
Mixed Laryngomucocèle: A Case Report

AMEZIANE HASSANI MARIAM¹, ANOUAR BOUHLALA¹, OUMAIMA MASFIOUI¹,
ABDELLATIF OUDIDI¹, BENMANSOUR NAJIB¹, RIDAL MOHAMMED¹, MOHAMED
NOUREDDINE EL ALAMI EL AMINE¹

¹Department of Otolaryngology and Cervicofacial Surgery; Hassan II University Hospital
Fes. Morocco.

Corresponding author

1 AMEZIANE HASSANI MARIAM

Telephone: +212655602938

E-mail address: mariam.amezianehassani@usmba.ac.ma

Department of Otolaryngology and Cervicofacial Surgery; Hassan II University Hospital Fes.
Morocco

ABSTRACT

Laryngomucocèle is an abnormal dilation of the laryngeal saccule, filled with mucus that communicates with the laryngeal lumen. Clinical presentation varies depending on the size and extent of the lesion. Diagnosis is clinical (nasofibrosopic) and radiological. We report a case of a 53-year-old patient presenting with laryngomucocèle who underwent surgical management with favorable evolution without recurrence over seven years of follow-up. Surgery is the only curative treatment, and adequate and early management allows for healing.

KEYWORDS : Saccule, nasofibroscopy, surgery.

INTRODUCTION

A laryngomucocèle is an abnormal dilation of the laryngeal saccule, filled with mucus that communicates with the laryngeal lumen. It can be congenital or acquired. Clinical presentation varies depending on the size and extent of the lesion. Small lesions are asymptomatic and are discovered incidentally. Nasofibroscope is the cornerstone of clinical diagnosis. Imaging confirms the diagnosis and helps in differential diagnosis. Surgery is the only therapeutic option for symptomatic cases.

CASE REPORT

A 53-year-old patient, with no notable medical history, was admitted for management of a left cervical swelling associated with dysphonia evolving over 4 years. Clinical examination revealed a reducible left cervical mass that increased in size during the Valsalva maneuver. Nasofibroscope showed a mass at the level of the left ventricular band with healthy mucosa, and the vocal cord had normal mobility and morphology. The patient underwent cervical computed tomography, which revealed a five-centimeter fluid-filled mass in the para-laryngeal space extending laterally into the neck. The patient underwent external surgery with an approach through the thyrohyoid membrane. The postoperative course was uneventful, and histopathological examination confirmed laryngocele. Over a seven-year follow-up, there was no recurrence.



Figure 1: Clinical image showing a lateral cervical mass.

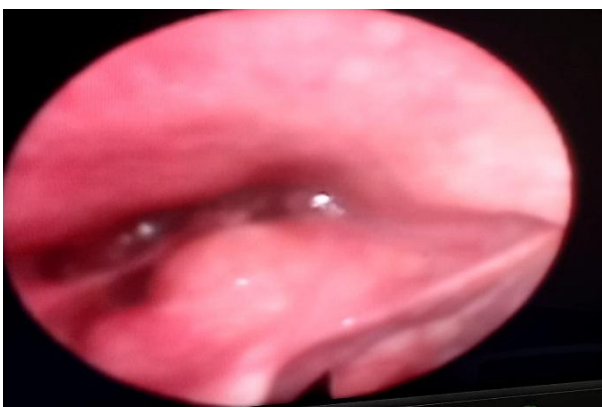


Figure 2: Endoscopic image showing a mass on the left ventricular fold.

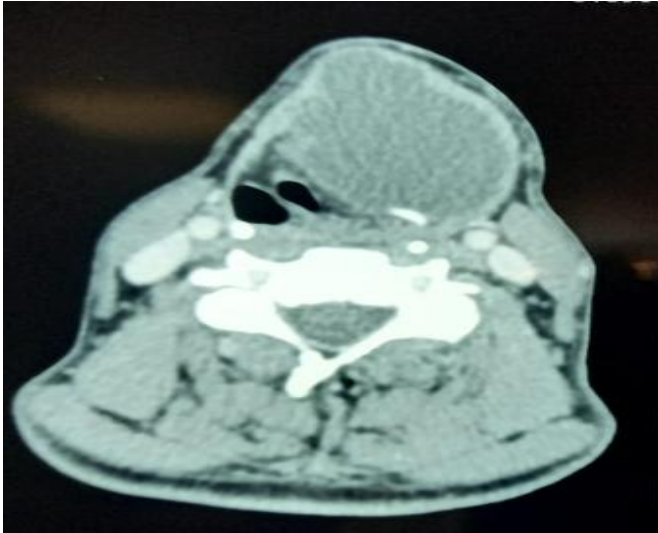


Figure 3: Axial CT scan image demonstrating a laryngomucocèle.



