

Case Report

Giant pediatric tubercular retropharyngeal abscess: a rare case

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Received: 04 August 2020

Accepted: 11 September 2020

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ABSTRACT

A 9-year old child presented with tubercular retropharyngeal abscess leading to stridor. Tubercular retropharyngeal abscess is an extremely rare condition in children. Early management reduces the risk of lethal complications. Due to the absence of classical signs, the diagnosis may be delayed. Therefore, adequate radiological investigations and microbiological studies of aspirate must be done to rule out tubercular aetiology. Conservative medical management should be given in uncomplicated cases. Surgical drainage must be done in cases resistant to medical therapy or presenting with complications.

Keywords: Tubercular, Retropharyngeal, Abscess, Stridor, Child

INTRODUCTION

Retropharyngeal abscess (RPA) is a deep neck space infection. Acute RPA usually involves children and is uncommon after age of 5 years as retropharyngeal lymph nodes atrophy at that age.¹ The retropharyngeal space extends from skull base superiorly to mediastinum inferiorly up to tracheal bifurcation and between buccopharyngeal fascia anteriorly to alar fascia posteriorly.² Acute respiratory tract infection is the most common cause of RPA followed by foreign body ingestion, external trauma and iatrogenic. Early symptoms are nonspecific like fever, sore throat, dysphagia, odynophagia, change in voice, dyspnoea and subsequently stridor. The severity of symptoms is directly proportional to the volume of the abscess.³ If not managed early it may rupture leading to fatal complications like sepsis, stridor and mediastinitis.⁴ Tubercular retropharyngeal abscess is usually secondary to tubercular cervical spondylosis and is seen primarily in adults.^{5,6} Hematogenous spread from pulmonary tuberculosis may also occur.⁷ A rare case of a very large tubercular retropharyngeal abscess in a child coming with stridor has been presented.

CASE REPORT

A 9-year old child presented in Ear, neck and throat (ENT) outpatient department (OPD) with fever and sore throat since 12 days; and difficulty in swallowing as well as difficulty in breathing since 5 days. There was no history of trauma, back pain, cough or weight loss. A family history of tuberculosis was absent. On examination, patient had good oro-dental hygiene and no trismus. A large smooth bulge could be visualized in the posterior pharyngeal wall (Figure 1). Pharyngeal mucosa was not congested. Patient was having stridor at the time of presentation. On neck examination, there was no torticollis. Neck movements were restricted and were painful in all directions. On x-ray soft tissue neck lateral view (Figure 2), there was a large opacity in the prevertebral space with blunting of cervical vertebra from C2 to C4. Erythrocyte sedimentation rate (ESR) was 30 mm in first hour and C reactive protein (CRP) was 12.64. Complete hemogram of patient was showing leukocytosis with neutrophilia. Mantoux test gave 10 mm induration. Chest x-ray was normal. On Magnetic resonance imaging (MRI) cervical spine (Figure 3), there was an ill-defined

patchy altered signal intensity in upper cervical vertebrae with surrounding pre/paravertebral and retropharyngeal collection extending from base of skull to D1 level with significant mass effect with narrowing of pharyngeal passage, suggestive of infective etiology likely of tuberculosis.



Figure 1: X-ray STN lateral view showing a large radiolucent shadow in the prevertebral area with blunting of cervical vertebra from C2 to C4.



Figure 2: Oropharyngeal examination of the child showing bulge over posterior pharyngeal wall.

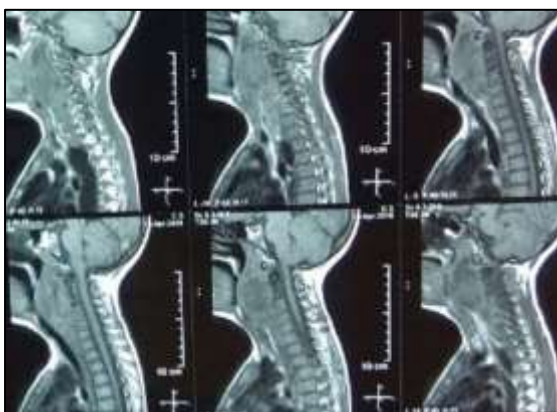


Figure 3: MRI cervical spine depicting narrowing of the airway due to a retropharyngeal collection extending up to the cervical vertebrae.

Patient was intubated and emergency drainage of abscess was done via oropharyngeal approach under general anesthesia. Pus was sent for culture and sensitivity which was sterile. Cartridge- based nucleic acid amplification test

(CBNAAT) demonstrated growth of *Mycobacterium tuberculosis* which was rifampicin sensitive. Child was extubated on post-operative day one. Patient was put on category-1 antitubercular therapy with isoniazid, rifampicin, pyrazinamide and ethambutol for 2 months and then isoniazid and rifampicin for the next 10 months. Patient was advised for neck braces to restrict neck movements. During follow up at one and two years after diagnosis, child was found free of symptoms and investigations revealed no evidence of tuberculosis.

DISCUSSION

Cervical spine tuberculosis accounts for 7-10% of all cases of Pott's spine (spinal tuberculosis). It is an important causative factor for chronic retropharyngeal abscess in adults.⁸ Tubercular RPA is highly uncommon in children. The early stage symptoms of spinal tuberculosis like low grade fever, weight loss, malaise and night sweats are frequently absent in RPA. Dysphagia, torticollis, painful neck movements and respiratory distress can occur in RPA. Radiological features of Pott's spine include vertebral collapse, loss of vertebral height, disc space narrowing, bone erosion, demineralization and loss of definition of end plates.⁹ Radiologically RPA is diagnosed with widening of retropharyngeal soft tissue shadow which is normally less than 7 mm at lower margin of axis vertebra or less than two third of the corresponding cervical vertebra.⁵ MRI spine (including non-contrast T1W, T2W, STIR; and gadolinium contrast enhanced T1W sequences) is the most important investigation for vertebral erosion and intervertebral space. MRI can help to differentiate cold abscess from granulation tissue. Chest radiograph is helpful for complications like pleural effusion, mediastinitis and pneumonia.¹⁰ Intravenous antibiotics are given for medical management of retropharyngeal abscess. Surgical drainage is done in case of a large abscess or when non-responsive to medical treatment. Surgical drainage can be done via intraoral approach, external cervical approach or image guided drainage. In tubercular retropharyngeal abscess, if neurological deficit is present and cervical spine is unstable then surgical drainage with cervical spine stabilization is indicated along with antitubercular drug therapy.

CONCLUSION

Though Tuberculous RPA is seldom seen in children, it should always be kept as a differential diagnosis even in the absence of primary features of tuberculosis. Underlying Pott's spine may sometimes be missed on X-ray, and the fluid aspirated from RPA may not yield *Mycobacterium tuberculosis* delaying the diagnosis and the case may initially be treated as a case of acute pyogenic RPA. Therefore, in cases of RPA, radiological investigations like CT or MRI should also be done to assist in the diagnosis and aspirate should be sent for PCR to rule out extrapulmonary tuberculosis. Early management of

RPA is of utmost importance to prevent fatal complications.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

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Cite this article as: Raheja V, Kumari M, Goel A, Aman. Giant pediatric tubercular retropharyngeal abscess: a rare case. Int J Otorhinolaryngol Head Neck Surg 2020;6:1916-8.