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A Case Report of a Common Infantile Upper Airway Block Discovered to be A Sinister Retropharyngeal Abscess

Sangeetha Balaji[1], Prashanth S N[2], Santhosh Kumar M[3], Chetak K B[4], Anitha C[5], Supraja P[6]

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Abstract

A 10 month old male child was brought with history of fever, poor feeding, cough, regurgitation of feeds, and stridor. Child was initially treated as Acute laryngotracheobronchitis, but as he was not improving, was referred for further management. At admission child was irritable, non-toxic, afebrile, drooling of saliva and weak cry was noted, inspiratory and expiratory stridor with respiratory distress was noted. Investigations were suggestive of sepsis. Chest Xray showed resolving bilateral upper lobe pneumonia. As distress worsened, CT Neck and Thorax was done which revealed a retropharyngeal abscess. Child was then intubated and ventilated due to deteriorating clinical condition, and he was taken up for drainage of the abscess through transoral approach. He tolerated the procedure well and was treated with a full course of IV antibiotics as per culture report which grew Staphylococcus aureus. He was discharged in a stable condition. This highlights the need to closely investigate adeceptively simple upper airway obstruction as there may be a more serious underlying pathology such as a retropharyngeal abscess.

Keywords: Sinister retropharyngeal abscess; Common Infantile; Upper Airway Block.

INTRODUCTION

Retropharyngeal abscess is an acute life threatening infection of the retropharyngeal space, seen usually in children between the ages of two and five[1], and also in older children and adults in whom it is a result of trauma to the posterior pharynx. In younger children, it is usually preceded by an upper respiratory tract infection that leads to suppurative cervical lymphadenitis which progresses into a retropharyngeal abscess. This abscess can eventually lead to upper airway compromise and hence early diagnosis is imperative for intravenous antibiotics and surgical drainage. This case report details the uncommon presentation of a retropharyngeal abscess as stridor in an infant.

Author Affiliation: [1,6]Post Graduate, [2,5]Professor, [3]Associate Professor, [4]Assistant Professor, Department of Pediatrics, JSS Medical College, JSSAHER, Mysore 570015, Karnataka India.

Corresponding Author: Santhosh Kumar M, Associate Professor, Department of Pediatrics, JSS Medical College, JSSAHER, Mysore 570015, Karnataka India.

E-mail: santhosh.kumar94@yahoo.com

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CASE REPORT

The infant who presented to us was a 10 month old developmentally normal male child who came with complaints of fever of 15 days, regurgitation of feeds and cough since 1 week, and stridor with respiratory distress since 4 days. At admission, he was irritable, non-toxic, afebrile, and drooling of saliva and weak cry was noted. Child was pale, inspiratory and expiratory stridor was heard. He

had bilateral suprasternal and subcostal chest retractions with conducted sounds on auscultation. Investigations showed anemia with leukocytosis (TC 24920) and thrombocytosis (10.24 lakh), and CRP was negative. Chest Xray showed resolving bilateral upper lobe pneumonia. Child was initially treated as croup with no improvement. As distress was worsening, an emergency CT neck and thorax was done to identify cause of upper airway obstruction which revealed a retropharyngeal abscess measuring 2.8x1.4x2.2 cms corresponding to C1 to C4 levels. Child was immediately intubated due to deteriorating clinical condition and was taken up for drainage of abscess via transoral approach. Child tolerated the procedure well. Pus culture showed growth of Staphylococcal aureus and child was given a full course of antibiotics as per sensitivity report. Child was extubated on post-operative day 2 and showed good clinical improvement. He was discharged in a stable condition with no stridor. This presentation of RPA as fever and stridor in this age group is relatively uncommon, hence a vigilant approach is needed in all cases of seemingly simple upper airway obstruction not responding to conventional treatment, and more sinister culprits such as Retropharyngeal abscess must always be borne in mind.

DISCUSSION

A retropharyngeal abscess (RPA) is an acute life-threatening infection of the retropharyngeal space, which requires urgent and aggressive management. They are most frequently encountered in children, with 75% of cases occurring before the age of 5 years, and often in the first year of life.[2] This may be due to the prominence of retropharyngeal lymph node tissue in that age group along with increased frequency of upper respiratory and nasopharyngeal infections.

