

## Laryngocele Causing Airway Obstruction: A Unique Case Report

K Topal<sup>1</sup>, K Kilic<sup>1</sup>, MS Sakat<sup>2</sup>, E Altas<sup>2</sup>, H Ucuncu<sup>2</sup>

### ABSTRACT

*Laryngocele is an abnormal cystic dilatation of the saccule or appendix of the laryngeal ventricle filled with air and connected to the lumen of the larynx. They rarely cause clinical complaints. However, still being rare clinical occasions, they may cause airway obstruction which require emergency interventions. In this report, we presented an extremely rare case of laryngocele which causes airway obstruction. A 35-year-old male was admitted due to hoarseness, progressive respiratory distress and swelling at the right side of the neck for three years. Laryngoceles are rarely symptomatic but because of their potential to cause sudden airway obstruction, they deserve serious attention.*

**Keywords:** Airway obstruction, laryngocele, neck mass

### INTRODUCTION

Laryngocele is an abnormal cystic dilatation of the saccule or appendix of the laryngeal ventricle filled with air and connected to the lumen of the larynx (1). Three types of laryngoceles have been described as internal, external and mixed types, in relation to the position of the sac with respect to the thyrohyoid membrane (2). Laryngoceles are usually asymptomatic. They rarely cause clinical complaints. However, still being rare clinical occasions, they may cause airway obstruction which require emergency interventions (3). In this report, we presented an extremely rare case of laryngocele which causes airway obstruction.

### CASE REPORT

A 35-year-old male was admitted due to hoarseness, progressive respiratory distress and swelling at the right side of the neck for three years. The patient did not have a history of smoking, weight loss, trauma or significant family history. Physical examination revealed a 3 × 3 cm wide swelling at the 1/3 anterior part of the neck (Fig. 1A). Swelling was enlarged with Valsalva manoeuvre or coughing. The lesion was soft and fluctuating. The endoscopic examination revealed a swelling that started from the vallecula and extending

to the right ventricle filling the right sinus pyriformis. A computerised tomography was performed that revealed an air-filled sac at the right part of the neck (Fig. 1B). The patient was operated under general anaesthesia. The mass was dissected from the surrounding tissue until the entrance of the laryngeal lumen and excised (Fig. 2). Direct laryngoscopy was performed, and disappearance of the mass was noticed. The patient did not have any complaint at the follow-up period.

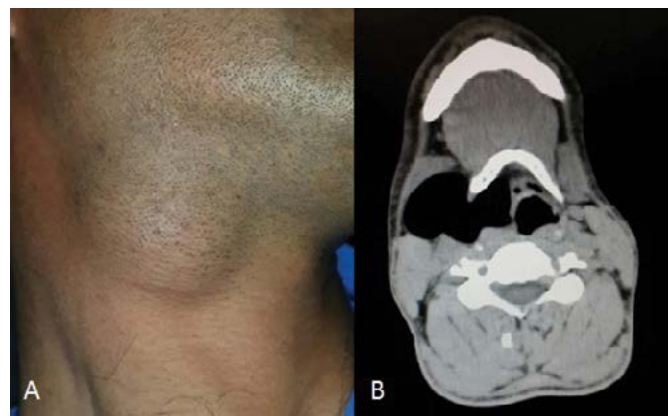


Fig. 1A: The appearance of the mass located at the right neck region. 1B: An axial CT showed air-filled sac at the right part of the neck.

From: <sup>1</sup>Otorhinolaryngology Clinics, Palandoken State Hospital and <sup>2</sup>Department of Otorhinolaryngology, Medical School, Faculty of Medicine, Ataturk University, Erzurum, Turkey.

Correspondence: Dr H Üçüncü, Department of Otorhinolaryngology, Medical School, Faculty of Medicine, Atatürk University, Erzurum 25240, Turkey. Email: hucuncu61@gmail.com

