

CASE REPORT

LARYNGOCELE: A CASE REPORT

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ABSTRACT: Laryngoceles are rare, cystic dilatation of saccule of ventricle of larynx. Three types are recognized –internal, external and mixed types. Many of the laryngoceles are asymptomatic; few require surgical excision via internal/endoscopic or external approach. Contrast CT is the investigation of choice. A 40year old male presented to our OPD with a neck Scar, later diagnosed as laryngocele. Here is the case report about presentation, diagnosis and management of a large mixed layngocele.

KEYWORDS: Layngocele, Neck swelling, Saccule, Ventricle of larynx.

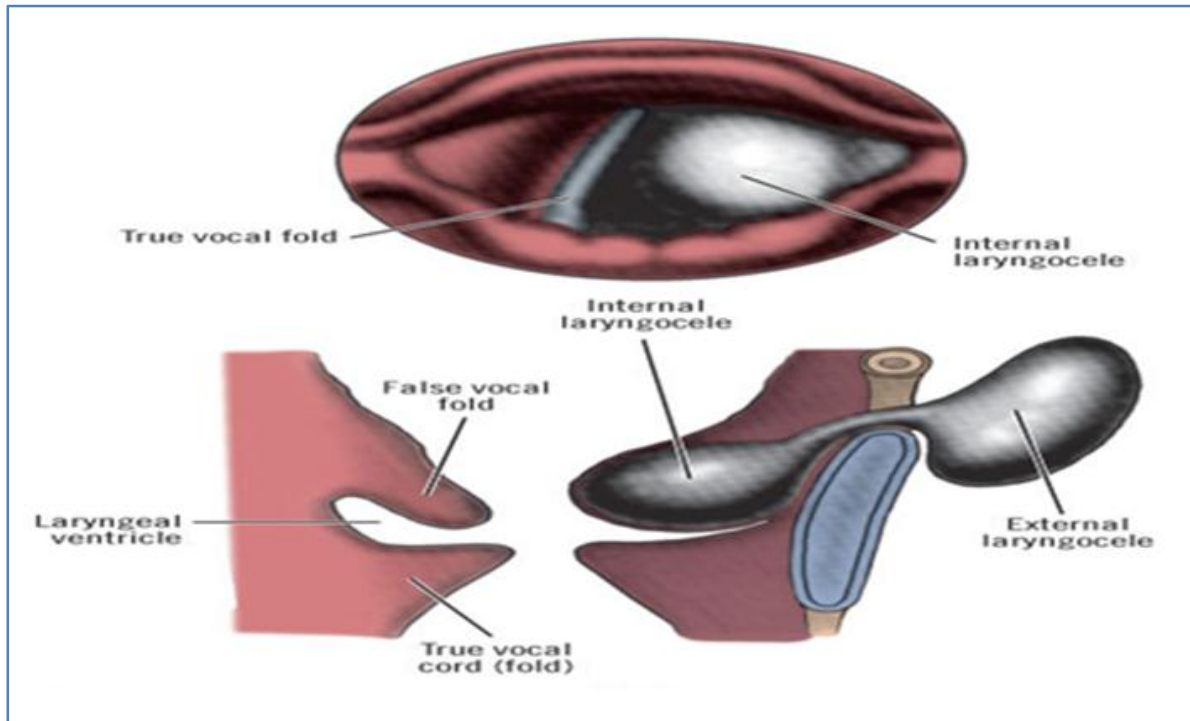
CASE REPORT: 40yrs old Male Agricultural laborer presented with history of swelling on right side of Neck increasing in size associated with cough from last 3yrs. Patient was operated 3 times earlier. On examination a horizontal scar mark of about 4cm size with sinus opening was found. CT Scan Neck was suggestive of air filled sac bulging into the neck through the Thyrohyoid membrane of about 6cm X 3cm X 2cm size. Video Laryngoscopy shows bulge above the right vocal card. Cervical exploration was done by the vertical incision of about 8cm, 1cm lateral to midline in right side extending from hyoid bone to adam's apple. Dissection was carried out air filled saccule was identified the laryngeal opening was closed with 00 proline. Superior Laryngeal nerve, Recurrent Laryngeal nerve, Ansa cervicalis and hypoglossal nerve where identified and preserved. Postoperative period was uneventful. Histopathology report of excised sac is not suggestive of any malignancy. Patient is under follow up after surgery from last one month.

