed

the diagnosis with pleural fluid ADA levels as value more than 70U/l is highly suggestive for tuberculous effusion. The differential diagnosis for this presentation can be ruptured emphysematous apical bulla, foreign body esophagus causing emphysema, necrotizing fasciitis secondary to trauma.

CONCLUSION

Although tuberculous pleural effusion has specific presenting complaints, its not unusual for it to present with minimal symptoms, such as mild dyspnea, low grade fever. Its imperative that the treating physician has a high degree of suspicion for the diagnosis of TB as its highly prevalent in developing countries and might present with unusual or minimal symptoms in the early stage. Diagnosis can be confirmed with pleural fluid ADA levels and lymphocyte count, ADA level more than 70U/l being virtually diagnostic of TB. Early diagnosis is essential to start antitubercular treatment as early as possible as well as to prevent sequelae of tuberculous pleural effusion, such as pleural thickening, calcification and fibrosis causing reduction in lung capacity.

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