

Retropharyngeal abscess as a rare presentation of pulmonary tuberculosis

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ABSTRACT

A tubercular retropharyngeal abscess is rare in immunocompetent adults. In the case of a tubercular retropharyngeal abscess, it is usually due to cervical spine tuberculosis and is seen mostly in children. A 19-year-old female patient presented to our Medicine Outpatient Department (OPD) at All India Institute of Medical Sciences (AIIMS) with odynophagia and neck pain for two months, without any other constitutional symptoms. On evaluation, she was diagnosed with tubercular retropharyngeal abscess along with pulmonary tuberculosis, without involvement of the cervical spine. This patient was successfully treated by antituberculosis drug therapy alone, without any need for surgical drainage.

Key words: Retropharyngeal abscess, tuberculosis, chronic retropharyngeal abscess

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INTRODUCTION

The retropharyngeal space lies in the posterior pharyngeal wall, between the middle and deep layers of the deep cervical fascia extending from the base of the skull to the mediastinum. The retropharyngeal abscess is either acute or chronic. Acute abscesses occur frequently in children because of the abundance of retropharyngeal lymph nodes.^[1] It results from the suppuration of persistent retropharyngeal lymph nodes due to pyogenic infection, as a result of trauma by a foreign body or instrumentation (laryngoscopy, endotracheal intubation, feeding tube placement, etc.). It can also occur in the presence of associated diseases.^[2] Retropharyngeal abscess in adults is also mostly pyogenic and usually secondary to pharyngeal or esophageal perforation or sepsis in the throat or sinuses. However, chronic retropharyngeal abscesses are rare in immunocompetent adults;^[3] they occur mostly in immunocompromised patients^[3] and tubercular retropharyngeal abscesses themselves are very rare.^[4] Again, in cases of a tubercular retropharyngeal abscess, it is usually due to spinal tuberculosis and it is also seen mostly in children.^[5]

Previously, few cases have been reported about tubercular retropharyngeal abscesses, from India. However, there are only three case reports of tubercular retropharyngeal abscesses without cervical spine involvement.^[5-7] Herein, we would like to draw attention to the fact that retropharyngeal abscesses can be the presenting features of pulmonary tuberculosis without involvement of the cervical spine. Early radiological investigations to screen for pulmonary tuberculosis and early empirical treatment based on radiological diagnosis alone, in case of a small abscess, can be useful to prevent serious complications.

CASE REPORT

A 19-year-old female presented to our Outpatient Department (OPD) of Medicine, All India Institute of Medical Science with complaints of: (i) Odynophagia, (ii) neck pain for about two months, and (iii) headache for about six months after being referred to the Department of Otorhinolaryngology. There was no history of fever, cough, chest pain, dyspnea, weight loss or anorexia. There was no history of impaction of foreign bodies, infection in the ear, dental extraction, endoscopy or any other invasive procedure, blood transfusion, or any high-risk behavior. There was no history suggestive of any neurological deficit. There was no history of hypertension or diabetes mellitus.

On examination she was of average build and nutrition. There was no anemia, jaundice, swelling in the neck, clubbing or cyanosis. Her vitals were stable, there was no bony tenderness or swelling in the cervical spine;

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but there was a small 1 × 1 cm, firm, mobile, nontender lymph node in the left upper cervical area, in the posterior triangle. Examination of the cardiovascular, respiratory, and nervous systems did not show any abnormality.

On investigations, she had a hemoglobin of 12.8 gm/dl, total leucocytes 8300/cmm, erythrocyte sedimentation rate (ESR) of 59 in the first hour. Liver function and renal function tests were within normal limits. Her Mantoux test was 14 mm and the enzyme-linked immunosorbent assays (ELISA) for human immunodeficiency syndrome (HIV)-1 and 2 were negative. She could not produce sputum to examine for Acid Fast Bacilli (AFB) even after induction with hypertonic saline inhalation. A chest x-ray (posteroanterior view) showed evidence of cavitory pulmonary tuberculosis on the left side. Contrast-enhanced computed tomography (CECT) of the chest showed consolidation with cavitation in the lingular segment, with nodular opacity in the left lower lobe and an enlarged node in the subcarinal region, with a suspicion of infective etiology [Figure-1a]. It also showed a 1.5 × 1 cm hypodense lesion in the left postero-lateral pharyngeal wall, causing minimum indentation of the nasopharyngeal region and reaching up to the oropharynx, with suspicion of a retropharyngeal abscess [Figure-2a]. Findings by indirect laryngoscopy were: (i) Slight swelling of the left pharyngeal wall with debris over it and decreased left palatal movement, (ii) normal larynx, and (iii) normal movement of the vocal cord. X-ray of the cervical spine and CECT head were normal. We could not aspirate the pus for smear and culture examination, for microbiological confirmation, as our patient did not give consent for the invasive procedure. However, the abscess was also small, without any symptoms of airway compression. Fine needle aspiration cytology (FNAC) of the cervical lymph node showed only reactive changes. Bronchoscopy could not be done as the patient did not give consent for the same. However, based on the above findings, the patient was treated empirically with category-1 antitubercular drugs (RHZE for two months and RH for four months). After six months of follow up, the patient was asymptomatic and a repeat CECT neck and chest showed resolution of the left lung infective lesion, as well as, the left pharyngeal wall infective lesion [Figures 1b and 2b, respectively]. Here, the diagnosis was based on

