Journal Homepage: -www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI:10.21474/IJAR01/15896
DOI URL: http://dx.doi.org/10.21474/IJAR01/15896

RESEARCH ARTICLE

AIRWAY MANAGEMENT OF A VALLECULAR CYST EXCISION-A NIGHTMARE TO ANAESTHETISTS

Dr. Surentharraj Elangobaalan, Dr. Kishorekumar Madhanagopal, Dr. Vigneshwaran M. and Dr. Mohan V.K

Manuscript Info

Manuscript History
Received: 19 October 2022
Final Accepted: 24 November 2022
Published: December 2022

Abstract

Vallecular cysts are mucus retention cyst of salivary gland and might be a cause ofobstructing the laryngeal inlet posing a threat to anaesthetist for airway management(1).We present the airway management of an adult patient with difficult airway with a large vallecular cyst. A16 year old female patient with a vallecular cyst posted for robotic assisted vallecular cyst excision under general anaesthesia. After induction of general anaesthesia, laryngoscopy was attempted with C-mac blade size-3 and no laryngeal structures were seen except the epiglottis. We were unable to lift the epiglottis to visualise the vocal cords since the cyst was present in the space between base of tongue and epiglottis. An immediate plan of fibreoptic bronchoscopy guided intubation was planned. In the meantime, patient was being ventilated by bag and mask ventilation. After placing the Fibreopticbronchoscope in the trachea just above the carina, railroading of the endotracheal tube was difficult.Hence,we decided to introduce the Video laryngoscope to visualise the passage of the endotracheal tube which was being guided by fibreopticbronchoscope. The main aim is to prevent damage to the vallecular cyst and to ensure safe placement of endotracheal tube and adequate ventilation of the patient to prevent potential airway related complications.

Introduction:-

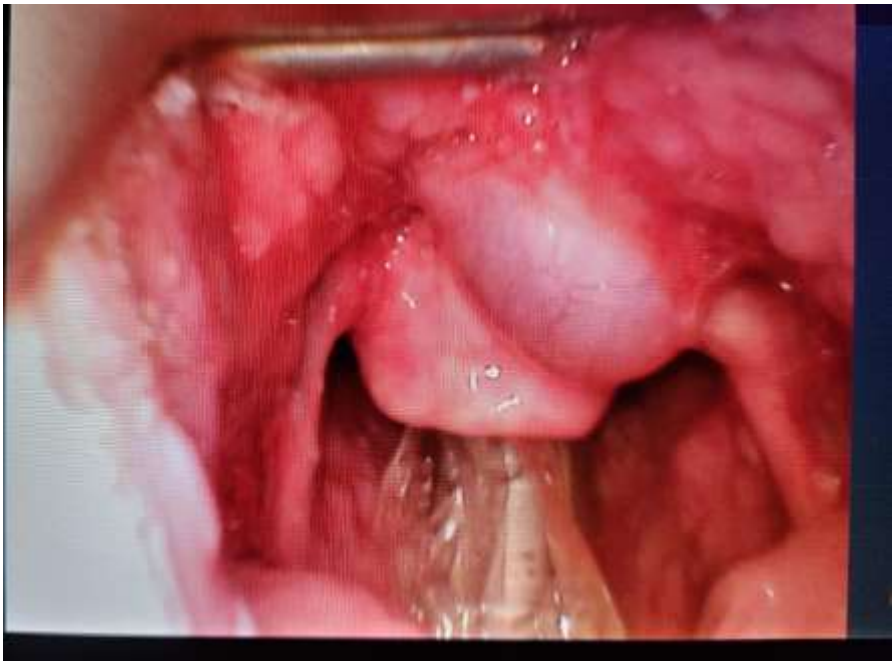
Vallecular cysts are generally seen in children and are rare in adult population(2). They are generally mucus retention cyst of epiglottis or tongue base cysts. The symptom ranges from asymptomatic to dreadful complications like death due to laryngeal obstruction(1). The airway management may pose a threat to anaesthetist in case of vallecular cyst with inlet obstruction. In this case report, we enlighten the airway management of a vallecular cyst with difficult airway causing partial obstruction of the pharynx.

