

# An Atypical Case of Retropharyngeal Abscess in a Young Adult Male: A Rare Entity

Syed Qasim Hashmi<sup>1</sup>, Umer Shoaib<sup>2</sup>, Faizan Muhammad<sup>3</sup>, Afifa Jamil<sup>1</sup> and Sadaf Zia<sup>1</sup>

<sup>1</sup>Department of Otolaryngology, Ruth K.M. Pfau Civil Hospital, Karachi, Pakistan

<sup>2</sup>Department of Orthopaedics, Ruth K.M. Pfau Civil Hospital, Karachi, Pakistan

<sup>3</sup>Department of Neurology, Ruth K.M. Pfau Civil Hospital, Karachi, Pakistan

## ABSTRACT

Retropharyngeal abscess (RPA) is primarily considered to be a disease of children. It is a rare entity in adults. According to several studies, more than 95% of the cases occur in children under the age of 6 years, mostly resulting from extension of preceding nasopharyngeal infections to the retropharyngeal lymph nodes. The authors present a case of a 31-year male, with known case of Hepatitis B, who came to ENT clinic with complaints of difficulty in swallowing both solids and liquids and with fever for three weeks. Physical examination showed a swelling in the retropharyngeal area measuring 22 mm from the anterior aspect of C2 to the posterior pharyngeal wall and 20 mm from C6 to the posterior pharyngeal wall. A vertical incision was made in the most dependent part of the swelling, and approximately 600 ml of purulent contents were drained. The throat pack was then replaced, and the nasogastric tube was passed. Pus culture grew beta-hemolytic streptococci. Patient was discharged on the 5<sup>th</sup> postoperative day and came for follow-up with no active complaints after 1 week.

**Key Words:** Abscess, Retropharyngeal space, Drainage.

**How to cite this article:** Hashmi SQ, Shoaib U, Muhammad F, Jamil A, Zia S. An Atypical Case of Retropharyngeal Abscess in a Young Adult Male: A Rare Entity. *JCPSP Case Rep* 2023; **1**:96-98.

## INTRODUCTION

Retropharyngeal abscess (RPA) is primarily considered to be a disease of children. It occurs very rarely in adults. RPA is an infection of the retropharyngeal space and a relatively uncommon, but potentially fatal condition.<sup>1</sup> Before the introduction of antibiotics, when RPA was a fairly common entity, several studies reported that more than 95% of the cases occurred in children under the age of 6 years.<sup>2</sup>

The retropharyngeal space contains two chains of lymph nodes that are prominent in young children but start to regress with time.<sup>3</sup> RPA mostly results from extension of the preceding nasopharyngeal infections to the retropharyngeal lymph nodes in approximately 50% of the cases.<sup>1,2</sup> The infection is commonly of polymicrobial aetiology, including bacteria, such as Group A beta-hemolytic streptococci and *Staphylococcus aureus*. Local trauma from sharp foods like fish bones, endoscopy, dental procedures, and intubation may also result in RPA. These are the most likely causes of RPA in adolescents and adults.<sup>4</sup>

RPA constitutes one of the emergencies of ENT in paediatric populations and thus, requires immediate intervention. The authors herein present a case of a 31-year male who presented with a complaint of odynophagia.

## CASE REPORT

A 31-year male, with known case of Hepatitis B and renal failure (on dialysis), came to outpatient department of ENT with complaints of difficulty in swallowing for both solids and liquids, and fever for three weeks. Difficulty in swallowing was associated with pain and change of voice. It was not associated with difficulty in breathing or vomiting. He also had fever that was intermittent, not associated with vomiting, cough, headache or any other complaints.

On examination, the patient was irritable, restless, and sick looking. He was not drooling, or having any difficulty in breathing, and was vitally stable. On general inspection, nares appeared normal, skin of neck was erythematous and swollen with trachea, deviated slightly to the right side. On oropharyngeal examinations, oral hygiene was optimal with grossly normal dentation, tongue and mucous membranes. However, a bulge with moderate erythema on the posterior wall of the pharynx was present. Examinations of the rest of the systems including respiratory, cardiovascular, and gastrointestinal were insignificant.