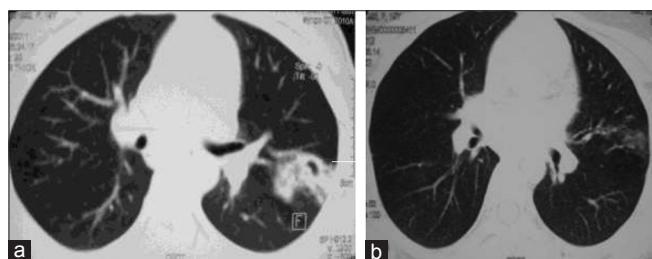


Figure 1: (a) CECT chest showing consolidation with cavitation in the lingular segment, with a nodular opacity in the left lower lobe (before treatment); (b) CECT chest showing resolution of the previous lesion (after treatment)

radiological and clinical findings and therapeutic response to antitubercular therapy.

DISCUSSION

The retropharyngeal space is a space posterior to the posterior pharyngeal wall, between the middle and deep layers of the deep cervical fascia, extending from the base of the skull to the mediastinum. It contains loose areolar tissue and a pair of lateral retropharyngeal glands. Acute bacterial infections of the head and neck region, especially in children, injury to the posterior pharyngeal wall due to foreign body or instrumentation, and forward spread of vertebral tuberculosis, can lead to infection in the retropharyngeal space and subsequent abscess formation.

Retropharyngeal abscess in adults is mostly pyogenic and usually secondary to pharyngeal or esophageal perforation or sepsis in the throat or sinuses. Tuberculosis, as the etiological agent of a retropharyngeal abscess, in an immunocompetent adult is rare. In case of pulmonary tuberculosis, it is a rare presentation of tuberculosis, even in the presence of extensive pulmonary tuberculosis,^[8] as in our case. It can present with variable manifestations, from subtle features such as odynophagia alone and neck pain, as in our case, due to early stage and less severity of the disease, to catastrophic complications causing stridor and life-threatening respiratory obstruction, as reported previously.^[9] Our patient presented with only odynophagia and neck pain on the left side, the expected presentation in an adult, but the symptoms and signs suggestive of pulmonary tuberculosis were lacking. On throat examination, the swelling due to a tubercular retropharyngeal abscess was usually in the midline, in contrast to the acute pyogenic retropharyngeal abscess, which was usually on one side of the midline. However, in our case the swelling was on the left side.

A tubercular retropharyngeal abscess in an adult is usually secondary to the tuberculous involvement of the cervical spine.^[10] However, there was no evidence of spinal tuberculosis in our case, in contrast to the previous reports,

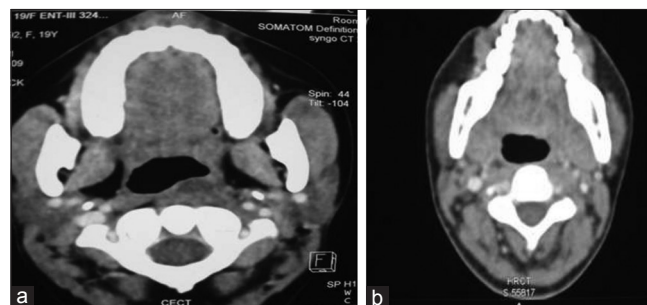


Figure 2: (a) CECT neck showing a 1.5 × 1 cm hypodense lesion in the posterolateral pharyngeal wall, causing minimum indentation of the nasopharyngeal wall (before treatment); (b) CT scan of the neck showing resolution of the above lesion (after treatment)

except for three from India, which had concomitant spinal involvement. The probable route of spread of tuberculosis could be due to the retropharyngeal space, via the lymphatics, to a persistent retropharyngeal lymph node. A hematogenous spread from pulmonary tuberculosis or tuberculosis in other location may sometimes be the cause.^[11] In our patient, the retropharyngeal abscess was probably due to a hematogenous spread from pulmonary tuberculosis.

The radiological appearance of the cervical spine and examination of the aspirated pus usually confirm the diagnosis. In our case, the cervical spine was free and we could not aspirate the pus, as the patient did not give her consent and also the abscess was small. Our case was diagnosed on the basis of the radiological and clinical findings and the therapeutic response to antitubercular therapy.

With regard to the treatment, a retropharyngeal abscess can be drained safely via the transoral route or by an external route.^[12] Antituberculosis drug therapy and conservative neck stabilization should be the initial treatment if a retropharyngeal abscess is due to an extension from cervical spine tuberculosis, with a stable spine and without any neurological deficit or with minimal neurological signs. We treated our patient successfully using antitubercular drug therapy alone, as the abscess was small. There was no evidence of airway obstruction and the cervical spine was free.

CONCLUSION

A tubercular retropharyngeal abscess is rare in immunocompetent adults. It can be the only presenting feature in case of pulmonary tuberculosis, without any symptoms of pulmonary involvement. These patients can only be treated with antitubercular drugs. Early diagnosis and prompt treatment is required in order to prevent catastrophic complications.

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Author's contribution

ME received the patient, collected data, and wrote the article. SS was responsible for the patient, managed the patient, and critically revised the manuscript. All authors have read and approved the final manuscript.

Consent

Written informed consent was obtained from the patient for this case report and the accompanying images. A copy of the written consent is available for review with the Editor-in-Chief of this Journal.

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