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Case report/Kazuistyka

Retropharyngeal abscess leading to fatal airway obstruction in a child – A case report

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ABSTRACT

Retropharyngeal abscess (RPA) with respiratory distress is an uncommon clinical situation in the current era of medicine, as patient come to the physician earlier in the disease process. RPA with airway compromise in children is a rare and life threatening situation which needs emergency care not only to drain abscess but also important to secure the airway. RPA needs prompt diagnosis and early management which often require surgical drainage to achieve optimum result. The diagnosis is based on clinical and radiological pictures. The management needs securing the airway, surgical drainage and antibiotics. Here, we are reporting a case of 13-year-old boy with breathing difficulty due to grossly compromised supraglottic airway, undergone emergency tracheostomy followed by trans-oral abscess drainage.

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Introduction

Retropharyngeal abscess (RPA) is still a potentially life-threatening clinical condition in this modern era of medicine. This is mainly attributable to late presentation of the patient at a tertiary care center. RPA is an uncommon complication of upper respiratory tract infection in children. RPA is an infection with abscess formation in a deep neck space like retropharyngeal space. The etiology behind the RPA is usually polymicrobial containing both anaerobic and aerobic flora [1]. Most of the incidence of RPA occur among children, with age group of 6 months to 6 years, however, patients can present at any age group including neonates.

No racial or sex predilection has been documented in literature but little higher risk of deep neck space infection among boys. Starting early parenteral antibiotics is important to control the infections. Abscess in retropharyngeal space is an immediate life threatening emergency with the potential for airway compromise and other catastrophic complications [2]. Clinically patient presents with fever, neck pain and odynophagia whereas severe cases may cause airway compromise and ominous drooling [3]. This condition often accompanied with life-threatening sequel like airway obstruction, mediastinitis, internal jugular vein thrombosis, pericarditis, epidural abscess and carotid blow out. Advancement of imaging and potent antibiotics have changed the morbidity, mortality and today's treatment

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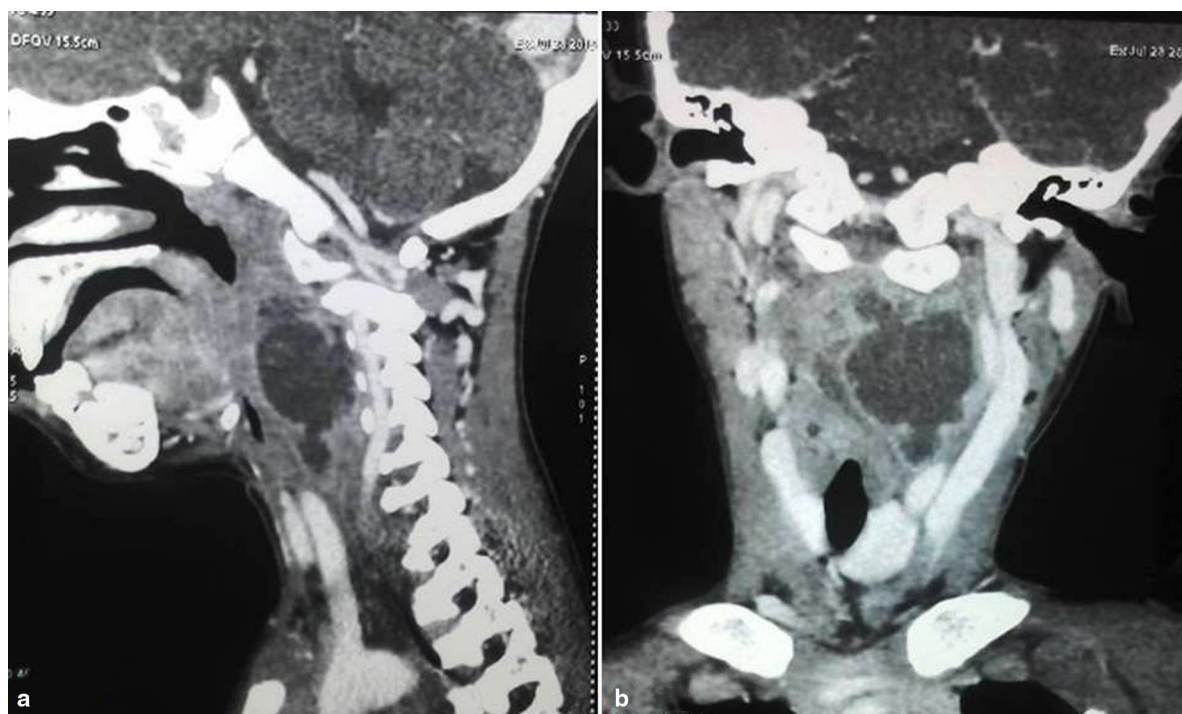


Fig. 1 – CT scan of the neck showing retropharyngeal abscess obstructing the supraglottic airway. a) lateral view, b) A-P view

algorithms helping the early cure of RPA [4]. Here we are reporting a case of RPA with fatal airway obstruction in a 13-year-old boy.

Case report

A 13-year-old male admitted to Emergency Department of Otorhinolaryngology for breathing difficulty. He had fever, odynophagia and restricted neck movements since 3 days. Examination of oral cavity and oropharynx revealed foul smelling, straw colored secretion and bulging in the posterior pharyngeal wall. On chest examination, there were no adventitious sounds. An emergency CT scan was done revealed RPA with obstruction at the supraglottic airway (Fig. 1). Urgent blood counts showed a total leukocyte count (TLC) $18.0 \times 10^3/\mu\text{L}$, differential leukocyte count (DLC) – N – 90%, L – 8%, M – 1%. Due to grossly compromised supraglottic airway and anticipating difficulty intubation, emergency tracheostomy was done with cuffed 7 size portex tube. Then under general anesthesia, surgical drainage of abscess was done trans-orally after gently introducing the Boyle's-Davis mouth gag into the oral cavity and oropharynx. Trans-orally, incision made over most fluctuant site of posterior pharyngeal wall bulging. A cruciate incision was made over the bulging part of abscess with the help of 11 size surgical blade and a surgical probe introduced to break down all the loculi of the abscess. Around 40 ml of brownish fluid was aspirated and sent for culture and sensitivity. A nasogastric tube was put in place for feeding and facilitating the healing

of the wound. The culture report revealed a growth of mixed group of bacteria: *Staphylococcus aureus*, *Klebsiella pneumoniae* and anaerobic streptococci. The patient was started with intravenous antibiotics, analgesics and anti-inflammatory agents. The patient was discharged to home on the 6th post-operative day after decannulation of tracheostomy tube.

Discussion

Pediatric RPA with compromised airway is an extremely rare clinical entity which may lead to life threatening situation. RPA is an uncommon clinical entity now days with the increasing use of antibiotics for upper respiratory tract infections. RPA is an infection with abscess formation in one of the deep neck spaces that can pose a life threatening emergency situation with potential for airway compromise. RPA in Pediatric group is an uncommon clinical entity and is often associated with an antecedent upper respiratory infection [5]. In younger population, suppuration of retropharyngeal lymph nodes are often the precedent to abscess formation in retropharyngeal space and it reflects the immature immune response in pediatric population [6]. Mostly RPA are polymicrobial with common causative organisms are group A beta-haemolytic *Streptococcus* (GABHS), *S. aureus* and upper respiratory tract anaerobic organisms [7]. The retropharyngeal space is located posteriorly to the pharynx and bounded by the buccopharyngeal fascia anteriorly, prevertebral fascia posteriorly and carotid sheath laterally. It extends

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