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Indian Journal of Clinical Anaesthesia

Journal homepage: www.ijca.in

Case Report

Anaesthetic management of retropharyngeal abscess in a 65-year-old with coronary heart disease following instrumental trauma: A case report

Gayathri Ramanathan[1]*, Venkata Sai Krishna Praneeth Koneru[1], Krishnasamy Yuvaraj Aravindhan[1]

[1]Dept. of Anaesthesiology, SRM Medical College Hospital and Research Centre, Kattankulathur, Tamil Nadu, India

Abstract

The use of antibiotics has significantly decreased the occurrence of retropharyngeal abscesses, making them uncommon in adults. However, recent case reports highlight the rapid progression and severe complications associated with this condition, underscoring the importance of prompt intervention. We present the case of a 65-year-old male who developed acute difficulty swallowing and breathing just two days following the extraction of a foreign body—a sapodilla seed. Emergency imaging, including neck X-rays and CT scans, confirmed the diagnosis of a retropharyngeal abscess. The patient was urgently scheduled for incision and drainage. This case report discusses the anaesthetic management strategy employed, with particular attention to the challenges posed by the patient's underlying coronary heart disease.

Keywords: Retropharyngeal abscess, Coronary heart disease, Foreign body trauma, Sapodilla seed, Incision and drainage, Instrumental trauma.

Received: 05-02-2025; **Accepted:** 24-05-2025; **Available Online**: 15-07-2025

1. Introduction

A retropharyngeal abscess (RPA) is an infection in the deep space of neck. They are relatively more common in children below 5 years of age compared to adults as children have numerous lymph nodes in the spaces. Most common causes of retropharyngeal abscess in adults are foreign body ingestion, or instrumental trauma (laryngoscopy, endotracheal intubation, Ryle's tube insertion, etc.) It is essential for immediate diagnosis and management to protect airway compromise which can lead to fatal complications. This case report highlights our Anaesthetic management in a 65-year-old coronary artery disease (CAD) patient who presented with a retropharyngeal abscess caused by instrumental trauma during foreign body removal (Sapodilla seed).

2. Case Report

A 65-year-old male with a history of coronary artery disease (CAD) presented to the Emergency Department with complaints of dysphagia and dyspnea, which had developed over the previous two days. Two days prior, the patient had undergone an upper gastrointestinal endoscopy (UGIE) following the ingestion of a foreign object—a sapodilla seed. Imaging, including X-rays and a CT scan, revealed a retropharyngeal abscess. The CT scan showed an abscess measuring 6.5 cm in length, 1.4 cm in depth, and 9.3 cm in the cranio-caudal direction, extending from the Atlas to the C7 vertebrae (**Figure 1** and **Figure 2**).

*Corresponding author: Gayathri Ramanathan
Email: praneeth.koneru@gmail.com

https://doi.org/10.18231/j.ijca.2025.084

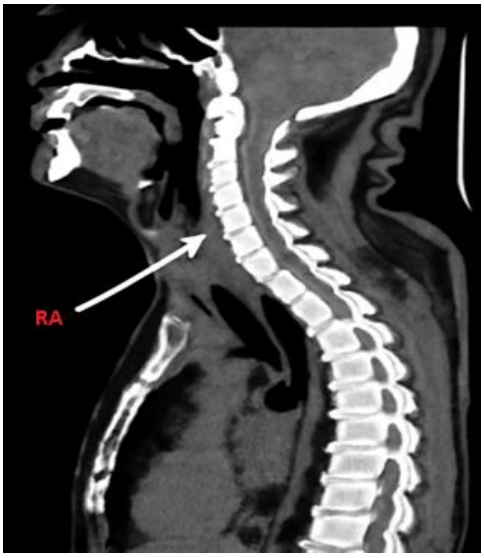

Figure 1: Multiple air foci with fluid density noted within the retropharyngeal space with lateral extension into bilateral parapharyngeal spaces

Figure 2: Multiple air foci with fluid density noted within the retropharyngeal space with lateral extension into bilateral parapharyngeal spaces

