



Endoscopic Microdebrider Assisted Marsupialization of Vallecula cyst- new treatment modality

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Abstract

Cystic lesion of larynx is common entity. . The origin of the cyst is unclear. Theories are either obstruction of a minor salivary gland or variant of a thyroglossal duct cyst. Lingual surface of the epiglottis is the commonest site for vallecula cyst. We are here by discussing a case report, where marsupialization of vallecula cyst was done with microdebrider.

Introduction

Cystic lesion of larynx is common entity. It account about 5% of benign lesions of the larynx¹. Vallecula cyst is 10.5 to 20.1 % of laryngeal cysts².

There is no gender predominance for laryngeal cysts and may occur at any age but a greater prevalence in the fifth and sixth decades has been observed^{3,4}. The origin of the cyst is unclear. Theories are either obstruction of a minor salivary gland or variant of a thyroglossal duct cyst⁵.

We are here by discussing case report, where marsupialization of vallecula cyst was done with microdebrider.

Case report

Forty three year male patient presented with history of difficulty in swallowing for 3 months. Difficulty in swallowing was progressively increasing and only for solid. He also had history of difficulty in breathing in inspiratory phase for 3 days.

Indirect laryngoscopic examination showed a solitary, smooth surfaced, pale, pink, hemispherical mass of size about 4x4 cm occupying the both side of vallecula and covered endolarynx completely. Only right glossoepiglottic fold and lateral wall of right pyriform sinus could be visualized. Lateral airway X ray showed obliteration of vallecula and lingual surface of epiglottis (Figure 1). Contrast enhancing CT scan of neck revealed homogenous single cystic lesion (4 x 4 x 2 cm) in the region of vallecula. Larynx and hypopharynx were normal (Figure 2). The diagnosis of vallecular cyst was made.

Marsupialization was done with microdebrider under endoscopic assistance (Figure 3). The mucoid discharge came out form cyst which was suctioned by debrider. Oropharyngeal surface of cyst was removed with debrider (Figure 4). Post operative period was uneventful except minimal pain. Endoscopic examination done 6 week after surgery, showed well healed wound (Figure 5). The patient is under regular follow up with no recurrence.

Discussion

Vallecula cyst also known as epiglottic mucous retention cyst or base of the tongue cyst. Due to obstruction and retention of mucus in collecting ducts of submucosal glands, it classified as a ductal cysts⁶.

Lingual surface of the epiglottis is the commonest site for vallecula cyst. It fills vallecula region and distort the epiglottis with enlargement as well as obstruct view of the airway as seen in our case⁷. This may lead to blockage of the laryngeal inlet and risk of respiratory airway distress^{8,9}.

Presenting symptoms vary depending on its size, amount of airway obstruction, as well as age of the patient. Inspiratory strider and dyspnoea are frequently noted in infants¹⁰. In older children commonest presentations are feeding difficulties and failure to thrive where as in adults, they diagnosed incidentally by otolaryngologist or by an anesthetist upon induction of general anesthesia¹¹. The cyst has an external lining of squamous epithelium and may contain respiratory epithelium with mucous glands on histopathology¹². Other cystic lesions to consider in this site include a lingual thyroid, thyroglossal duct cyst, lymphatic malformation and cystic tumors such as teratomas. High index of clinical suspicion is require to diagnose vallecula cyst. Lateral airways X-ray may show an alteration in the airway contour where vallecular cyst or mass airway lesion is suspected in infancy similar to our case. Direct laryngoscopic examination with flexible nasal endoscope or under general anaesthesia with rigid instrumentation is required to made definitive diagnosis.

There were various methods on management of vallecular cyst. The conventional modalities include marsupialization, or excision, where they were done either with cold instrument, tonsillar snare, CO2 laser or electrocautery under direct vision with or without micro-laryngoscope¹³⁻¹⁷. Marsupialization is usually sufficient and results in minimal long-term sequelae¹⁴. Simple aspiration of the vallecular cyst however has a high chance of recurrence.

The microdebrider is used in various otolaryngology procedure such as endoscopic sinus surgery, adenotonsillectomy and to treat papillomas of the larynx and trachea. This technique has been found to be easy, safe, fast in experience hand with advantage of the microdebrider in vallecula cyst surgery is the constant suction performed by the instrument allows a complete aspiration of the cyst's contents during surgery^{18,19} as we did in our case.



Figure 1 Lateral airway X ray showed cystic lesion obliterating vallecula and lingual surface of epiglottis.