The presence of dysphagia, fever, and oropharyngeal swelling were suggestive of an abscess, so an x-ray of neck (lateral view) was acquired. It showed a swelling in the retropharyngeal area with a measurement of 22 mm from anterior aspect of C2 to the posterior pharyngeal wall and 20 mm from C6 to the posterior

Correspondence to: Dr. Omer Shoaib, Department of Orthopaedics, Ruth K.M. Pfau Civil Hospital, Karachi, Pakistan

E-mail: umerbinshoaib98@gmail.com

Received: February 27, 2023; Revised: September 05, 2023;

Accepted: September 14, 2023

DOI: <https://doi.org/10.29271/jcpspcr.2023.96>

pharyngeal wall (Figure 1). The computed topography scan confirmed the diagnosis of RPA.

The patient was put on emergency operative list and preoperative workup was completed. A written informed consent for high-risk surgery and tracheostomy was obtained.

The operation was performed under general anesthesia with endotracheal tube placed by the anaesthetist. Patient was laid supine; head ring was placed with reverse Trendelenburg position. A throat pack was placed, then a vertical incision was made in the most dependent part of the swelling (Figure 2) and approximately 600 ml of pus was drained. Throat pack was then replaced, and nasogastric tube was passed. Pus was sent for culture and sensitivity. Bleeding was minimal with no major complications encountered during this procedure. Postoperatively, patient was started on Injection Vancomycin 12 hourly and Flagyl 8 hourly. The pus culture of the patient grew beta-hemolytic streptococci, while anaerobic culture was negative.

Patient was discharged on the 5<sup>th</sup> postoperative day and reported for follow-up after 1 week. He had no active complaints and hence, the nasogastric tube was removed.



**Figure 1: X-ray neck (lateral view) showing abscess in the retropharyngeal space.**



**Figure 2: Intra oral incision given in the most dependent part of the swelling.**

## DISCUSSION

The retropharyngeal space extends from the base of skull to the mediastinum forming a conduit which functions as a deep neck compartment. The buccopharyngeal fascia forms the anterior border of the space while posteriorly, the prevertebral fascia borders this space. Laterally, it is bounded by the carotid sheaths. The alar fascia segregates the space into two compartments, anterior being termed as the ‘true’ retropharyngeal space while the posterior compartment is termed as the danger space. The retropharyngeal space reaches down to the thoracic spine and terminates somewhere between T1-T6. It is also divided into superior and inferior parts; suprahyoid and infrahyoid.<sup>3</sup> Clinically, it is an important structure as it contains chains of lymph nodes draining the nasopharynx, adenoids, paranasal sinuses and the middle ear. These chains involute by the age of 4-5 years. During this age, RPA is a relatively common sequelae to viral infections of the areas drained by these chains of nodes causing suppurative adenitis and finally abscess in the space. Nearly half of the RPA are reported in children of 5 years or younger owing to the preceding viral infections. With increasing age, these lymph nodes regress rendering the formation of an abscess less likely at a rate of 0.2/100,000/year.<sup>5</sup> In adults, trauma is the major cause of RPA. Trauma provides a nidus for infection resulting in abscess formation. Usually, the organisms isolated from RPA are aerobes (beta-hemolytic streptococci and Staphylococci), anaerobes, namely *Bacteroides* and gram-negative *Haemo-philus parainfluenzae* and *Bartonella henselae*.<sup>1,2,4</sup> However, Das *et al.* reported a case of cryptococcal RPA.<sup>6</sup>

In their study, Harkani *et al.* reported five cases of RPA, out of which four had local trauma due to foreign bodies whereas one of them had spondylolisthesis due to tuberculosis indicating Pott’s disease. All remaining four cases had one pathogen, namely *Staphylococcus aureus*.<sup>1</sup> The reported case in this study had no evidence of trauma or tuberculosis.

RPA presents with odynophagia with concomitant dysphagia. Fever, dysphonia, malaise, retrosternal pain, cough, swelling in the neck, drooling, and dyspnea have been reported as well.<sup>5,7</sup> The patient in this study reported only three of the aforementioned symptoms, i.e., dysphagia and odynophagia accompanied by fever.

