

UPPER AIRWAY OBSTRUCTION DETERMINED BY A MIXED LARYNGOCELE

LITERATURE REVIEW

ABOUT 2 CASES TREATED IN ENT DEPARTMENT TIMISOARA

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INTRODUCTION: A laryngocele is an abnormal dilation of the laryngeal saccule that extends upward within the false vocal fold, is filled with air, and is in communication with the laryngeal lumen. The term laryngocele should be used only when the lesion is symptomatic, palpable, or visible during laryngoscopy or when it is found to extend above the upper border of thyroid cartilage. Currently, there are three main theories regarding the etiology of laryngoceles: congenital factors, increased laryngeal pressure, and mechanical obstruction. Laryngoceles are categorized as internal or mixed (internal/external). The mucus produced by the mucous glands of the laryngocele lining epithelium can accumulate in case of obstruction, leading to a laryngomucocele, and in case of infection to a laryngopyocele [6]. The treatment consists of various modalities (external approach proposed by some authors and CO2 LASER endoscopic management).

OBJECTIVE: The objective of this paper is to present the management of 2 cases with a mixed laryngoceles and respiratory distress.

CASE PRESENTATION:

1st Case report: A 52-year-old male presented to the ENT Department Timisoara Emergency Room, with respiratory insufficiency. The symptoms onsets were during the same day. Accompanying symptoms were represented by sore throat, cough, dysphagia and odynophagia. No associated medical history was noticed. Physical examination and 70 degree laryngoscopy revealed marked respiratory distress with stridor, tachypnoea, hoarseness and a smooth mucosal surface tumor mass originated in the right false vocal cord and caused an almost total obstruction of the airway. The temperature was normal, as it was the hemoleukogram. On inspection and palpation we identified on the right side of the neck a soft-depressible tumor mass which extended from the gonion to the inferior border of the cricoid cartilage.

Due to the dramatic deterioration of dyspnoea we performed an emergency tracheostomy with symptoms relief. We addressed the patient to a neck CT exam revealing a mixed 84 mm low attenuation mass above the level of the true vocal folds and lateral to the thyroid cartilage from the posterior digastric belly to the omohyoid muscle. The tumor caused almost total obstruction of the airway. It was established the diagnosis of mixed laryngopyocele.

The laryngocele surgery was scheduled in the second day, under the protection of hemisuccinate of cortisone and intravenous antibiotics (ceftriaxone).

The external approaches proposed for the patient was lateral cervical - transthyrohyoid membrane approach, thyrotomy with resection of the mixed laryngocele (Figure 1, 2 and 3) under general anesthesia with tracheal intubation. (Figure 1. Lateral cervical - transthyrohyoid membrane approach, thyrotomy with resection of the mixed laryngocele (identification of the external part of the laryngocele)). (Figure 2. Lateral cervical - transthyrohyoid membrane approach, thyrotomy with resection of the mixed laryngocele (identification of the internal part of the laryngocele)).

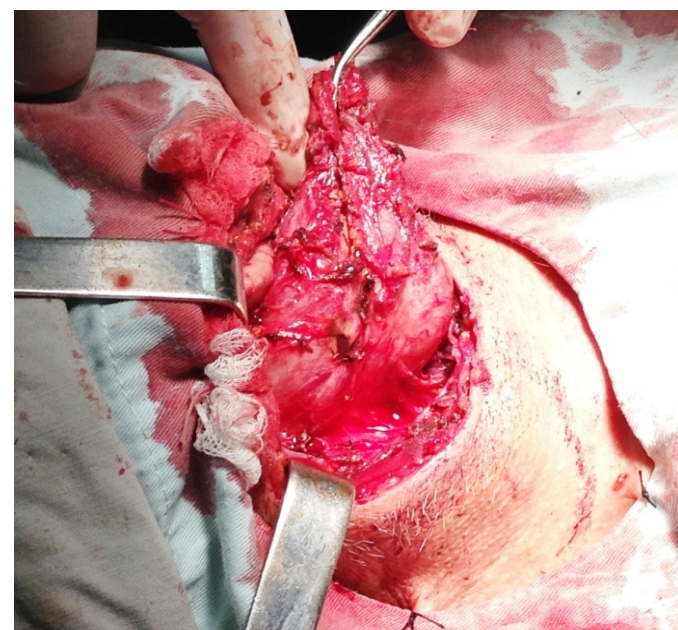


Figure 1.