Figure 4: Intraoperative image of the cervical approach to the laryngomucocèle.



Figure 5: Intraoperative image showing the approach through the thyrohyoid membrane.



Figure 6: Intraoperative image with suturing of the thyrohyoid membrane hiatus.

DICUSSION

The laryngeal saccule is a pouch originating from the anterior end of the laryngeal ventricle. It extends superiorly between the ventricular folds and the internal surface of the thyroid cartilage. A laryngocele is an abnormal dilatation of the laryngeal saccule filled with air that communicates with the laryngeal lumen. It can be filled with mucus (laryngomucocele) or pus (laryngopyocele). In contrast to a cyst, which corresponds to a dilatation of the saccule filled with mucus that does not communicate with the laryngeal lumen (1-3).

Various theories have been proposed to explain the occurrence of laryngoceles. They can be congenital or acquired due to prolonged and repeated increase in laryngeal pressure in patients with high-risk professions (such as trumpet players, glass blowers). Mechanical obstruction of the ventricle (tumor) may also lead to increased intralaryngeal pressure (1-3).

Laryngoceles have been classified based on their relationships with the thyrohyoid membrane into internal, external, or mixed laryngoceles. An internal laryngocele is confined to the ventricular fold within the thyrohyoid membrane, whereas an external laryngocele extends upward and protrudes through the thyrohyoid membrane into the cervical region. A combination of internal and external laryngoceles is termed a mixed laryngocele (1-6). Currently, many authors prefer to simplify this classification into internal and mixed laryngoceles since all laryngoceles originate from the larynx, and a purely external laryngocele cannot exist (2,3).

The diagnosis of laryngocele is clinical and radiological. The clinical presentation varies depending on the size and extent of the lesion. Functional signs primarily include dysphonia, dysphagia, snoring, sensation of a foreign body, cervical swelling, and rarely acute dyspnea with stridor (1-3). During clinical examination, a mixed laryngocele presents as a reducible cervical mass under pressure that increases in size during a Valsalva maneuver (1,2). Compression of the mass may cause a gurgling sound known as the Bryce sign, which is pathognomonic of the diagnosis (4). The clinical diagnosis of internal laryngocele is generally endoscopic.

Cervical computed tomography with Valsalva maneuver is the imaging modality of choice in cases of laryngocele (1-3). It allows for a positive diagnosis and specifies the content and extension of the lesion. Laryngocele appears as a lesion filled with air or fluid limited to the paralaryngeal space or extending into the cervical space through the thyrohyoid membrane (2). CT also plays a crucial role in the differential diagnosis, especially in cases of associated occult laryngeal tumor. Cervical MRI helps better distinguish neoplastic pathologies at the early stage from mucosal inflammation and is the imaging technique of choice when there is doubt about a concomitant laryngeal tumor with a laryngocele (1-3).

Surgery is the only therapeutic option in the management of laryngocele. Management is mainly influenced by the size of the lesion, its extension, and the experience of the surgeon (1,3).

Surgery via an external approach provides excellent exposure of the plane between the neck of the laryngocele and the paraglottic tissues, leading to a more precise procedure and a low recurrence rate (1,2). Several surgical approaches can be utilized, including through the thyrohyoid membrane, thyrotomy with resection of the upper third of the thyroid cartilage, and V-shaped thyrotomy (3,5,6). Tracheotomy may be performed urgently in cases of acute upper airway obstruction or difficult intubation during surgery (1-3).

For the endoscopic approach, many authors have started using this technique for the treatment of laryngoceles. Komisar et al. (7) and Devesa et al. (8) have described successful use of CO₂ laser endoscopic surgery as an alternative to conventional surgery in managing small internal laryngoceles. This approach helps avoid postoperative complications and reduces hospitalization duration, but it has limitations such as limited surgical exposure, postoperative endolaryngeal scarring, and risk of incomplete resection (3).

Currently, there is a consensus advocating for an external approach for large or mixed laryngoceles, while an endoscopic approach is favored for small internal lesions (3,9). However, Ettema et al. (10) have proposed combining both approaches to ensure complete elimination of the laryngocele.

CONCLUSION

Laryngomuocèle is a rare malformation of the laryngeal saccule. Diagnosis is often evident from a typical clinical presentation. Cervical CT scan is the imaging modality of choice for exploring this lesion. External surgery remains the reference treatment for this condition. Any associated occult laryngeal tumor should always be sought before confirming the diagnosis of laryngomuocèle.

Competing interests:

The authors declare no competing interests.

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