

GIANT MIXED LARYNGOCELE OF THE NECK: CASE REPORT AND LITERATURE REVIEW

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ABSTRACT

Laryngocele is an abnormal dilatation and elongation of the saccule of the laryngeal ventricle. The disease is usually asymptomatic but symptoms due to an airway obstruction or paralysis of the vocal cords may occur sometimes. The etiology of the laryngocele is still unclear. In the following article the author presents a rare case of giant laryngocele with concomitant huge lateral neck mass. The patient reported hoarseness and dyspnea. There was not significant medical history. Diagnosis became clear after conducting a clinical and radiological study. The patient underwent surgery through an external neck approach. The article discusses the diagnosis, complications and treatment methods of the laryngocele as well as a review of the literature.

INTRODUCTION

Laryngocele is an abnormal cystic expansion and elongation of the saccule of the laryngeal ventricle. Laryngocele is often unilateral (almost 75%) (14). It is classified as internal, external and combined depending on its anatomical location within the paraglottic space. Laryngocele that is confined by the thyroid lamina is termed internal. Laryngoscopy shows lesions presented as soft, localized bulges of the aryepiglottic fold and which may be mistaken clinically for submucosal neoplasm (13). Lesions that protrude the thyrohyoid membrane are observed as lateral neck mass and are termed external. Combination of external and internal lesions is classified as mixed. The factors leading to development of laryngocele are unknown, though some congenital and acquired factors have been reported. The congenital presence of an abnormally large saccule has been associated with laryngocele (1,4,10,13,15). There are some reports in the literature that the peoples such as trumpet players, glass blowers and those subject to an increase transglottic pressure are risk group for developing laryngocele. There was reported relationship between laryngocele and squamous cell carcinoma which leads to obstruction of the saccular orifice (15% association) (3,7,8,9,12). Laryngeal mucocele is fluid-filled laryngocele caused by obstruction of ostium of laryngeal saccule and may be present as a soft tissue mass. Laryngocele is often asymptomatic. The giant laryngocele can be accompanied by hoarseness, airway obstruction, stridor, dysphagia, snor-

ing, cough and dyspnea (4,6,11). Clinical examination reveals swelling of the false vocal cords and the aryepiglottic fold. Palpable lateral neck mass is presented in the external lesions. The diagnosis is put primarily on the basis of laryngeal and neck examination and confirmed by the finding of fluid or air-filled sac or air-fluid filled sac in laryngopyocele on plain radiography and even better - on computed tomography. Surgery is the method of choice to manage these lesions (2,5).

CASE REPORT

A 28 years old male was referred to Department of Oral and Maxillofacial Surgery, with a huge lateral neck mass in the right neck area. The patient reported a year long history of swelling on right side of the neck. He had previously visited his primary care provider who started some treatments one year ago. He had been treated in another hospital through incision but with no obvious result (Fig. 1).

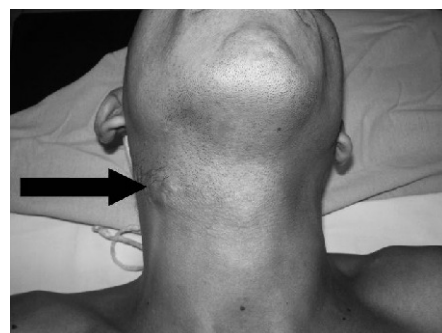


Fig. 1. Preoperative view: Palpable neck mass and the scar from the incision

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The patient did not report any pain, fever, weight loss, anorexia or dysphasia but complained of hoarseness and mild

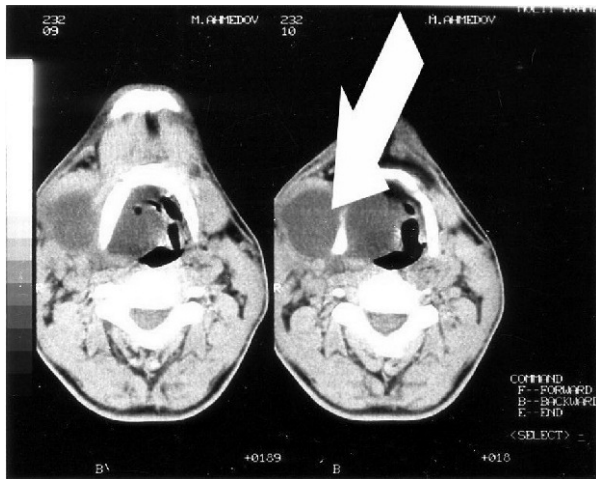


Fig. 2. The size of the lesion, internal and external (white arrow) parts are shown on the level of the hyoid

dyspnea. On the physical examination, the patient was alert and oriented. The mass was not enlarged by Valsalva ma-

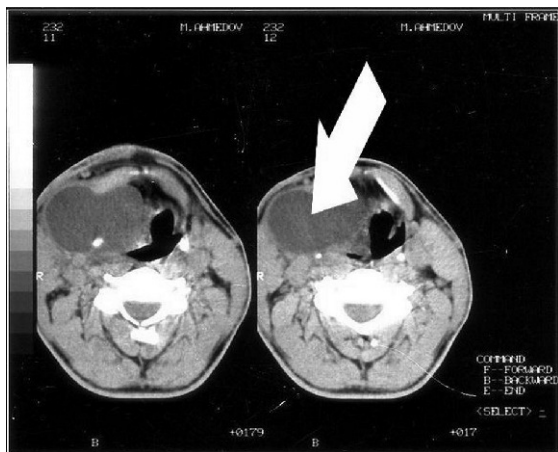


Fig. 3. On thyrohyoid membrane level (white arrow)

neuver. Palpation showed lack of tenderness of the formation. Indirect laryngoscopy visualized the swelling of the

