

CASE REPORT

ENDOSCOPIC ASSISTED THERAPEUTIC MARSUPIALISATION OF VALLECULAR CYST IN A SEVEN YEAR OLD BOY - A RARITY IN MODERN CLINICAL PRACTICE

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HOW TO CITE THIS ARTICLE:

Sanjeev Mohanty, Gopinath Maraignanam. "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; Vol2, Issue 24, June 17; Page: 4320-4324.

ABSTRACT: Vallecular cyst is a rarely encountered benign lesion of the larynx¹. It presents mainly in neonates and in adults. Detection of such a cyst beyond infancy is not surprising on routine clinical examination; although active surgical intervention is reserved for only symptomatic patients. This 7 year old boy presented to the ENT clinic with symptoms of mild inspiratory stridor, difficulty in swallowing and foreign body sensation in throat over a period of 6 months. He was treated surgically to relieve him of the annoying symptoms.

KEYWORDS: Vallecular cyst, base of tongue, marsupialisation

INTRODUCTION: Although vallecular cyst is benign, its location in the upper airway necessitates the urgency in the surgical management before complication of upper airway compromise occurs. The risk of upper airway compromise is still high in children of this age group because of narrow upper airway². Furthermore, patient will also have feeding difficulty and foreign body sensation in the throat^{3,4}.

CASE REPORT: A 7 year old boy was brought to the ENT department by his parents with the complaint of difficulty in swallowing solids foods, foreign body sensation throat and dry cough for the past 6 months. All these symptoms were insidious in onset and progressively worsening in nature. The child did not have change in voice, respiratory distress or noisy breathing. On oral examination, a hemispherical midline swelling was seen posterior to the base of tongue. Indirect laryngoscopy showed a solitary, smooth surfaced, pale, pink, hemispherical mass of size about 1x1x1 cm seen in midline occupying the vallecula. Median glossoepiglottic fold and the lingual surface of epiglottis were not visualised. Video laryngoscopy confirmed the findings. (Fig. 1) Child was taken up for endoscopic transoral excision of the mass in the vallecula. With the patient in Rose position, mouth was opened wide using Boyle-Davis mouth gauge. The vallecular cyst was visualised using a 70 degree endoscope held by the assistant. The cyst was held using a Babcock's

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forceps by the surgeon and dissected out with electro cautery from the epiglottis and then released from the median glossoepiglottic fold. The cyst was found to be filled with thick mucous which was sterile on culture. (Fig.2) Haemostasis was achieved completely before extubation. The cyst was dissected with electrocautery releasing it from the lingual surface of epiglottis and the median glossoepiglottic fold. Histopathology of the cyst wall showed features suggestive of benign cyst with chronic inflammation. Post operatively patient was symptom free and was discharged on the first post operative day. Patient is on regular follow up (Fig.3) and there is no recurrence after 6 months post op.

DISCUSSION: Laryngeal cysts are fairly uncommon but have stimulated interest because of their potential for morbidity and mortality⁵. They occur mostly in neonatal and adult age group. Abercrombie provided the first description of laryngeal cyst in the year 1881^{5, 6, 7}. The commonest of the laryngeal cyst is the aryepiglottic cyst, followed by vallecular cyst, ventricular cyst and subglottic cyst.

De Santo et al classified laryngeal cyst according to their location and surface mucosa into thyroid cartilage foraminal cyst, saccular cyst and ductal cyst⁸. Thyroid cartilage foraminal cysts occur in the thyroid cartilage due to the residual embryonic vessels in the cartilage protruded with mucosa. Saccular cysts are delivered from the sacculae of the laryngeal appendage, which are submucosal and covered with complete mucosa. They are often seen in neonates, although sometimes in adults. Saccular cysts are larger than ductal cysts, and can occur in the laryngeal ventricle, vocal cords, false cords and the aryepiglottic fold. Ductal cysts are common, occurring at any place of the larynx, mainly located within the mucous membrane, covered with squamous or ciliated columnar epithelium. The limitation of the classification is that it was largely based on observation in adults and it did not recognize different anatomical sites and variations in presentation^{2, 9}. Newman classified laryngeal cysts as epithelial, tonsillar and oncocytic cysts (1984: Modified working classification)^{5, 10}.

Vallecular cyst is a unilocular cystic mass of variable size arising from the lingual surface of the epiglottis, containing clear and noninfected fluid². It is also called as mucous retention cyst, congenital cyst, epiglottic cyst, base of tongue cyst and ductal cyst. Several theories explain the pathogenesis of vallecular cyst. Two major hypotheses are that the cyst is a consequence of ductal obstruction or an embryological malformation⁵.

The mode of presentation of laryngeal cysts is based on their position and size. In neonates the common presentation is various degrees of upper airway obstruction such as cyanosis, apnea, increased respiratory effort, chest retraction and inspiratory stridor. Presentation of failure to thrive and feeding difficulty is common in infants. Also associated condition like secondary laryngomalacia must be watched for. Altered airway dynamics causes elevated inspiratory negative pressure and supraglottic prolapse.