The modality of choice for radiological imaging is CT scan with contrast.<sup>1</sup> However, it is usually managed in an emergency setting, making CT scan a non-feasible choice. Our patient underwent a CT scan to confirm the diagnosis.

Management of RPA involves both medical and surgical interventions. Medical management is favoured in children with focus on airway monitoring, fluid resuscitation, and broad-spectrum antibiotics empirically until cultures are received.<sup>5</sup> Sanz Sánchez *et al.* reported in their study that the common antibiotics that are used are amoxicillin and clavulanic acid and can be followed by piperacillin and tazobactam, cefotaxime, amikacin, linezolid, etc. They also described the available surgical options which include external drainage, mediastinal drainage *via* thoracotomy, intra-oral drainage with or without CT-guidance, and

placing a penrose-type drain in the space after cervicotomy.<sup>8,9</sup> The patient in this case report had infection by beta-hemolytic streptococcus and underwent intraoral surgical drainage along with ceftriaxone and metronidazole.

The atypical nature and presentation of this case makes it a rare occurrence. The patient reported no history of trauma or tuberculosis indicating spontaneous development of an abscess. The presentation was subacute rather than acute. Furthermore, he did not report any difficulty in breathing in contrast to the cases available in the literature which report significant dyspnea even warranting an intubation. Such cases can enrich the literature and aid in the standardisation of the management options to reduce morbidity and mortality along with the length of hospital stay, ultimately improving the patients' clinical outcome and quality of life.

**PATIENT'S CONSENT:**

A written informed consent for high-risk surgery and tracheostomy was obtained.

**COMPETING INTEREST:**

The authors declared no competing interest.

**AUTHORS' CONTRIBUTION:**

SQH: Literature search, introduction writing.

OS, MF: Discussion writing.

AJ: Manuscript writing.

SZ: Final approval.

All authors approved the final version of the manuscript to be published.

**REFERENCES**

1. Harkani A, Hassani R, Ziad T, Aderdour L, Nouri H, Rochdi Y, Raji A. Retropharyngeal abscess in adults: Five case reports and review of the literature. *Sci World J* 2011; **11**:1623-9. doi: 10.1100/2011/915163.
2. Tannebaum RD. Adult retropharyngeal abscess: a case report and review of the literature. *J Emerg Med* 1996; **14(2)**:147-58. doi: 10.1016/0736-4679(95)02113-2.
3. Akhavan M. Ear, nose, throat: Beyond pharyngitis: Retropharyngeal abscess, peritonsillar abscess, epiglottitis, bacterial tracheitis, and postoperative tonsillectomy. *Emerg Med Clin North Am* 2021; **39(3)**:661-75. doi: 10.1016/j.emc.2021.04.012.
4. Mnatsakanian A, Minutello K, Bordoni B. Anatomy, head and neck, retropharyngeal space [Internet]. Treasure Island (FL): Stat Pearls Publishing; 2023 July 25.
5. LeRiger MM, Miler V, Tobias JD, Raman VT, Elmaraghy CA, Jatana KR. Potential for severe airway obstruction from pediatric retropharyngeal abscess. *Int Med Case Rep J* 2017; **10**:381-4. doi: 10.2147/IMCRJ.S146661.
6. Das R, Muldrew KL, Posligua WE, Boyce JM. Cryptococcal retropharyngeal abscess. *Travel Med Infect Dis* 2010; **8(5)**: 322-5. doi: 10.1016/j.tmaid.2010.08.003.
7. Jain H, Knorr TL, Sinha V. Retropharyngeal Abscess [Internet]. Treasure Island (FL): Stat Pearls Publishing; 2023 Jun 15.
8. Sanz Sánchez CI, Morales Angulo C. Retropharyngeal abscess. Clinical review of twenty-five years. *Acta Otorrino-laringol Esp (Engl Ed)* 2021; **72(2)**:71-9. doi: 10.1016/j.otorri.2020.01.005.
9. Li RM, Kiemeny M. Infections of the Neck. *Emerg Med Clin North Am* 2019; **37(1)**:95-107. doi: 10.1016/j.emc.2018.09.003.

