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Saccular Cyst Of The Larynx: A Case Report

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ABSTRACT

A saccular cyst of the larynx is a mucous filled dilatation of the laryngeal sacculus. It is an uncommon laryngeal anomaly that needs early diagnosis and timely management as they can mimic or be associated with other more serious laryngeal pathology including carcinoma of the larynx. A 45 year old female presented to ENT OPD with throat pain and change in voice since 3 months. Indirect laryngoscopy revealed a smooth bulge over right false vocal cord, obliterating the visualization of the right true vocal cord, with normal mobility. CECT scan showed well defined soft tissue lesion involving right false vocal cord. USG guided FNAC was done revealed features suggestive of benign cystic lesion. Patient was started on IV antibiotics and oral steroid. Patient showed drastic improvement symptomatically and clinically which was confirmed with regular Indirect laryngoscopy. Saccular cyst although uncommon should be included in the differential of any laryngeal mass. Once recognized early, they can be effectively and safely treated.

Keywords: Laryngoscopy, antibiotics, oral steroid

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INTRODUCTION

A saccular cyst is defined as a dilated saccule of the larynx that is filled with mucus and can be acquired or congenital. It is a benign lesion that is located between the false vocal cords and the thyroid cartilage.¹ Saccular cysts represent 5% of all benign laryngeal lesions.

It is lined by ciliated respiratory epithelium, contains mucous glands and its function is the lubrication of the vibrating vocal folds. In larynx, cysts may be localized in different regions, i.e., glottis, epiglottis, aryepiglottic folds, true vocal cords, false vocal cords, and subglottic area. Supraglottic laryngeal cysts such as saccular ones may be benign, and uncommon. In addition, saccular cysts can be divided into two types based on the direction of their development, between the true and false voice cords, an anterior-type saccular cyst develops medially and posteriorly, whereas a lateral-type cyst develops in a posterosuperior manner between the false vocal cords and aryepiglottic folds.² The condition must be differentiated from laryngoceles which is an air filled sac that communicates with the laryngeal lumen via a dilated saccule. The incidence of carcinoma associated with saccular cysts and laryngoceles is well documented and ranges from 5% to 30%.³

Saccular cysts may present with hoarseness of voice, foreign body sensation in throat, and dyspnea, but are rarely life-threatening.⁴ On rare occasions, they have been reported to cause life-threatening events through acute airway obstruction. The laryngoscopic examination usually reveals a smooth bulge in the false vocal cord area which can compromise the airway with increasing size. However a high index of suspicion, prompt recognition and appropriate treatment early in the course of patient's disease helps prevent serious complications and morbidity.⁵

Case report:

A 45 year old female presented to ENT OPD with throat pain and change in voice since 3 months associated with difficulty in swallowing. Patient also gives history of upper respiratory tract infection 2 week prior to this. She had no prior history of laryngeal trauma, vocal abuse, neck mass or habits. On clinical examination there were no palpable neck masses or cervical lymphadenopathy. On neck examination bowing of thyroid cartilage noted over right side.

On Indirect laryngoscopy, a smooth globular mass over right false vocal cord was visualized, obliterating the visualization of the right true vocal cord, with normal mobility. Finding was confirmed with 70 degree endoscopy (Figure 1). Patient was admitted and started on IV antibiotics and oral steroids. Regular laryngoscopic imaging was performed (Figure 2).



Figure 1: 70 degree rigid laryngoscopy image (on admission) - a smooth bulge over right false vocal cord (black arrow)

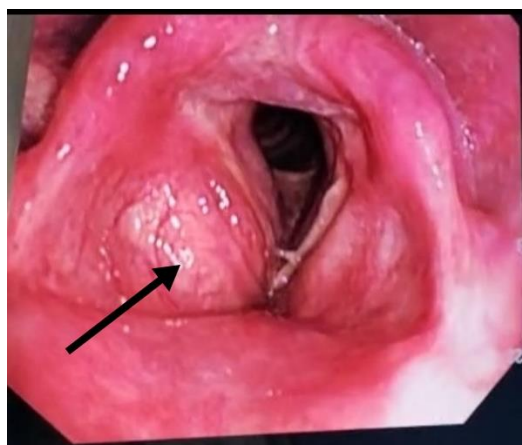


Figure 2: Video laryngoscopy image (2 days post admission)- a smooth globular mass over right false vocal cord(black arrow)

The patient was advised contrast enhanced CT scan of the neck which also revealed an ill defined non enhancing hypodense lesion approximately measuring 1.6 x 1.0 cms involving the false vocal cord on right side causing mass effect on laryngeal ventricle inferiorly extending into the true vocal cord anteriorly upto the anterior commissure. (Figure 3).