Figure 2a



Figure 2b

CECT scan of neck (Axial, Sagittal cuts) revealed homogenous single cystic lesion (4 x 4 x 2 cm) in the region of vallecula. It obscures view of endolarynx and hypopharynx



Figure 3 Endoscopic picture showed left vallecular cyst with tip of microdebrider and endotracheal tube



Figure 4. Wound after oropharyngeal surface of cyst removed.

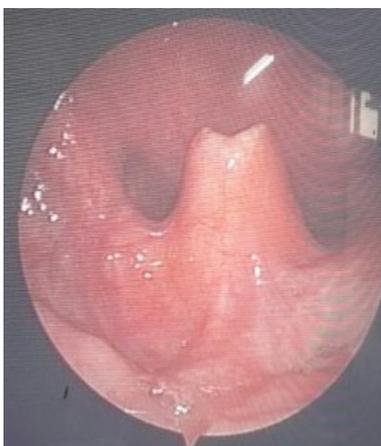


Figure 5 Healed wound after 6 weeks

References

- 1 Arens C, Glanz H, Kleinsasser O - Clinical and morphological aspects of laryngeal cysts. *Eur Arch Otorhinolaryng.* 1997;254:430-436.
- 2 Romak JJ, Olsen SM, Koch CA, Ekbom DC. Bilateral vallecular cysts as a cause of dysphagia: case report and review of literature. *Int J Otolaryngol* 2010; 2010:697583
- 3 Prowse S, Knight L. Congenital cysts of the infant larynx. *Int J Pediatr Otorhinolaryngol.* 2012;76(5):708-711.
- 4 Chen EY, Lim J, Boss EF, Inglis AF, Jr., Ou H, Sie KC, Manning SC, et al. Transoral approach for direct and complete excision of vallecular cysts in children. *Int J Pediatr Otorhinolaryngol.* 2011;75(9):1147-1151.
- 5 Cheng S, Forte V, Shah V Symptomatic congenital vallecular cyst in a neonate. *J ediatr* 2009;155:446.
- 7 Parelkar SV, Patel JL, Sanghvi BV, Joshi PB, Sahoo SK, et al. An Unusual Presentation of Vallecular Cyst with near Fatal Respiratory Distress and Management Using Conventional Laparoscopic Instruments. *J Surg TechCase Rep* 2012; 4: 118-120.
8. Sanjeev Mohanty, Gopinath Mairagnanam. Endoscopic assisted therapeutic marsupialisation of vallecular cyst in a seven year old boy- a rarity in modern clinical practice. *Journal of Evolution of Medical and Dental Sciences* 2013;2: 4320-4324.

9. C M Walshe, N Jonas, DRohan. Vallecular cyst causing a difficult intubation. Oxford University Press on behalf of The Board of Directors of the British Journal of Anaesthesia 2009; 102: 565.
10. Berger G, Averbuch E, Zilka K, Berger R, Ophir D. Adult vallecular cyst: thirteen-year experience. Otolaryngol Head Neck Surg 2008;138: 321-327
- 11 Gutierrez JP, Berkowitz RG, Robertson CF Vallecular cysts in newborns and young infants. *Pediatr Pulmonol* 1999;27:282–5
- 12 Leibowitz JM, Smith LP, Cohen MA, et al. Diagnosis and treatment of pediatric vallecular cysts. *Int J Pediatr Otorhinolaryngol* 2011;75:899–904
- 13 Rivo J, Matot I. Asymptomatic vallecular cyst: airway management considerations. *J ClinAnesth* 2001;13: 383-386.
- 14 Sameer M, Jahagirdar, P Karthikeyan, Ravishankar M. Acute Airway Obstruction, an unusual presentation of vallecular cyst. *Indian J Anaesth* 2013;55: 524-527.
- 15 SathishBhandary. Case report: Innovative Surgical Technique in the Management of Vallecular cyst JHAS Mangalore, South India 2003; 2:2.
- 16 Kothandan H, Ho VK, Chan YM, Wong T. Difficult intubation in a patient with vallecular cyst. *Singapore Med J* 2013; 54: 62-65.
- 17 Singhal Surinder K, Verma Hitesh, Dass Arjun, PuniaRajpal (2012) Vallecular cyst in Adult Population: Ten Year Experience. *Nepalese Journal of ENT Head and Neck Surgery* 2012; 3(2): 5-7.
- 18 S S Pandian, A Govarthanaraj. Symptomatic vallecular cyst- how i do it. *Int J Pharm Bio Sci* 2014 ; 5 (2):348 – 351
- 19 Fabio Pagella, Alessandro Pusateri, Elina Matti, Guido Tinelli, Marco Benazzo. Transoral Power-Assisted Marsupialization of Vallecular Cysts Under Local Anesthesia. *Laryngoscope* 2013; 123:699–701.