The patient's airway was clear, and the hyoid bone remained intact. Pre-operative investigations yielded normal results. An echocardiogram revealed hypokinesia of the mid anterior septum, anterior wall, apical septum, and inferior wall, with mild left ventricular dysfunction, mild mitral regurgitation (MR), and trivial tricuspid regurgitation (TR), giving a left ventricular ejection fraction (EF) of 50%. The cardiology team assessed the patient as fit for surgery with minimal risk. Airway assessment showed normal dentition, limited neck extension, and a Mallampati class 3 airway. Respiratory examination was unremarkable, with a central trachea and equal air entry, and no added breath sounds. Given the anticipated difficulty with intubation, preparations were made for video laryngoscopy, oropharyngeal and nasal airways, lignocaine spray, nebulization, and emergency tracheostomy equipment.

The patient was taken to the operating room at 9:30am. Monitoring included a 3-lead ECG, pulse oximeter, and non-invasive blood pressure cuff. An intravenous dose of 4.5g of Piperacillin and Tazobactam was administered. The patient received nebulization with 2 mL of 4% lignocaine, followed by 10 minutes of 10% lignocaine spray (2 puffs). Additionally, a magnesium sulfate infusion of 1 g at 25 mL/hour was initiated to ensure hemodynamic stability, and the patient was positioned in a rose position.

After 10 minutes, video laryngoscopy was performed, revealing no obstruction of the vocal cords by the abscess and classified as Cormack-Lehane grade 2. Pre-medication included 4 mg of ondansetron IV and 100 mcg of fentanyl IV. Sevoflurane was administered in incremental dosages: 1% for 2 minutes, 2% for 2 minutes, 3% for 1 minute, 4% for 1 minute, 5% for 1 minute, and 6% for 1 minute, achieving an end-tidal sevoflurane (ETsevo) of 7. The patient received 90 mg of preservative-free lignocaine IV and was intubated under spontaneous ventilation using a cuffed oral Portex tube (size 7), secured at 21 cm, after confirming equal bilateral air entry with a size 5 laryngoscope. Following successful intubation, thorough suctioning was performed, and a throat pack was placed to prevent aspiration of infectious secretions. A muscle relaxant, 40 mg of atracurium IV, was administered.

During the procedure, the patient received 100 mg of hydrocortisone IV and 4 mg of dexamethasone IV. Anaesthesia was maintained with sevoflurane, oxygen, and nitrous oxide. The procedure lasted 90 minutes, with stable vital signs throughout and an uneventful course. Prior to reversal, 5 mL of Myo-pyrolate IV and 1g of calcium gluconate IV over 10 minutes were administered. The patient was successfully extubated, maintained saturation on room air, and remained hemodynamically stable. Postoperatively, the patient was transferred to the ICU for further monitoring and was discharged on postoperative day 3 without any complications.

3. Discussion

A retropharyngeal abscess is composed of pus, blood, and other fluid collections within the retropharyngeal space, which extends from the base of the skull to T1. The anterior boundary is defined by the posterior pharyngeal wall, while the alar fascia marks the posterior limit. This condition is more commonly seen in children due to respiratory infections, foreign body ingestion, instrumental injuries, and dental caries. Prompt diagnosis is crucial, as delays in treatment can lead to the infection spreading to deeper cervical areas, resulting in severe complications such as sepsis, laryngeal swelling, mediastinitis, pericarditis, and jugular vein thrombosis. These complications are particularly dangerous for cardiac patients, as they may have fatal outcomes.[1] Several conditions may present with odynophagia and neck pain, including tendinitis of the longus colli muscle, paravertebral calcification, retropharyngeal and prevertebral

abscesses, esophageal perforation, aortic dissection, fractures of the thyroid cartilage, thyrohyoid ligament syndrome, pneumomediastinum, subcutaneous emphysema, and post-exertion pain.[2] Documented cases have shown that acute cardiopulmonary issues can arise due to complicated retropharyngeal abscesses and thoracic empyema, particularly when there are delays in managing dental caries in otherwise stable patients.[3]