Indirect laryngoscopic, video laryngoscopic, flexible laryngoscopic or bronchoscopic examination is performed to diagnose vallecular cyst^{11, 12}. A cystic swelling of variable size can be visualised occupying the vallecula with the attachment mostly to the lingual surface of epiglottis. Differential diagnosis of hemangioma, cystic hygroma, teratoma, hamartoma, dermoid cyst, lymphangioma, thyroglossal duct cyst and thyroid remnant cyst should be considered^{13, 14}. Diagnosis is confirmed by cyst puncture and therapeutic marsupialisation under general

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anaesthesia. If mass is not cystic, further evaluation by CT, MRI, thyroid scan, neck sonogram and barium oesophagogram can be helpful. Surgical removal of the cyst using electrocautery, laser or micro debrider is the treatment of choice. Marsupialisation is safe and definitive procedure when performed with CO2 laser¹⁵. Aspiration of cyst is associated with high recurrence rate⁷.

In our case, the child had complaints of difficulty swallowing solid foods, dry cough and foreign body sensation of throat. The cyst was large enough to be visible via oral examination itself, but the child did not have any symptom of respiratory distress. The child was evaluated and taken up for surgery at the earliest due to the risk of upper airway compromise. The cyst was excised via transoral endoscopic method. Post operatively the child was asymptomatic and was discharged on the first post operative day. Child is on regular follow up, the surgical wound healed well with no signs of recurrence.

CONCLUSION: Vallecular cyst is a rare benign lesion of the larynx. It is very rare in infants and children. It can have a varied presentation ranging from dry cough and foreign body sensation throat to inspiratory stridor. Early diagnosis and intervention is important in children to prevent fatal complication like severe upper airway obstruction leading to morbidity and mortality due to this rare entity.

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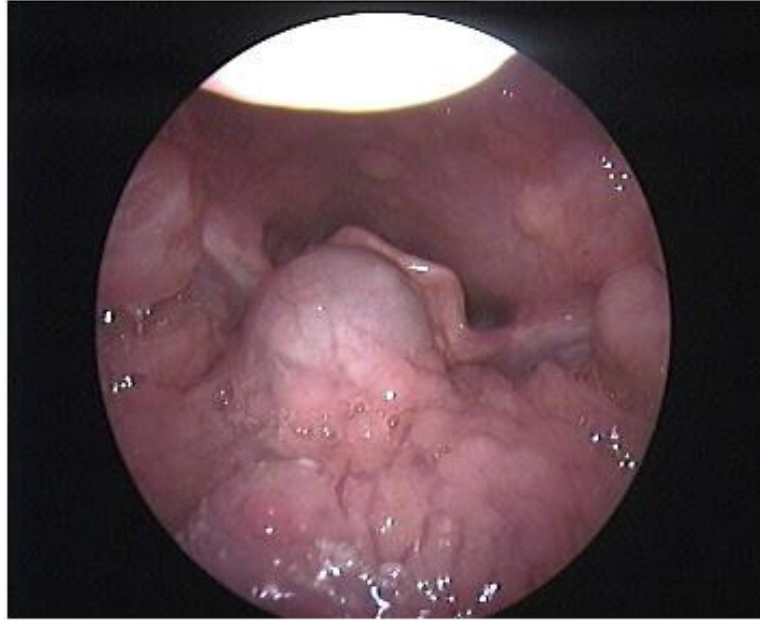


Fig.1 – 1x1x1 cm midline cystic hemispherical swelling in the vallecula

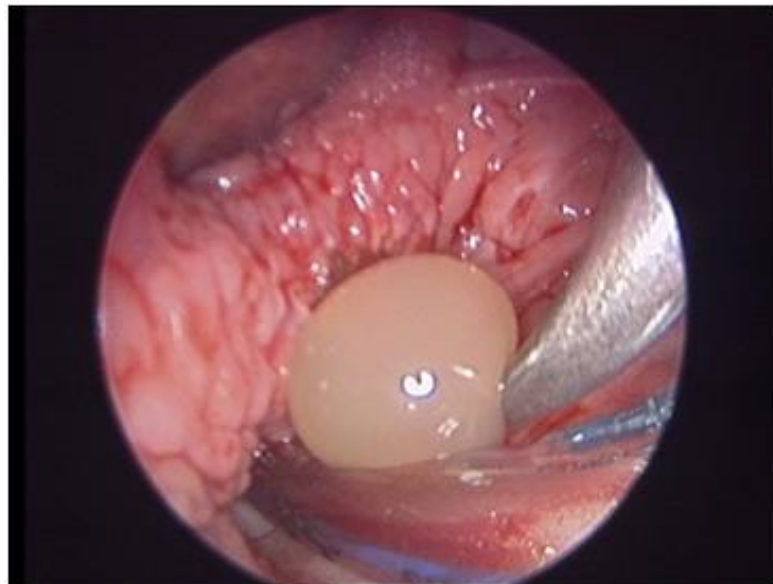


Fig. 2 – Thick inspissated mucus from within the cyst wall

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Fig.3 - Two weeks post operative view on laryngeal endoscopy