



SPONTANEOUS RUPTURE OF LARYNGOCELE: A CASE REPORT

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ABSTRACT

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Laryngocele is a dilatation of the laryngeal saccule, which is filled with air or fluid (1). They most commonly present as lateral neck swelling, unilateral sometimes bilateral which is very rare. Three types of laryngoceles have been described. An internal laryngocele can end up as a fatal condition due to acute respiratory insufficiency (2).

Key words:

laryngocele, rupture laryngocele, endoscopic marsupilization, pyolaryngocele, trans oral robotic surgery.

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INTRODUCTION

Broadly laryngoceles are three types. An internal laryngocele is confined to the interior of the larynx, extending into the paraglottic region of the false vocal cord and the aryepiglottic fold. External laryngocele is extension of saccule outside into thyrohyoid membrane and presents as reducible lateral neck swelling. Mixed or combined laryngocele has both internal and external components.

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CASE REPORT

A 39 year old male presented to our ENT setup with complaints of left sided neck swelling after early morning rigorous work out in gym. The swelling was sudden in onset associated with pain and gradually progressed in size in a short period of time. The patient did not give history of breathlessness, dysphagia, odynophagia. foreign body sensation in throat or change in voice. There was no evidence of any intra oral bleed or hemoptysis. A swelling in left parapharyngeal area was seen on indirect laryngoscopic examination. Externally a 4 x 4 cm tender cervical swelling was evident on the left side on examination. On brief questioning the patient revealed that there was no such previous history. Routine blood work up was sent for the patient which came out to be normal. A contrast CT scan of the neck was performed. The report revealed a 3.9 x 3.7 cm sized ill-defined hypodense soft tissue density lesion in the left parapharyngeal space extending along the left hyoid cartilage superiorly and thyroid cartilage inferiorly into the space between the thyroid and left carotid at the root of the neck. The lesion was seen effacing the posterior aspect of left submandibular gland and antero-lateral to the left thyroid

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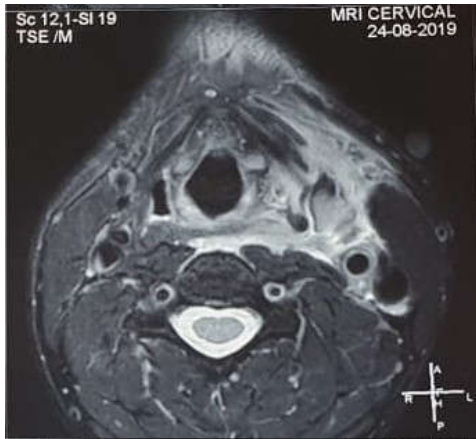
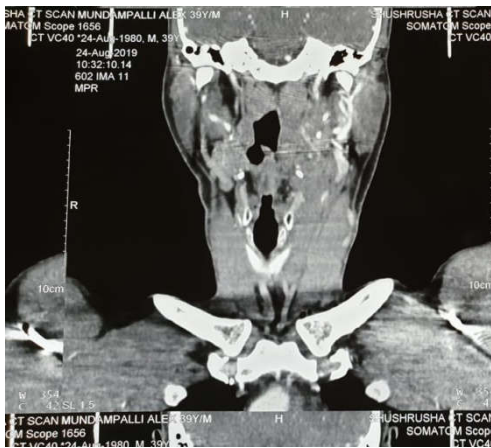
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cartilage and posteriorly effacing the left common carotid artery. Postero-medially, superiorly it was extending into the adjacent retropharyngeal region art C1 – C2 level and medially extending into adjacent left lateral paralaryngeal and para oropharyngeal space, involving left pyriform fossa obliterating and causing mass effect on the pharyngeal and laryngeal lumen.

However the CT was inconclusive with a questionable hematoma. We therefore proceeded with an MRI of the neck which was supportive of the CT scan findings. MRI showed ill-defined fat stranding with soft tissue fullness in the left half of neck involving the parapharyngeal space extending into the retropharyngeal space as well. Superiorly it extended till C1-C2 and inferiorly almost till the root of neck.

MR Angiography (MRA) study of the neck showed no obvious evidence of aneurysm or dissection or vascular malformation. The patient was treated symptomatically along with analgesics and 3 days later the pain subsided and swelling decreased in 8 to 10 days spontaneously.





DISCUSSION

Neck swellings are common in everyday ENT OPD. Lateral neck swellings gather particular attention. Various causes of lateral neck swelling comprise of Tubercular lymph node, retropharyngeal abscess, Lymphomas, Ludwigs angina, Thyroid swellings (goiter), Laryngocele, Lipoma, Plunging ranula and Aneurysms.

