

Laryngopyocele: Presenting with pressure symptom

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ABSTRACT

Laryngocele is a rare, benign dilatation of the laryngeal sacculle that may extend internally into the airway or externally through the thyrohyoid membrane. When it is secondarily infected, it is called laryngopyocele, which is even rarer. Many laryngoceles are asymptomatic; sometimes, they may cause a cough, hoarseness, stridor, sore throat and may present as a swelling on one or both sides of the neck. Laryngocele may be associated with supraglottic squamous cell carcinoma. Computed tomography scan is the most effective imaging method for diagnosis. Surgery is the treatment of choice. A case of large mixed laryngopyocele in a 75-year-old male is described together with surgical management and follow-up. A review of the literature is also presented.

Key words: Laryngocele, laryngopyocele, larynx, surgical treatment

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INTRODUCTION

Laryngocele is an abnormal cystic dilatation of the sacculle or appendix of the laryngeal ventricle, filled with air and communicating with the lumen of the larynx.^[1] Virchow introduced the term laryngocele, in 1867, to describe an abnormal dilatation of the sacculle forming an air sac.^[2,3] Based on location, three types of laryngocele have been described. The internal, the external and the combined or mixed laryngocele.^[4] When the neck of the laryngocele is obstructed, it becomes filled with the mucus of glandular secretion and is altered to a laryngomucocele. A secondarily infected laryngomucocele is called a laryngopyocele, and it is thought that 8% do so at some time.^[5] A total of 39 cases of laryngopyocele have been reported in the world literature.^[1,3,4] In the majority of cases, a laryngocele, is asymptomatic and produces symptoms only as it enlarges or when it becomes infected.^[6] The internal laryngocele often presents as a soft,

more or less spherical sac of the mucosa arising from the ventricle or extending into the supraglottic region and gives rise to symptoms such as dysphonia, dyspnea, sore throat and globus pharyngeus with associated discomfort in the neck.^[7] It can, rarely, cause airway obstruction which requires emergency treatment.^[8] Normally, the external laryngocele is asymptomatic but presents as a neck mass. The mixed laryngocele presents symptoms and signs of both entities.^[6,8-10] We report a case of a mixed laryngopyocele that presented with pressure symptoms and was operated by the external cervical approach.

CASE REPORT

A 50-year-old male patient presented in surgical outdoor with a chief complaint of swelling on the right-side of the neck since 6 years; pain and hoarseness of voice since 1-month. He was chronic smoker since 10 years (1–2 cigarettes daily). On examination, a spherical swelling, 10 cm in diameter was present in the right upper part of the neck [Figure 1]. It was cystic in consistency, and mild tenderness was

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present. Indirect flexible laryngoscopy demonstrated a large mass which originated in the right false vocal cord and was causing partial obstruction of the airway. The mucosal surface of the mass was smooth. Contrast-enhanced computed tomography (CT) neck showed a cystic lesion in the right paraglottic space with an extralaryngeal component, which was herniating through the thyrohyoid membrane [Figure 2]. There was a small fluid collection inside the lesion and air locules were seen within it. By the external cervical approach, pus was drained out, and complete excision of the laryngocele was done [Figure 3]. The defect in the thyrohyoid membrane was repaired. Recovery on follow-up at 10 days and 1-month was satisfactory. No complications were observed.

DISCUSSION

A laryngocele is an abnormal saccular dilatation of the appendix of the laryngeal ventricle of Morgagni, which maintains its communication with the laryngeal lumen. It is much more frequent in men than in women, having been described in the literature as between 5 and 7 times more frequent in males.^[1] The condition usually presents in the sixth decade of life.^[10] The unilateral presentation is more common than bilateral.^[10] It has a congenital predisposition (e.g., congenital long saccule) which are augmented by factors like increase intralaryngeal pressure, such as coughing (e.g., emphysema and/or chronic bronchitis patients),^[8] straining, singing, playing wind instruments and glass blowing.^[9] Three types of laryngoceles have been described: Internal, external and combined or mixed laryngocele,^[10] which refer to the anatomical extension of the sac. The internal laryngocele is confined to the paraglottic space and external dissects superiorly through the thyrohyoid membrane. A combined or mixed laryngocele includes both internal and external components of the laryngocele.

Laryngoceles may be associated with laryngeal malignancies, and supraglottic laryngeal tumor are the most common.^[9] Celin *et al.* reported an incidence of laryngoceles concurrent with squamous cell carcinoma of the larynx as 4.9–28.8%.^[10] When the connection between the laryngocele and the laryngeal lumen becomes occluded, as a result of inflammation, infection, and tumors, mucus can accumulate, and a mucocele can develop. A secondarily infected mucocele is called a laryngopyoceles which has been reported very rarely in the literature. A total of 39 cases of laryngopyoceles has been reported in the world literature.^[1,3,4]

A CT scan of the neck is the most important examination for correct diagnosis. The CT scan may also show the simultaneous presence of the laryngeal carcinomas.^[11] In our case, CT scan did not show any sign of malignancy.

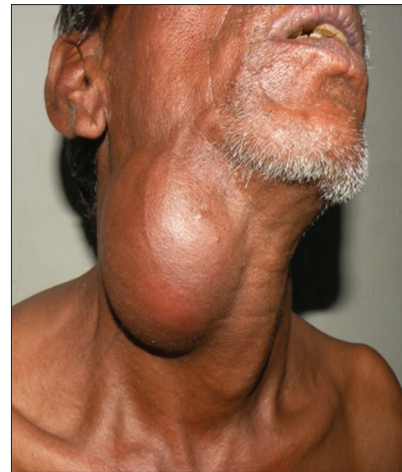


Figure 1: Preoperative photograph showing swelling in the right upper side of the neck

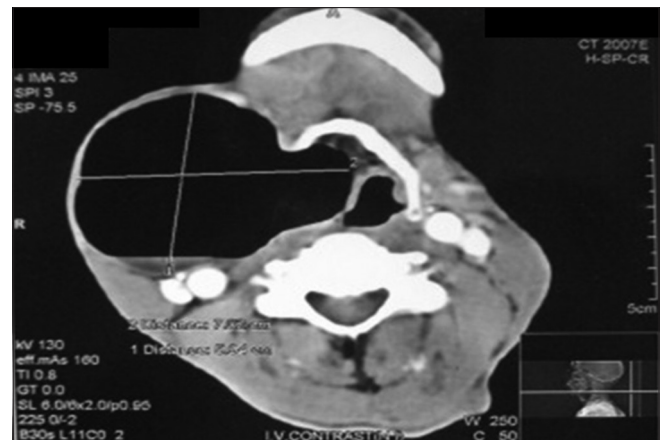


Figure 2: Computed tomography scan image showing a large mixed right-sided laryngopyoceles filled with gas and fluid



Figure 3: Postoperative appearance

Excision of the laryngocele can be performed by endoscopic and/or external or combined approach. The choice of the approach depends on the type and size of the laryngocele.

Treatment of the mixed laryngocele is still controversial, several authors prefer an external approach.^[8] In our case, an external cervical approach to laryngocele gave adequate exposure of the lesion; postoperative recovery was free from complications. In our opinion, endoscopic laser treatment would not have permitted complete excision of this large and mixed (external and internal) lesion. In our opinion, the present case is of particular interest since the patient was affected by a large laryngocele unrelated to his profession such as wind instrument player or a glass blower. In the present case, laryngocele was not associated with laryngeal cancer, but it is most important to remember and to consider the possibility of this association.

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Conflicts of interest

There are no conflicts of interest.

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