DISCUSSION: A LARYNGOCELE is an abnormal saccular dilatation of the appendix of the laryngeal ventricle of Morgagni forming an air sac lined with pseudo-stratified, ciliated, columnar epithelium, which maintains its communication with the ventricle by means of a narrow stalk.¹ The laryngeal ventricle of Morgagni is normally a small elliptical recess located between the false cords above and the true cords below. The anterosuperior aspect of this recess ends in a blind pouch, which is called the appendix or appendage of the ventricle of Morgagni.^{1,2} According to Burke and Golden³ if the appendage extends above the upper border of the thyroid cartilage, it is abnormally long. Such a long appendage is considered to be congenital in origin and is found in 15 to 30 per cent of adults.³

It is uncommon lesion which usually occurs in the middle age but may be rarely seen in infancy, when it can produce respiratory distress which typically becomes worse on crying due to increased distension of laryngocele with air.⁴

A laryngocele is classified as internal it is contained entirely with the laryngeal framework, external if it pierces the thyrohyoid membrane and combined, if there are both external and internal components.⁴

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Many laryngoceles are asymptomatic; sometimes they may cause a cough, hoarseness, stridor, sore throat, globus sensation and may present as a swelling on one or both sides of the neck.⁵ More commonly unilateral^{6,7} and rarely bilateral internal⁸ and bilateral external laryngoceles⁹ also exist. Sometimes a laryngocele may obstruct and becomes filled with mucus or become infected (laryngopyocele), thus becomes indistinguishable from saccular cyst.⁴

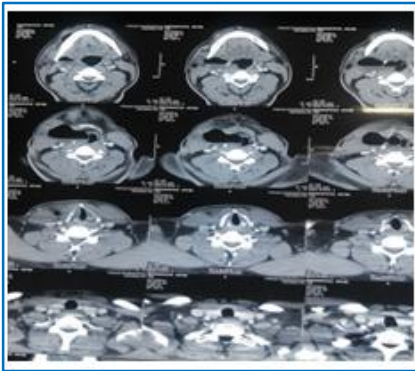


Pre-Operative Photo showing scar mark and Sinus opening

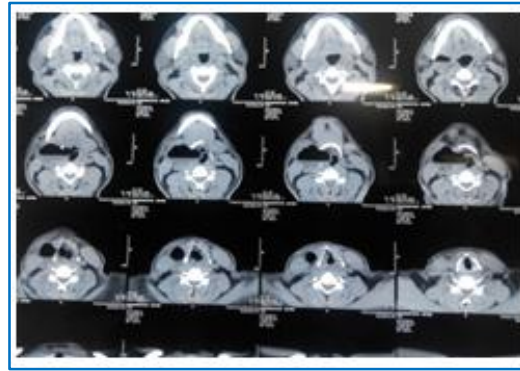


Pre-Operative VLS photo showing bulge

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CT Images showing mixed Laryngocele



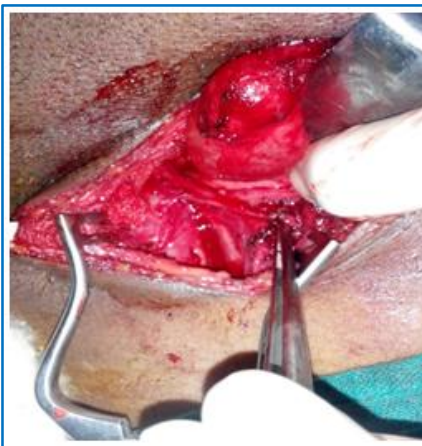
CT Images showing mixed Laryngocele



Photo Showing the incision mark



Intra operative Photo showing the sac



Intra operative photo showing external Laryngeal nerve recurrent Laryngeal nerve, Hypoglossal nerve & Ansa cervicalis