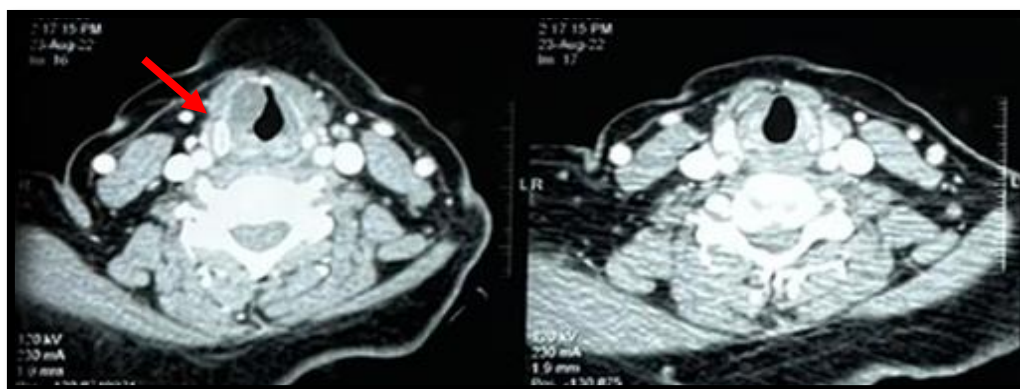


Figure 3: CECT Neck (plain) scan: ill-defined non enhancing hypodense lesion over Right false Vocal cord (Red arrow)

Patient later underwent Transcervical USG guided needle aspiration of cyst on day 5 post admission, which yielded 5ml of mucoid fluid ,aspirate was sent for **cytology which showed**

features suggestive of Benign cystic lesion with numerous macrophages along with few lymphocytes and neutrophils with no evidence of malignancy. Hence a final diagnosis of saccular cyst of larynx was made. (Figure 4).



Figure 4: Mucoïd fluid aspirate.

Patient showed drastic improvement symptomatically and clinically following the aspiration which was confirmed with regular laryngoscopic imaging (Figure 5 & 6). Patient showed no recurrence in past 5 months.



Figure 5: 70 degree rigid laryngoscopy image (1 month follow up)



Figure 6: 70 degree rigid laryngoscopy image (3 month follow up) –Bilateral vocal cord appeared normal.

DISCUSSION

This saccule is an aperture in the laryngeal ventricle's roof. Its function is to produce mucus from the specially crafted epithelium to lubricate the vibrating vocal fold. The key factor leading to the development of saccular cysts is the ongoing release of this mucus through a blocked laryngeal saccule aperture.⁵ As it grows slowly through the thyrohyoid membrane and into the neck, its size might rise and put strain on surrounding anatomical structures. These effects might be harmful and result in a life-threatening acute airway blockage if identified and ignored. Therefore, appropriate and meticulous anesthetic management is of utmost importance.

Differential diagnosis of a laryngeal cyst is often difficult and this may have a marked influence on the treatment strategy. Laryngeal cysts consist of three types, according to its site, content, and status of laryngeal mucosa; ductal cysts, saccular cysts, and thyroid-cartilage foramina cysts.¹ Laryngeal ductal cysts are the most typical kind. Mucus buildup in the submucosal gland's collecting duct leads to the development of ductal cysts. Unlike other minor lesions, ductal cysts develop from superficial mucosal membrane as a lesion with a diameter of typically less than 1 cm and are bordered by double-layered epithelium made up of inner columnar and outer cuboidal cells. While ductal cysts are often smaller than saccular cysts, the latter are dilated saccules that are not connected to the laryngeal lumen. A stratified squamous epithelium and a range of lymphocyte counts can be seen in the walls of saccular cysts. In addition, if determining a differential diagnosis for saccular cysts, it is usually advisable to have a look for any signs of an underlying carcinoma.

Pre operative imaging is a useful tool for selecting the ideal approach for proper mapping and surgical planning. Fine cut (1- 1.5mm) CT scan of larynx with contrast is recommended to confirm the diagnosis and to define the extent of the cyst. Commonly hoarseness of voice, airway compromise and concerns of malignancy are the indications for surgery.

Various treatment options have been considered for these lesions, ranging from needle aspiration, endoscopic marsupialization, endoscopic ventriculotomy, to external approaches including a transthyrohyoid membrane approach and laryngofissure, according to the size and growth direction of the saccular cyst. Currently the standard initial treatment mostly considered for saccular cysts is endoscopic excision. Recurrence is strictly related to maintenance of remains in the cyst wall, therefore total excision is recommended in order to have lower recurrence rates. Most recent advancements in the laryngeal endoscopic technique, in complete removal of the cysts, without recurrence, is by using endoscopic CO₂ laser excision.

In our current case report, we achieved complete cure on conservative management with IV antibiotics and oral steroids along with Transcervical USG guided needle aspiration of the cyst. Hence, it is not always necessary to undergo an extensive surgery to get an optimal treatment result since the treatment also depends on the etiology which in our case is likely to be secondary to an infective pathology.

CONCLUSION

Saccular cyst of the larynx although uncommon can mimic other types of more common laryngeal anomalies and should be included in the differential of any laryngeal mass. Thorough clinical and radiological assessment is important in evaluating and treating this condition, as strong evidence supporting the association with carcinoma exists. Once recognized early in the presentation, they can be effectively treated using conservative methods as evident in our case or surgically depending on the etiology/severity.

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