The retropharyngeal space lies between thebuccopharyngeal fascia, which is the middle layer of the deep cervical fascia, and the prevertebral fascia, which is the deep layer. It extends from the base of the skull to the level of TI in the superior mediastinum where the twolayers fuse. The lymph nodes in the retropharyngeal space drain the nose, paranasal sinuses, middle ear, nasopharynx, andadenoids. Infection of any of these structures can progress into a RPA. Infection can also spread directlyinto the anterior and posterior media stinumanteriorly, hence mediastinitis is a rare complication of retropharyngeal abscess. These lymph nodes are prominent till 5 years of age, beyond which they start to involute and in adults, RPA is more commonly due to local trauma such as foreign body or surgical procedures.

Usually, it is preceded by an upper respiratory tract infection. The classical presentation of RPA is with fever, neck swelling, head tilt, respiratory distress or stridor, cervical lymphadenopathy or a pharyngeal mass. It is a serious condition with need for immediate management as it can cause upper airway obstruction leading to airway compromise. Older children are less likely to have neck swelling. They were most likely to have specific complaints such as neckpain or stiffness and sore throat.[3] The etiological agents include Group A Streptococcus, Staphylococcus aureus, Haemophilus influenzae, anaerobic organisms, e.g. Bacteroides, Peptostreptococcus, and Fusobacterium, Mycobacterium tuberculosis (in endemic areas or in the immunocompromised individuals).[4]

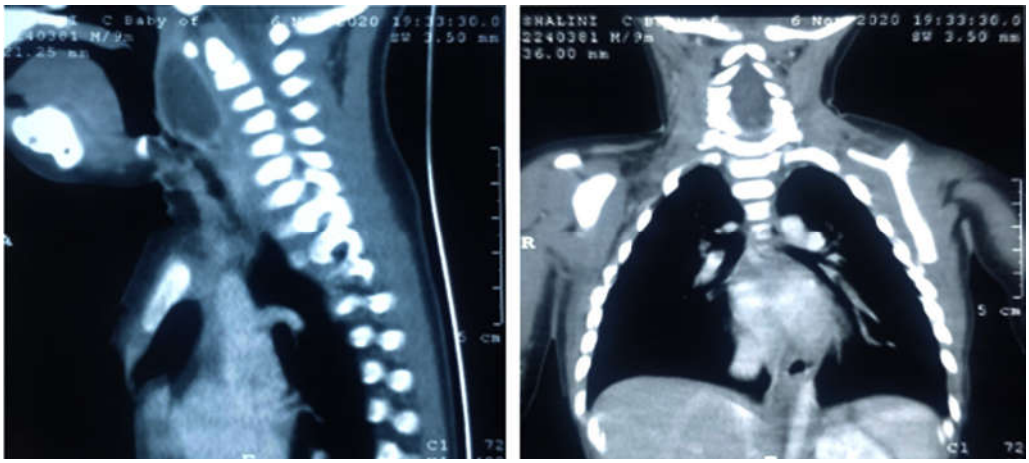

Fig. 1: CT neck and thorax revealing the abscess in C1 to C4 levels:

Fig. 2: Video laryngoscopic view of drainage of abscess.

Diagnosis of RPA requires a high index of suspicion. Lateral neck X-rays taken with the neck held in extension can demonstrate soft tissue swelling posterior to the pharynx, with a widening of the prevertebral soft tissue.[5] A close differential of this appearance is the prevertebral abscess. CT with contrast is a superior tool to delineate an RPA and to differentiate it from retropharyngeal cellulitis. Ultrasound is also a useful investigation in experienced hands and can minimize radiation exposure.

A differential diagnosis includes Foreign body in airways, Pneumonia, Mediastinitis, Epidural abscess, Oral cavity infections, Epiglottitis, and Pharyngitis.[6] Complications include Airway obstruction and compromise, Bronchial erosion, Mediastinitis, Sepsis, Acute respiratory distress syndrome, Cranial nerve palsies, Esophageal perforation, Meningoencephalitis, and Erosion into carotid artery or jugular vein.

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