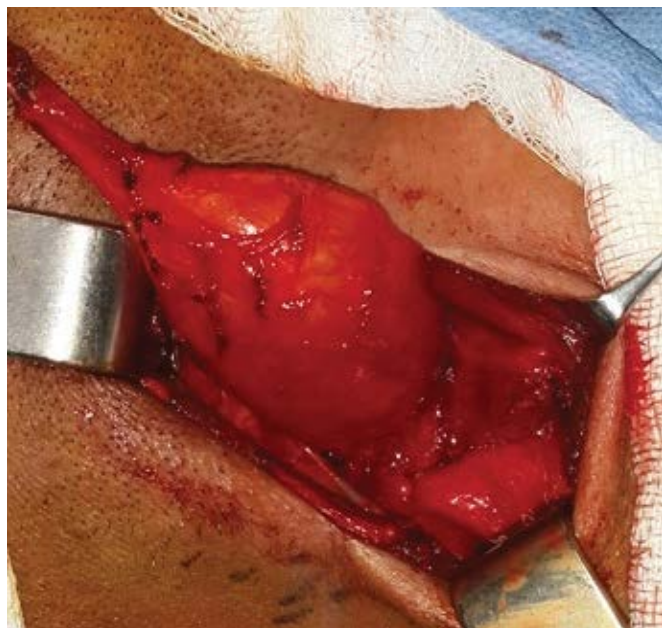


Fig. 2: Intraoperative appearance of the mass.

## DISCUSSION

Laryngocele, which is in connection with laryngeal lumen, is an abnormal dilatation of the laryngeal saccule containing air (4). The incidence of laryngocele is estimated to be 1 per 2.5 million population per year. It is five-times more frequent in males than in females. Most cases occur in the 5<sup>th</sup> decade (5). Three types of laryngoceles are identified: internal, external and the mixed types. External laryngocele extends between the false vocal cord and the thyroid cartilage. Internal laryngocele is confined to the larynx and does not pierce the thyrohyoid membrane. A combined or mixed type includes both internal and external components of the laryngocele (3).

Symptoms depend on the type and size of the laryngocele. Most commonly laryngoceles are asymptomatic. Clinically patients may present with dyspnoea, hoarseness and cough. It is usually a lateral neck mass that enlarges with increased intralaryngeal pressure (6). There are three main aetiologic causes: congenital factors, mechanical obstruction and increased intralaryngeal pressure. Hobbies involving blowing or jobs such as trumpet playing or glass blowing can cause laryngoceles as blowing increases intralaryngeal pressures (7).

Particularly, an external laryngocele presents as a lateral neck mass occurring during swallowing. Moreover an internal laryngocele presents with hoarseness due to interference with vocal cords. Also, an internal laryngocele rarely can cause acute airway obstruction due to sudden enlargement (8).

The most useful diagnostic tools are CT and magnetic resonance image (MRI) scans. Magnetic resonance image shows relations between laryngocele and laryngeal structures and extralaryngeal soft tissues (5).

When a laryngocele becomes symptomatic complete excision or marsupialisation can be performed by an endoscopic or an external approach. The choice of the approach is based on the type and size of the lesion. In cases of large or external laryngocele, an external approach is preferred, whereas an internal laryngocele can be operated with an endoscopic technique with the use of a CO<sub>2</sub> laser (9).

In conclusion, the laryngoceles are rarely symptomatic but because of their potential to cause sudden airway obstruction, they deserve serious attention.

## REFERENCES

1. Marcotullio D, Paduano F, Magliulo G. Laryngopyocele: an atypical case. *Am J Otolaryngol* 1996; **17**: 345–8.
2. Cassano L, Lombardo P, Marchese-Ragona R, Pastore A. Laryngopyocele: three new clinical cases and review of the literature. *Eur Arch Otorhinolaryngol* 2000; **257**: 507–11.
3. Canalis RF, Maxwell DS, Hemenway WG. Laryngocele: an updated review. *J Otolaryngol* 1977; **6**: 191–9.
4. Dursun G, Ozgursoy OB, Beton S, Batikhan H. Current diagnosis and treatment of laryngocele in adults. *Otolaryngol Head Neck Surg* 2007; **136**: 211–15.
5. Balasubramanian T. Laryngocele: a review. *Online J Otolaryngol* 2015; **5**: 32–7.
6. Verret DJ, DeFatta RJ, Sinard R. Combined laryngocele. *Ann Otol Rhinol Laryngol* 2004; **113**: 594–6.
7. Amin M, Maran AG. The aetiology of laryngocele. *Clinotolaryngol Allied Sci* 1988; **13**: 267–72.
8. Bentyman W, Haidak GL, Taylor M. Laryngocele: a report of fatal case. *New Engl J Med* 1959; **260**: 1025–7.
9. Martinez Devesa P, Ghufloor K, Lloyd S, Howard D. Endoscopic CO<sub>2</sub> laser management of laryngocele. *Laryngoscope* 2002; **112**: 1426–30.

© West Indian Medical Journal 2026.

This is an article published in open access under a Creative Commons Attribution International licence (CC BY). For more information, please visit [https://creativecommons.org/licenses/by/4.0/deed.en\\_US](https://creativecommons.org/licenses/by/4.0/deed.en_US).