Figure 2.

Figure 3. lateral cervical - transthyrohyoid membrane approach, thyrotomy with resection of the mixed laryngocele (identification of the upper 1/3 of thyroid cartilage and the laryngocele).

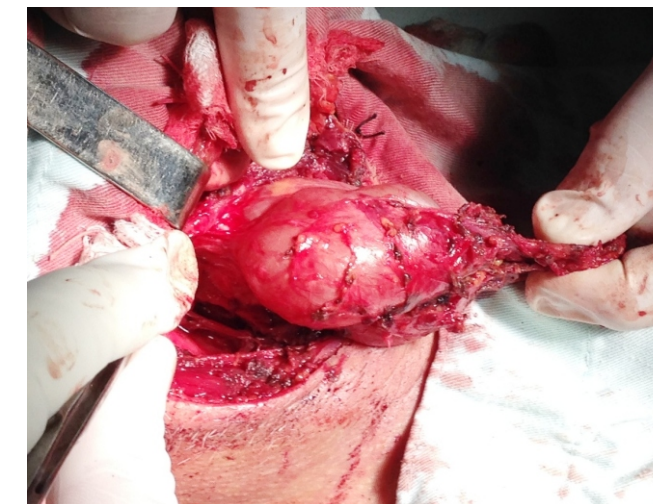


Figure 3.

In the 3rd posttracheostomy day the patient was decannulated with signs and symptoms relief.

2nd Case report: A 65 year-old male had a history of respiratory distress, hoarseness and left neck soft mass for approximately 1 year. At admission in the hospital signs and symptoms were: dyspnoea and left neck soft mass expendable on exertion. The patient also suffered from hypertension and he is a heavily smoker. On ENT examination (inspection and palpation), we identified a painless soft mass at the left side of the neck, about 6 cm in size, covered with normal skin. Endoscopic 70 degree laryngoscopy exam revealed a supraglottic mass covered with normal mucosa, extending into airways from the left wall of hypopharynx. The patient underwent a cervical CT exam with enhancement revealing a large mixed laryngocele. The treatment consisted in external surgical resection of the laryngocele under general anesthesia with orotracheal intubation. Post-operative recovery was uneventful; the patient being discharged from hospital 10 days after surgery. Postoperative ENT and CT exams at 4, 6 and 12 months after surgery, showed complete removal of the laryngocele, without recurrences. The voice and deglutition were normal.

RESULTS: Out of the total of 123 articles published within the period 1994-2013 were found on PubMed. using the keyword "laryngocele" did not yield any systematic reviews or meta-analyses on the topic. 63 patients were analyzed regarding mainly on the surgical treatment. 35 (55.6%) were male and 28 (44.4%) female, average age of the patients being 50.75 years. 55 patients presented unilateral laryngoceles and 8 bilateral laryngoceles. The surgical treatment consisted in 71 procedures, 42 (59.2%) internal laryngoceles, and 29 (40.8%) mixed. Laryngopyocele was identified in 12 (16.9%) patients. Tracheotomy prior and during the surgical treatment has been performed in 6 out of 63 (9.5%) and 11 out of 63 (17.5%) patients, respectively. The external approach was performed in 25 of 29 (86.2%) cases of mixed laryngoceles, consisted in transthyrohyoidmembrane approach in 17 out of 29 (58.6%) patients, thyrotomy with resection of the upper 1/3 of thyroid cartilage in 4 patients and a V-shaped thyrotomy in other 4 patients.

CONCLUSIONS: Laryngocele is a rare benign laryngeal disease which is often asymptomatic. The diagnosis may be incidentally discovered when the patient undergoes a CT scan for a nagging cough or persistent hoarseness. Laryngopyoceles are a rare complication of laryngoceles. They can present with rapid and alarming obstruction of the airway. Diagnosis requires a high index of suspicion, for these lesions, and careful clinical and radiological evaluation. Laryngopyoceles must be included in the differential diagnosis of acute airway obstruction, especially when hoarseness, inspiratory stridor and fever are present. Our patients presented large laryngocele unrelated to their profession. It is mandatory, in any patient presenting with a soft cervical mass, even if not a wind instrument player or a glass blower, to exclude the possibility of a laryngocele. An external cervical approach to laryngocele gave adequate exposure of the lesion; post-operative recovery was free from complications. Robotic surgery seems a promising method in the treatment of combined laryngoceles, but its potential advantages have yet to be proved.