# RETROPHARYNGEAL ABSCESS: A CLINICAL STUDY

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*Retropharyngeal abscesses are more common in children than the adult population. This is a potentially lethal infection in the Paediatric population under the age of five years. Abscesses in this group are secondary to upper respiratory tract infection. In the adult group they are usually secondary to trauma, foreign bodies or as a complication of dental infections. We have treated 12 cases of Retropharyngeal Abscesses between 1990 to 1998 in our department. Factors such as age, sex, aetiology, presenting signs & symptoms, methods of diagnosis, treatment and complications are reviewed. A lateral neck film showing widening of the prevertebral space was the most diagnostic tool. Ten cases required surgical drainage. The other two were completely cured with parenteral broad spectrum Antibiotics. The most commonly isolated pathogen was streptococcus pyogenes. There were no deaths and only one recurrence required repeated surgical drainage.*

**Key words:** Abscess; Pharynx; Multicase

## INTRODUCTION

The retropharyngeal space is an important potential space in the deep neck. In the young child the retropharyngeal space contains lymph nodes which drain the nasal cavity and nasopharynx, paranasal sinuses, and soft palate and offer a path for the spread of infection from this space into the mediastinum as well as to other deep neck compartments. The clinical presentation and preceding medical history may differ in various age groups. In small children there is typically a history of an acute URTI. In adults a history of foreign body, external trauma, oesophagoscopy or tracheal intubation may be elucidated. Some less common causes such as tuberculosis and vertebral fractures may be ruled out [2,5, 9].

Patients may present with fever, odynophagia, dysphagia, dyspnoea, drooling, cervical rigidity, torticollis, hyponasability and sepsis. On inspection one might see a bulging of the pharyngeal wall, sometimes one sided. The lateral neck plain film is often enough to make the diagnosis. Characteristically widened soft tissue shadow that may overlie the cervical vertebrae is seen. Other useful radiological sign in patients with RPA are loss of the normal cervical lordosis with straightening of the cervical spine and the presence of air in the soft tissue.

Treatment consists of control of the airway, nothing per os (NPO). I.V Antibiotics and surgical drainage, perioral drainage is often sufficient for uncomplicated infections that have not compromised the airway.

For more serious, infections and abscesses that have spread to other deep neck compartments, external drainage with vertical incision along the anterior border of the sternocleidomastoid muscle is necessary.

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The abscess is then opened between the carotid sheath and the inferior constrictor muscle. Complications may be very severe since the retropharyngeal space is continuing with the mediastinum and spread of the infection downward may cause mediasitnitis. Other complications include airway obstruction and rupture of the abscess resulting in aspiration of pus and severe pneumonia.

## ANATOMY OF THE RPS.

The retropharyngeal space (or retrovisceral space) is a potential space that exists between the posterior aspect of the visceral layer and the alar division of the deep layer of cervical fascia. It extends from the base of the skull to the mediastinum at the level of the first or second thoracic vertebrae. This space contains connective tissue and lymph nodes. The greatest number of lymph nodes are found in children under the age of five years, accounting for the relatively high incidence of acute upper respiratory infection induced retropharyngeal abscesses in this age group.

## MATERIALS AND METHODS

Diagnosis in all our cases was based on widening of the RPS space to at least twice the diameter of the body of the cervical vertebrae on the lateral neck plain film, in addition to the characteristic clinical picture. Micro-organisms responsible for the abscess were cultured from pus collected at the time of surgical drainage.

## RESULTS

A total of 12 patients are included in our study who were treated in the DHQ Hospital and Ayub Medical Complex, Abbottabad. ENT department patients were of different ages ranging from 1.5 year to 60 years. Six patients were under the age of 5 years. Three were between 6 and 20 years' age and three patients were above 40 years of age. Aetiology was recorded as secondary to preceding illness, no prodrome or

precipitating illness or traumatic. Traumatic cases were sub-classified as FB ingestion or external trauma to the pharynx. Several cases were due to trauma. Amongst the children under the age of 5 years 5 cases had recent history of URTI and one case was due to penetrating oral trauma. Of the cases between 6 to 20 years, one was of idiopathic origin, one case had a prior history of URTI and one case had a prior history of swallowing a foreign body. The same was the other 3 patients above 20 years of age. One had history of FB ingestion one had history of URTI and one was of idiopathic origin. The most common presenting signs were fever, torticollis, trismus, and pharyngeal swelling. The presenting symptoms were primarily a sore throat and dysphagia. A lateral X-ray film of the neck was performed and showed widening of the prevertebral soft tissue space in all cases. Treatment consisted of IV antibiotics alone in 5 cases with IV Antibiotic with surgical drainage in the remaining 7 cases, of the surgical case six were transoral and one was external drainage.

Micro-organisms isolated from these cases were mostly streptococcus pyogenes. There was no death in this series.

**CASE-I**

A one and half year-old girl was referred from the women and Children Hospital of this city with a 3 days' history of dysphagia

fever and difficulty in breathing with inspiratory stridor. On examination a huge smooth swelling was impinging on the tongue arising from the retropharyngeal space. A lateral X-ray neck film showed marked increase in the RPS. X-ray films are shown in Figure-1-3.

