CASE REPORT

Oncocytic cyst of the larynx: Precipitating factors and mode of treatment (case report)

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Abstract
Introduction: Oncocytic laryngeal cyst is an uncommon benign lesion that develops in the supraglottic area as part of the aging process.
Aim: To present the case of oncocytic cyst of the larynx and review the literature regarding precipitating factors and methods of treatment.
Method: Case report.
Results: Oncocytic laryngeal cyst arises from the ventricle and the patient presented with hoarseness of voice. Marsupialization is satisfactory with low risk of recurrence.
Conclusion: It is metaplasia of respiratory or glandular salivary epithelium with no risk of malignancy although recurrence after excision can still occur. It usually presents with hoarseness of voice although acute and chronic dyspnea may occur as well.

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1. Introduction

Oncocytic cysts are benign lesions of the larynx that are lined predominantly by oncocytes. Although the term oncocytes was first coined by Hamperl in 1930, it is not until 1946 when Nohteri reported the first case in the larynx.1,2 Oncocytes are large, irregular shaped cells, frankly red with uniform granular cytoplasm and a hyperchromatic nucleus.3 Oncocytic lesions of the head and neck appear nearly exclusive in the parotid region. They can be found in the submandibular gland, nasal cavity, larynx, maxilla, lung and thyroid. Oncocytic lesions of minor salivary glands are rare and heterogenous in nature. Oncocytic laryngeal cysts mainly involve the supraglottic area in particular the false cord and the ventricle because the lamina propria of their mucosa has abundant glandular tissue.3

2. Case report

A 62 year old male patient presented with 4 month history of hoarseness of voice. He lost his voice for few days in the beginning of illness that improved slightly over time with persistent hoarseness. There was no stridor, dysphagia or weight loss. No
chest or nasal infection. He had an occasional laryngopharyngeal reflux. He was a heavy smoker of 20 cigarettes per day for 50 years. He had a past medical history of asthma and hypertension and he was regularly taking ramipril, simvastatin, amlovasc, ventolin, spiriva inhaler and champix 1 mg (to stop smoking).

On flexible laryngoscopy, a semi-translucent cyst was seen originating from the Lt ventricle obscuring anterior parts of both vocal cords however there was no restriction of movement bilaterally. The false cords were hypertrophied.

The patient underwent direct laryngoscopy under general anesthesia to rule out laryngeal carcinoma as a possible etiology. Microlaryngosurgery and marsupialization of the cyst were done. The content was aspirated and tissues of the roof 9 × 4 × 4 mm were sent for histological examination (Figs. 1 and 2).

Three months after the procedure, the patient reported disappearance of hoarseness after operation with no recurrence of symptoms. Flexible examination revealed bilateral freely mobile vocal cords with clear supraglottis apart from mild redness over both arytenoids.

The histology was squamous mucosa with seromucinous glands containing an oncocytic cyst (Figs. 3a and 3b).

### 3. Discussion

DeSanto classified laryngeal cysts into either ductal or saccular cysts. Ductal cysts are commoner than saccular cysts and result from the obstruction of ducts of mucoserous glands. They tend to involve the true cord with the exception of free margin (devoid of mucoserous glands) and in the epiglottis. Saccular cysts are mucus-filled cysts that are the result of obstruction of laryngeal saccule. Both are lined with respiratory epithelium. They vary in size between 1 and 7.5 cm. other laryngeal cysts are development or oncocytic. The former presents in newborn with airway obstruction, or could occur in second or third decades as remnants of branchial cleft. Laryngeal oncocytic cysts account for 15% of all laryngeal cysts.²

Laryngeal oncocytic cysts originate from the irreversible transformation of glandular epithelial cells lining salivary gland ducts or acini. They can also arise from the transformation of respiratory epithelium as reported cysts are lined with ciliated oncocyes. Oncocytes are considered as an abnormal cellular metabolic response with the disturbance of mitochondrial enzyme organization. Oncocytic metaplasia is a normal aging process. 80% occurs in over 50 years in comparison with other laryngeal cysts that occur in the younger age. Some authors believe that smoking is a cofactor.³

Many terms in the literature are used to describe the oncocytic cyst including oncocytoma, oncocytic cystadenoma, oncocytic adenomatous hyperplasia, oncocytic papillary cystadenomatosis and eosinophilic granular cell cyst.⁴

The predominant clinical sign is hoarseness of voice for long duration. Chronic dyspnea or acute dyspnea is less common. Other rare reported presentations in the literature are vocal cord paralysis, sudden death (one case). Pain was nearly never a complaint.³

They are usually solitary although some cases of multifocal, transglottic or bilateral lesions are reported. Most of the laryngeal oncocytic lesions are cystic. They may be associated with other laryngeal or extra laryngeal lesions such as laryngeal

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**Figure 1** Direct laryngoscopy of oncocytic cyst.

**Figure 2** After Marsupialization of cyst.

**Figure 3a** Microscopic picture of Oncocytic lesion of the larynx.

**Figure 3b** Microscopic picture of Oncocytic lesion of the larynx.
squamous carcinoma or hyperkeratosis, epidermoid carcinoma, Whartin’s tumor of the parotid.\(^3\)

Treatment of laryngeal oncocytic lesions varies from complete excision through laryngofissure to endoscopic laser excision or marsupialization with CO\(_2\) laser. Recurrence is possible and could be due to multifocal involvement or recurrence of metaplasia.\(^3\)

Although the literature favors excision over marsupialisation to prevent recurrence, no clinical trials proved that. On the other hand, there was no recurrence in this case with marsupialisation which suggests that recurrence might be related to multiple cysts and hence multicentric.

4. Conclusion

Laryngeal oncocytoma is a benign cystic lesion that affects the supraglottic area. It is oncocytic metaplasia or hyperplasia of glandular or respiratory epithelium that occurs in old age.

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