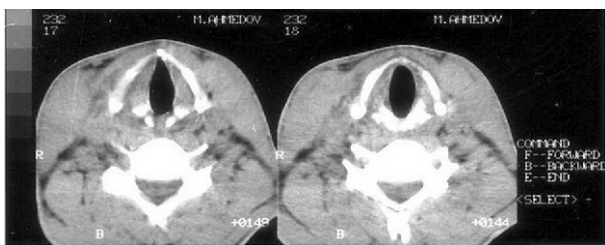


Fig. 4. The normal true vocal cord is shown

right aryepiglottic and false vocal cord. The CT scan revealed a large 6x4 cm fluid-filled mass extending through the thyrohyoid membrane (Fig. 2-5). The formation extended from the inferior border of the hyoid bone superiorly to the ventricle inferiorly (Fig. 5).

The diagnosis - combined (internal and external) laryngomucocele was primarily made on the basis of the examination and confirmed by CT scan findings. The pa-

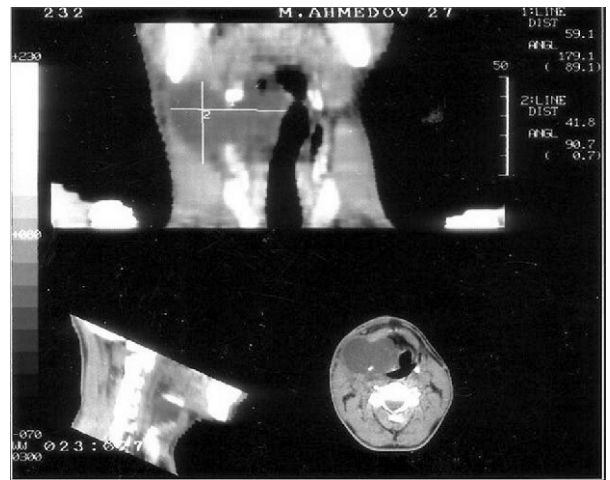


Fig. 5. Coronal view of the lesion in CT scan, size: 6x4 cm

tient underwent the operation by an external approach. This approach involves following the external portion of the laryngocele sac through the thyrohyoid membrane. It was used without the removal of portion of the thyroid cartilage (Fig. 6). The laryngocele was then transected totally and as

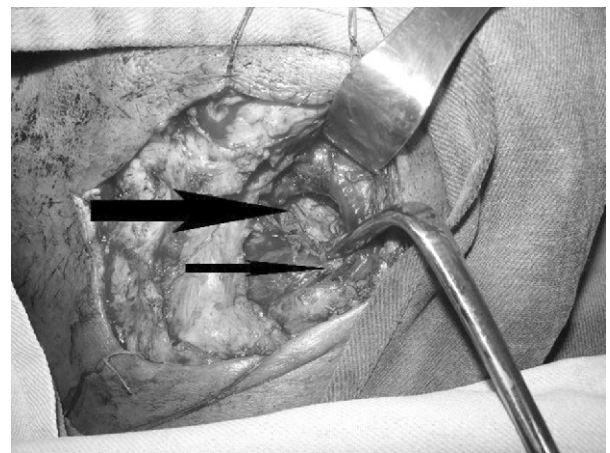


Fig. 6. The external approach through the thyrohyoid membrane is shown. The location of the connection between the internal and the external part (large arrow); the thyroid cartilage (small arrow)

close as possible to the orifice of the sacculle. The diagnosis was confirmed by histological findings. Symptoms like dyspnea and hoarseness disappeared. The patient was discharged five days after surgery.

DISCUSSION

The diagnosis laryngocele is based on physical examination and direct or indirect laryngoscopy. All diagnosis of lateral neck masses includes diagnose of laryngocele.

Through direct or indirect laryngoscopy the surgeon may see a swelling of the false cords, the aryepiglottic folds or a true vocal cord paralysis, so the distinction from neoplasm may be difficult. However, its location and smooth surface in conjunction with a healthy mucosa should suggest a laryngocele. The CT scan helps visualizing the external component of the lesion that is not palpable on physical examination. Some authors believe that careful endoscopic examination and multiple tissue biopsies have to be performed before definitive surgery in order to rule out laryngeal carcinoma in the ventricle as the cause for the laryngocele. The management of laryngocele is surgical. There is some controversy about the management of laryngocele in the literature opposing the endoscopic and the external approach. Most authors seem to prefer the external approach, particularly when an external component is present, so does the author of the present article. We prefer to use this approach because of the good field of vision. The external approach involves following the external portion of the laryngocele sac via the thyrohyoid membrane. Endoscopic techniques such as marsupialization or total resection are used for the treatment of internal lesions, but we prefer to use external approach through thyrohyoid membrane transection of the lesion, particularly when an external component is present. Needless to say, depending on the surgeon's experience, the surgeon can perform total resection of the sac through the thyrohyoid membrane without having to remove the upper portion of the thyroid cartilage, although it may become necessary in rare cases.

CONCLUSION

Large laryngocele is a rare disease. The surgeon has to pay attention and use CT scan in order to put the correct diagnosis. Surgery is a method of choice for the treatment of the laryngocele. There are two types of surgical techniques for transecting the lesion: the external and the endoscopic approach.

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