The child was having history of URTI and was already on IV Velosef 250 mg TDS. Wide bore needle Aspiration of the Abscess was done first which showed frank pus. Child was wrapped in towels his head studied, mouth was opened with tongue depressor and I/D was done without Anaesthesia. Gush of pus started coming out from the abscess. Child was held upsides down to let the pus to come through mouth and nose which was sucked out to be prevent Aspiration. Lot of pus was removed. There was sudden improvement in dysphagia and airway. Postoperative X-ray showed a complete return of the RPS to normal within hrs.

**CASE-II**

A twenty-year body previously healthy was Admitted through emergency to the ENT department of Ayub Medical College with history of sore throat torticollis fever and slight difficulty in breathing, thick voice and hyponasality. On examination the RPS was bulging forwarded lateral neck X-ray showed the RPS was widened near the double of the size of the cervical vertebra behind ½ Antibiotic started Augmentin 1.2 gms IV TDS.

There was complete recovery of the sigh and symptoms within 48 hrs. X-ray conformed improvement with return to normal thickness of the RPS No 1/D was needed in this ease. This case was also secondary to URTI.

**DISCUSSION**

RSA is considered as a disease most common in very young children. Our report covered wide range of age groups and shows its prevalence in the adult population. Inflammation may spread through lymphatics from the Ear, Nose and Throat. A history of such a preceding infection is most common in children below the age of 5 as they possess the largest number of RP lymph nodes. A prior history of such an infection was found in most of the children under the age of 5 years and also in majority of the adults. Trauma, ingestion of FB or secondary to odontogenic infection is rare.

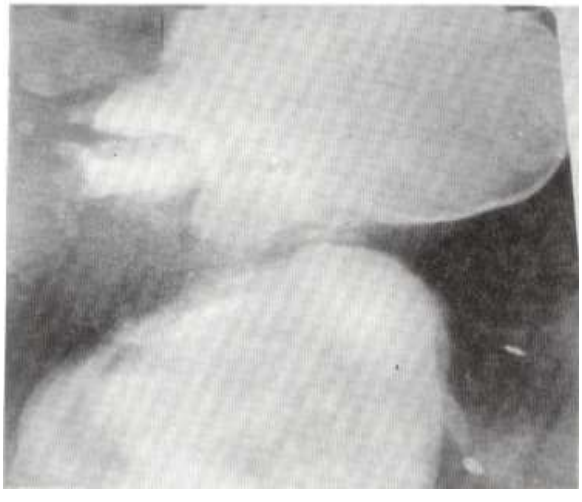

**Figure-1. A one and a half years old girl with Retropharyngeal abscess.**

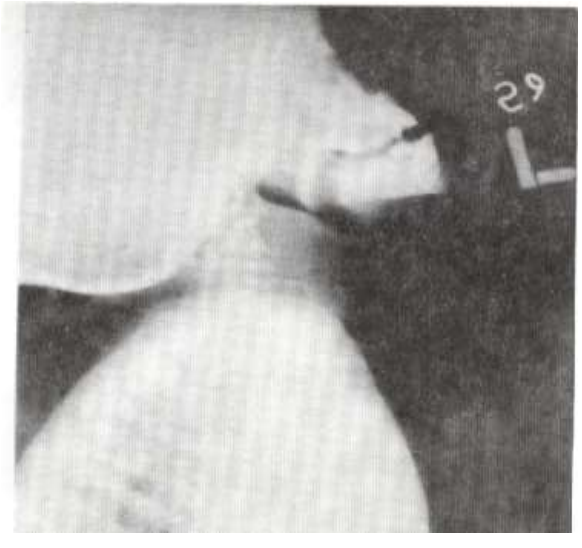

**Figure-2. A two years old boy with Retropharyngeal abscess.**

**Figure-3. A twenty years old boy with Retropharyngeal abscess.**

The clinical presentation in almost all the patients was classic with fever, sore throat, Dysphagia Torticollis and difficulty in breathing being the most common complaints. Drooling was common in children. Seventy % of patients presented with pharyngeal mass or bulging. A lateral radiography was performed and confirmed diagnosis in all cases.

A lateral film was considered diagnostic of a RPA. The RPS measured from the post wall of the Pharynx and the Anterior Border of second cervical vertebra was widened to more than twice the diameter of the cervical vertebrae. Other helpful radiological findings include gas in the prevertebral tissue and loss of the normal curvature of the cervical spinal. Majority of the cases were treated with I/V antibiotics and incision and drainage. Seven transoraly, one external drainage and rest were treated only with antibiotics. All surgically treated cases were cultured. The single most common organism isolated was streptococcus pyogenes followed by Staphylococcus aureus. There was no death in our series.

**CONCLUSION**

RPA is a serious disease that must be recognised early to avoid potentially lethal complications. Although thought of as a Paediatric disease, our series contained children as well as adults due perhaps to the earlier and more widespread use of antibiotics in the paediatrics population. We found a large number of patients with clinical and radiological evidence of RPA with no prior history of foreign body ingestion or trauma. Systemic antibiotic therapy should be started at once and must be directed to the most common pathogen.

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