A laryngocele is defined as the abnormal dilatation of the laryngeal saccule containing air or pus and maintaining an open communication with the laryngeal lumen inside. It occurs in approximately one in 2.5 million cases per year(3). The literature gives the evidence that laryngocele is most commonly seen in white people and in men compared to women (ratio, ~7:1) (3). It appears most frequently in people aged above 50 years and most of them are unilateral, bilateral is a rare entity. The causes of laryngoceles are mainly congenital factors, increased laryngeal pressure, and mechanical obstruction in the respiratory tract.

Broadly laryngoceles are classified into three types. An external laryngocele extends superiorly through the thyrohyoid membrane and close to the superior laryngeal nerve. This type of laryngocele frequently presents as a mass lateral to the thyrohyoid membrane as it emerges through it. An internal laryngocele is confined to the lumen of the larynx, extending into the paraglottic region of the false vocal cord and the aryepiglottic fold. The mixed variant comprises of both features and could be more dangerous (4).

Congenital laryngocele presents as stridor or respiratory insufficiency in a new born where as acquired laryngocele presents as breathlessness on exertion and swelling in lateral part of neck. The mechanism of laryngocele formation is explained by following factors that cause increase in intralaryngeal pressure, such as coughing, straining, and blowing wind instruments (5). The weakening of the laryngeal tissues during old age is a contributory factor which causes laryngocele. Laryngocele is also an occupational hazard of professional glassblowers. Neck of the saccule acts as a one-way valve, especially when it is associated with inflammatory disorders or any malignant conditions allowing air to enter but preventing its exit (6,7).

One of the many other causes behind a lateral neck swelling that require attention, an important one is thyroid

abnormalities. A thyroid swelling is usually insidious in onset. A sudden onset thyroid swelling is usually painful, more or less static. This can be supported by a deranged thyroid profile, ultrasonography of the neck and FNAC if required. Thyroid swellings are also regularly picked by CT scan along with typical symptomatology and none or less with family history.

In this scenario we also need to consider the possibility of the swelling being aneurysmal in origin. An aneurysm typically presents as a pulsatile mass with palpable thrill and murmur on auscultation (8). The etiology behind the same should also be ruled out when a patient comes with lateral cervical swelling. Aneurysms have a tendency to keep growing in size, they are also easily picked up on MR Angiography (MRA). The most commonly involved artery in the neck to form aneurysm in association with laryngocele is the superior thyroid artery. Needless to say this heralds an emergency management if the patient comes with respiratory distress.

Investigation comprise of routine blood work up and radiological imaging. On plain radiograph it looks like an air pocket in the upper cervical parapharyngeal soft tissue. CT scan shows well defined air/fluid filled lesion related to paraglottic space which is continuous with laryngeal ventricle. Attenuation varies depending up the content of the laryngocele. MRI show similar morphological characters as CTscan. T1 with gadolinium shows absent to minimal linear peripheral enhancement when thick enhancing walls are present it is suggestive of pyolaryngocele.

The main stay of treatment is surgical resection. External laryngocele are managed by transthyrohyoid membrane approach, which has wide exposure of the extent and boundaries. Thyrotomy with resection of upper one third of thyroid cartilage is another approach in which there is a disadvantage, recurrence is seen. Internal laryngocele are resected by microlaryngoscopy with CO2 laser or cold instrument by marsupialization (9). In recent advancement there is new approach which is transoral robotic approach which is highly safety and superior technique with following advantages like no skin incision, high curative effectiveness and functional difference.

Laryngocele though it is very rare, it could be fatal. There should be an anticipation and alertness when any neck swelling with or with out stridor comes to the clinic. Laryngocele is obstructed when it is occupied with mucus and become a laryngomucocele which infects and transforms into a laryngopyocele(10). This severe condition can present with acute airway obstruction, sepsis and may be fatal.

CONCLUSION

Lateral neck swellings are a common entity in day to day clinics. In case of lateral neck swellings it is very important to rule out the possibility of hemorrhagic thyroid nodule, aneurysm, spontaneous rupture of laryngocele and carcinomas associated with it though the incidence is less (7). These however can present with alarming and fatal symptoms including acute respiratory insufficiency. Hence we advocate a detailed history, work up and clinical efficiency to pinpoint the correct diagnosis. Correct diagnosis and timed treatment can prevent fatal complications.

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