Clinical signs of a retropharyngeal abscess include limited neck movement, trismus, and possibly torticollis. Airway obstruction is a serious complication that may require a preventive tracheotomy in severe cases.[4] Diagnostic confirmation using CT scans shows that an increase in space greater than 7mm at C2 and/or more than 14mm at C6 indicates the presence of a retropharyngeal abscess.[5] This condition is typically polymicrobial, with *Staphylococcus aureus* and Lancefield Group A Streptococcus being common causative organisms. The mainstay of treatment includes broad-spectrum antibiotics, with surgical drainage often performed via ultrasound-guided percutaneous needle aspiration.[6]

Anaesthetic management of these cases requires careful attention to challenging airways, sepsis, and metabolic imbalances, which are exacerbated by specific risk factors identified on preoperative imaging, such as edema of the arytenoids and larynx, as well as abscess formation in the retro- and parapharyngeal regions.[7] The greatest challenge in these cases arises from difficult airways that complicate intubation due to limited mouth opening, decreased neck mobility, difficulty visualizing the vocal cords from swelling, potential dislocation of the larynx, and the risk of abscess rupture, which could lead to aspiration during laryngoscopy or intubation. Gentle placement of the laryngoscope is essential, and the use of a throat pack is recommended to prevent aspiration. In paediatric patients, inhalational induction with maintenance of spontaneous respiration is the preferred method, followed by tracheal intubation performed by an experienced practitioner to minimize the risk of abscess rupture.[8] Airway management should involve a multidisciplinary approach, with an otorhinolaryngology team available for emergency tracheostomy if required.[9] Extended airway manipulation can lead to cardiac complications, which may be alleviated by the administration of preoperative alpha agonists like dexmedetomidine, beta-blockers, or magnesium sulfate, as used in this case.

4. Conclusion

The management of a retropharyngeal abscess presents a significant challenge for anaesthesiologists, particularly when airway management is complicated by the presence of underlying conditions such as coronary artery disease. The risk of difficult intubation and associated complications requires meticulous planning and a multidisciplinary approach to ensure patient safety and optimal outcomes.

5. Source of Funding

None.

6. Conflict of Interest

None.

References

1. Martins J, Lucas A. Deep neck infection: A case of retropharyngeal abscess. *Cureus*. 2023;15(11):e48293.
2. Polastri M, Di Marco L, Andreoli E. Odynophagia in individuals with neck pain: the importance of differential diagnosis in physiotherapy practice. *J Yeungnam Med Sci.* 2023;40(Suppl):S129.
3. Olika MK, Ayano GT, Ilala TT. Perioperative anesthesia management for a patient presented with acute cardiopulmonary compromise secondary to a complicating retropharyngeal abscess extending to the mediastinum. A rare case report. *Open Access Surg*. 2022;15:89–95.
4. Sanz Sánchez CI, Morales Angulo C. Retropharyngeal Abscess. Clinical Review of Twenty-five Years. *Acta Otorrinolaringol Esp (Engl Ed)*. 2021;72(2):71–9.
5. Esposito S, De Guido C, Pappalardo M, Laudisio S, Meccariello G, Capoferri G, et al. Retropharyngeal, parapharyngeal and peritonsillar abscesses. *Children*. 2022;9(5):618.
6. Torretta S, Ibba T, Guastella C, Gaini L, Di Cicco M, Folino F, et al. Management of upper retropharyngeal abscesses in children: Two case reports of a troublesome situation. *Clin Case Rep*. 2021;9(10):e045.
7. Iwata E, Inokuchi G, Kawakami M, Matsui T, Kusumoto J, Tachibana A, et al. Predictive factors in difficult postoperative airway management of severe odontogenic deep neck infection. *Odontology*. 2025;113(3):1253–62.
8. Jougon J, Cantini O, Delcambre F, Minniti A, Velly JF. Esophageal perforation: life threatening complication of endotracheal intubation. *Eur J Cardiothorac Surg*. 2001;20(1):7–10
9. Hui LR, Selamat M, Hamid Z, Abu Bakar AZ, Thomas TH. Retropharyngeal abscess in child-dilemma in airway management. *Ann Otolaryngol Rhinol.* 2016;3(11):1141.

Cite this article: Ramanathan G, Koneru VSKP, Krishnasamy Yuvaraj Aravindhan. Anaesthetic management of retropharyngeal abscess in a 65-year-old with coronary heart disease following instrumental trauma: A case report. *Indian J Clin Anaesth*. 2025;12(3):542–544.