



CASE REPORT

Giant laryngocele

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Abstract

Laryngocele is an abnormal dilation of the laryngeal saccules arising from the laryngeal ventricle. We report the case of a 50 year-old smoker female patient with a palpable mass in the neck. The laryngoscopy showed a globular mass affecting piriform recess and right hemilarynx, with vocal folds preservation and with semi-occlusion of glottic space. Before performing the computed tomography, the main diagnostic hypothesis was laryngeal neoplasm. Contrast CT showed an air-filled cavity in topography of cervical level III. The patient was then submitted to resection of the structure.

Keywords: laryngeal diseases; laryngocele; laryngoscopy

Introduction

Laryngocele is an abnormal dilation of the laryngeal saccule, perfused by air and communicating with the laryngeal lumen, which protrudes from the laryngeal ventricle^{1,2}. They are more frequently benign and occasional³, usually unilateral or combined², and are traditionally classified according to their location³. In some cases they can be mistaken for other kinds of cystic injury in the neck⁴. This report concerns the case of a 50-year old female patient, with a bulky laryngocele.

Case report

A 50-year old smoker female patient complained of a palpable mass in the neck, without comorbidities. Laryngoscopy was carried out and evidenced a globular mass, which affected the piriform recess and right hemilarynx, with an overlying mucosa of physiological appearance, with preservation of the vocal folds and presenting grade III Reinke's edema with partial occlusion of the glottic space. Before the computed tomography (CT), the main diagnostic hypothesis was laryngeal neoplasm. CT with contrast showed an air-filled cavity in topography of cervical level III (Figure 1A). The patient underwent resection of the structure. During the operation, a well-defined lesion was observed, with no obvious communication with the airway. The resection was carried out, with preservation of the laryngocele delimitation (Figure 1B). The surgical specimen measured 7.5 x 5 cm (Figure 1C). The patient evolved with no complaints.

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Figure 1. A - Computed Tomography showing right combined laryngocele; B- Resected laryngocele, with preservation of the delimitation of the surgical; C - Surgical specimen of laryngocele with dimensions of 7.5 x 5 cm.

Discussion

The term laryngocele was introduced by Virchow, in 1867³. Laryngocele is an abnormal dilation and herniation of the laryngeal saccules, perfused by air and in free communication with the laryngeal lumen¹. Classification of laryngocele types is controversial in the literature. Some articles classify them as internal, external and combined, and others only as internal or combined, assuming that a purely external laryngocele cannot exist without an internal component¹. The present article uses the classification described in Zelenik et al.¹ (Table 1). If this sacculle herniation extends towards the upper and medial region of the thyroid cartilage and pinches the thyroid membrane at the entrance of the upper laryngeal nerves and vessels, it is called an external laryngocele^{1,4}. If the herniation does not pinch the thyroid membrane, it continues in the larynx and forms an internal laryngocele^{1,4}. If both types of impairment are present, then it is a combined laryngocele^{1,4}.

The incidence of laryngocele is 1 in 2.5 million people globally². Although the reported case refers to a 50-year old female patient, laryngocele is 5-7 times more frequent in men on their sixth and seventh decades of life¹. Etiology is uncertain, but it seems to be related to chronic coughing, playing wind instruments and work activities involving frequent blowing². The pathogenesis of laryngocele seems to be related to factors which result in a chronic increase of the intralaryngeal pressure⁴.

Clinical manifestations depend on the type of laryngocele⁴. In the internal type interference in voice production is usually the first symptom, and aphonia, snoring, hoarseness and dyspnea may follow⁴. In the case of combined laryngocele, there will be a mass in the neck with or without associated laryngeal symptoms⁴.

Diagnosis can be done using clinical data and through imaging exams of the patient¹. CT is highly recommended in the evaluation of patients suspected of having laryngocele, as it demarcates with great precision the extension and the internal and external content of the laryngocele's components². Besides that, CT differentiates laryngocele from saccular cysts of the larynx and evinces an occult tumor in the larynx⁴. In this report, for example, it was fundamental to ascertain the type of laryngocele and the surgical approach. Magnetic resonance (MRI) is superior to CT in differentiating between neoplasm and inflammation or mucus, so it should be the exam chosen in case there is any doubt regarding the existence of a larynx tumor associated with the laryngocele^{2,4}. The differential diagnosis includes saccular cyst, neck abscess, gill cyst and lymphadenopathy².

Table 1. Classification of the type of laryngocele according to Zelenik et al¹.

Type of laryngocele	Internal	Combined
Description	Confined to the false vocal fold, medial to the thyroid-hyoid membrane	Extends upward, projects through the thyroid-hyoid membrane towards the neck

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Treatment of laryngocele depends on the size and symptoms^{1,2}. If it has an external component, the external approach is preferable, as it affords excellent exposure during dissection of the plane between the laryngocele and the adjacent para-glottic space¹. It is reported that external surgery increases hospitalization time and the cost of treatment⁵. There are alternatives to external surgery, such as lateral laryngectomy, with lower rate of recurrence and morbidity and minimum impairment of functionality⁵. Regarding internal or symptomatic laryngoceles and/or those with static alterations, CO₂ endoscopic resection is recommended, as it reduces surgery time compared with external surgery and has minimum adverse effects on the endolarynx and the vocal folds⁵.

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