Case Report

The case report was presented after obtaining the consent from the patient. A16year old female with complaints of voice change for 6 years, associated with foreign body sensation in the throat for 1 year with pain during swallowing and dysphagia for two months. Indirect laryngoscopy of the patient revealed3*3 cm cyst occupying right vallecula.No abnormalities were found in the routine pre-operative systemic examination and laboratory values. Patient was posted for robot assisted vallecular cyst excision under general anaesthesia.

Corresponding Author:- Dr. Surentharraj Elangobaalan

On the day of surgery after attaching standard ASA monitors and baseline hemodynamic parameters were noted. Patient was induced with injection fentanyl,propofol as per standard department protocol. After ensuring adequacy of mask ventilation patient was paralysed with injection vecuronium and mask ventilated for 3 minutes. Our plan of anaesthesia was to intubate by video-laryngoscope guided and our backup plan was fibreoptic bronchoscope guided intubation. First the patient was attempted intubation with Video-laryngoscope(C-mac blade-3), Vallecular cyst was visualized in the lingual surface of epiglottis and it was difficult to visualize the cords due to it. We were unable to lift the epiglottis as the vallecular cyst was present and any further manipulation may damage the vallecular cyst.So,we changed our backup plan to fibreoptic bronchoscope guided intubation. In the meantime, patient was being ventilated with bag and mask ventilation with Isoflurane of 1.5 percent. The fibreoptic bronchoscope was tried through right nostril with the tube railroaded to it.The scope was able to pass beyond the cyst but while railroading the endotracheal tube we were unable to do it, as the cyst was compressing velopharyngeal space making it difficult to pass the tube. In order to prevent the damage to the vallecular cyst, we tried introducing video-laryngoscope(C-mac blade size 3) and lift the airway creating space for endotracheal tube to pass by second person and the third person was giving laryngeal compression externally thereby vocal cords could bevisualized better. Once vocal cord is visualized under vision endotracheal tube was passed into trachea and care was taken not to injure the cyst by monitoring through video-laryngoscope. The Video-laryngoscopy view of the vallecular cyst is shown in the fig 1.



Discussion:-

Vallecular cysts are rare benign lesion commonly arising from lingual surface of epiglottis(1). It arises due to obstruction and retention of mucus in the submucosal glands collecting duct resulting from inflammation, irritation or trauma(2). The increased size of vallecular cyst may obstruct the view of the airway.The difficult airway possibility is present in these patients based on the size of the vallecular cysts. The airway management of these patients pose a great threat to the anaesthesiologists. The airway management in these patient ranges from using laryngoscope to intubate if the cyst is not obscuring the airway and of small size, to use of fibreoptic bronchoscope guided intubation and tracheostomy as a last resort when the airway was unable to be secured(1). Many studies illustrate the airway management in these patients(1)(3)(4). Kumar et al reported a case in which the airway was secured by aspirating fluid from vallecular cyst post induction of anaesthesiaand it improved the glottic view for endotracheal intubation(3). Cyst aspiration do carry the risk of pulmonary aspiration of contents so we avoided it(3).

Also,fibreoptic bronchoscope guided intubation remains the gold standard technique in these types of patients. Hence, we planned the use of fibreoptic bronchoscope guided intubation in our patient. But we faced problem when we were unable to railroad the endotracheal tube. So, to prevent the injury to the vallecular cyst we used video-laryngoscope (C-mac blade size 3) to lift the airway to view the passing of endotracheal tube under vision ensuring

no damage to the vallecular cyst. Remaining part of the surgery went uneventful and patient was extubated at the end of surgery. Patient was discharged at post-operative day 3.We present this case as a guide for airway management of the patient with vallecular cyst.

Conclusions:-

Hence we conclude that proper planning ensure the key to successful airway management in case of difficult airway..

References:-

1. Bestas. Airway Management in an Adult Patient With a Large Vallecular Cyst. J Med Cases [Internet]. 2014 [cited 2022 Dec 27]; Available from: http://www.journalmc.org/index.php/JMC/article/view/1757
2. Kothandan H, Ho V, Chan Y, Wong T. Difficult intubation in a patient with vallecular cyst. Singapore Med J. 2013 Mar;54(3):e62–5.
3. Kumar A, Bhadani U, Bharti B, Kumar N. Airway management of a near obstructive vallecular cyst in an infant. Indian J Anaesth. 2020;64(8):721.
4. Jahagirdar S, Karthikeyan P, Ravishankar M. Acute airway obstruction, an unusual presentation of vallecular cyst. Indian J Anaesth. 2011;55(5):524.