Intra operative photo showing the sac

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Photo showing excised Laryngocele

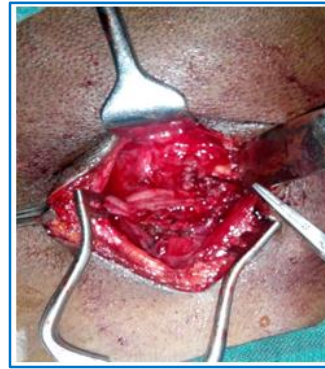


Photo after excision of sac showing different nerves



Post-Operative Photo showing the healing scar

For development of a laryngocele, its maintenance and its further enlargement, certain predisposing and concomitant factors are necessary. One prerequisite is a longer than normal ventricular appendage. Since laryngoceles occur in middle age or later, perhaps tissue changes associated with age also predispose to this condition. Functional factors which increase the intralaryngeal pressure, such as coughing, straining, singing and blowing wind instruments also are of importance in the etiopathogenesis of laryngoceles (Acquired type of Laryngocele).

Another mechanism is the appearance of a valve-like closure at the neck of the ventricular appendage, which allows the entrance of air, but prevents its exit. This valve-like action results from narrowing of the neck by inflammatory or neoplastic processes and may even be aggravated by pressure of the distended sac itself on the neck.

It is of interest to note that the reported incidence of laryngocele in cases of laryngeal cancers is between 1 per cent and 10 per cent. Therefore, if a laryngocele is detected clinically or radiologically, a carcinoma must be taken into consideration and appropriate tests be performed.^{10,11}

While the diagnosis of laryngocele is usually made on clinical grounds, it has to be differentiated from all other neck swellings which includes any cystic swelling in the upper part of the neck like branchial cyst, submandibular salivary gland duct cyst, cystic hygroma, saccular cyst, mucous retention cyst, thyroglossal duct cyst and neck swellings which increase in size on valsalva

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manoeuvre like Jugular vein phlebectasia. A saccular cyst should also be kept in mind when an internal laryngocele is diagnosed. A pharyngocele also presents as a cystic swelling in the upper part of the neck.¹²

Computerised Tomography scan shows a well-defined, smooth, air filled sac in the lateral aspect of the superior paralaryngeal space. The connection between the air sac and the airway helps to establish the diagnosis. Magnetic resonance imaging, because of its multiplanner capability provides high definition of soft tissues, offers detailed information on the boundaries of the air-filled sac and, is useful when laryngomucocoele or laryngopyocoele are suspected. MRI is also helpful to distinguish obstructed mucus and inflammation from neoplastic disease.¹³

Management of laryngoceles depends on the size of the laryngocele and patients complaints. Incidentally discovered or very small asymptomatic laryngoceles are observed, no active intervention done. Very small to small laryngocele can be dealt endoscopically or Endoscopic marsupialization with co2 laser.¹⁴ Large laryngoceles are excised via external approach or to say precisely only the external or combined laryngoceles has to accessed via external approach. Two main external approach: Transthyrohyoid membrane and V shaped thyrotomies. A lateral cervical incision approach extending through the thyrohyoid membrane at the superior margin of the ala of the thyroid cartilage, with subperichondrial resection of a portion of upper part of the ala.^{4,14}

CONCLUSION: For a upper neck swelling, in middle age group a diagnosis of laryngocele should be kept in mind. Diagnosis is mostly on clinical grounds, which is confirmed by CT neck. The traditional treatment of a laryngocele was excision using an external approach. Advances in endoscopic techniques and laser surgery have modified the treatment strategy. Microlaryngoscopy with use of a CO₂ laser has become the main therapeutic procedure for the treatment of internal laryngoceles. However, an external approach still remains the main therapeutic approach for the treatment of combined laryngoceles.

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