Case Report

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Micro flap technique: a novel approach for the management of a large epiglottic cyst

K. C. Prasad, Indu Varsha Gopinath*

Department of ENT, Sri Devaraj Urs Medical College, Tamaka, Kolar, Karnataka, India

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*Correspondence:

Dr. Indu Varsha Gopinath,

E-mail: indugopinath1826@gmail.com

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ABSTRACT

Epiglottic cyst is a not an unusual disease in the larynx. Although the lesion is benign, airway obstruction may occur due to a large cyst both in children and adults. Therefore it should to be kept in mind in the differential diagnosis of stridor or difficulty in breathing. Common treatment modalities in dealing with these epiglottic cysts are endoscopic excision, marsupialization and even external approaches through neck in cases of very large cysts, complete Excision is usually the treatment of choice, with low recurrence. We report a case of a 38 years old man who presented with progressive difficulty in breathing, foreign body sensation and difficulty to swallow and the cyst was completely excised by s new micro flap technique, using both endoscope and microscope. The new method of excision of cyst after elevating the micro flaps and redraping on the raw surface causes faster healing process, less post operative edema and less post operative symptoms. The patient was discharged third day after the surgery without any complications.

Keywords: Epiglottic cyst, Microflap, Redrapping, Indirect laryngoscopic examination

INTRODUCTION

Laryngeal cysts constitute approximately 5-6% of benign laryngeal lesions. The majority of epiglottic cysts originate from the lingual surface of the epiglottis. A congenital epiglottic cyst almost causes neonatal respiratory distress or even death but this rarely occurs in adults. In adults epiglottic cysts are usually incidental finding and a small cyst are often asymptomatic. When the cysts are perceptively large, it may cause mild dysphasia with hoarseness, a muffled voice, lump sensation in the throat, obstructive sleep apnea or stridor. The treatment options include observation, aspiration, marsupialization, external approach through neck and complete surgical excision of the cyst is usually the treatment of choice.

CASE REPORT

Thirty eight years old gentleman who presented to our department with complaints of sensation of lump in the throat, progressive difficulty in breathing, change of voice and difficulty to swallow since three months. He was previously been treated for obstructive airway disease. No history of any known co morbidities in the past. Physical examination revealed hot potato voice and mild stridor on exertion; otherwise his vital signs and stable. general condition were Oropharyngeal examination revealed an upper portion of a cystic lesion in the right vallecular area only on pressing the posterior part of the tongue with difficulty. Indirect laryngeal examination showed a huge cystic lesion with engorged vessels, arising from the lingual surface of the epiglottis on the right side and completely filling the right side of vallecula and partly crossing over to the left side. Patient could with stand the IDL examination with difficulty, the complete architecture of the epiglottis was not visualized as it was compressed by the cyst, vocal cords movements were confirmed by subsequent endoscopic examination. A computed CT scan of the neck demonstrated a large low density lesion cystic lesion in the area of epiglottis filling the vallecular area (Figure 1B).

The nature of the lesion, its complications, operative technique and the necessity of tracheotomy had been explained to the patient and the consent was obtained.

Operatively, fibre optic nasotracheal intubation was done and the Boyle Davis mouth gag with the longest blade was introduced to visualize the lesion, the idea of using the longest blade was to depress the tongue so as to visualize the cyst more clearly. Re examination of the cyst was done with the endoscope and microscope regarding its extent and minimal throat pack done to prevent any aspiration (Figure 1A). An incision was placed over the cyst horizontally, all along the length of the cyst, anterior and posterior flaps elevated meticulously using a blunt curved ball probe without rupturing the cyst and the flaps were protected for redraping the raw area later. The additional exposure of the cyst provided by a gentle external pressure over the hyoid bone backwards and upwards by an assistant which greatly enhanced the exposure. The initial and major part of the dissection done under microscopic vision and later the dissection of the under surface of the cyst in the supra hyoid space, thirty degree endoscopic assisted dissection was carried out, as the endoscope provided an angled vision for dissection in that area. After complete enucleation of the cyst, the elevated mucosal flaps were approximated after excising the excess or redundant mucosa (Figure 1C). The histopathology examination confirmed the diagnosis of epiglottic cyst. Post operative events were uneventful and endoscopic examination after one week showed well healed wound area.

The following factors greatly enhance the dissection procedure

- Nasal intubation provides good visualization of the cyst as endotracheal tube was away from the operating field.
- Use of Boyle Davis mouth gag with longest sized blade provides good access to the vallecular space and epiglottic area.
- Use of microscope with 4OO mm lens provides good vision, magnification can be increased if required, both hands become free to operate and do not occupy the space unlike endoscopes.
- Use of 30degree endoscope gives good accessibility, angled vision, especially for the dissection in the areas which are not visible directly for example like dissections underneath the cyst and in suprahyoid area.

- External pressure over the hyoid bone.backwards and upwards will improve the overall view of the cyst which facilitates easy dissection.
- Redraping the elevated mucosal flaps after excision of the cyst will make the healing process fast and patient will have less post operative symptoms like pain.

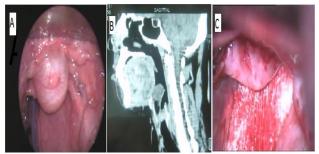


Figure 1: (A) Showing endoscopic view of epiglottic cyst; (B) sagittal section of scan with epiglottic cyst; (C) showing postoperative picture.

DISCUSSION

Epiglottic cyst is a benign lesion, contributing to 4-6% of all the laryngeal lesions. Although it is a benign lesion, its presentation of symptoms ranges from asymptomatic to lethal outcome, depending on its size and location. Epiglottic cysts occur at all ages, and most common is in sixth decade.⁴ Secondary infection of an epiglottic cyst may progress to epiglottitis or epiglottic abscess. The differential diagnosis includes throglossal cysts, lymphangiomas, haeamangiomas, lingual thyroid and papillomas.⁵⁻⁷ The diagnosis of the epiglottic cyst depends on the history taking and physical examination. The lesion can be seen with the indirect laryngeal examination or flexible or rigid nasal thirty degree endoscope. The treatment of choice is complete excision of the cyst to reduce its recurrence. Surgery is usually done under general anaesthesia with fibroptic guided nasal intubation in order to avoid possibility of rupture of the cyst and compromise of oral and oropharyngeal space. ⁸ Use of microscope and endoscope provides higher magnification and with microscope, dissection will be easier as both hands of the surgeons will be free to operate. The technique of redraping the mucosal flaps after excision of the cyst over the raw surface makes the healing process quicker and avoids post operative complications like edema of epiglottis. Prophylactic antibiotics and adequate hydration are always necessary to avoid acute epiglottitis. 9-11

CONCLUSION

Epiglottic cyst is a not an unusual disease in the larynx. Although the lesion is benign, airway obstruction may occur due to a large cyst both in children and adults. Therefore it should to be kept in mind in the differential diagnosis of stridor or difficulty in breathing. Common treatment modalities in dealing with these epiglottic cysts

are endoscopic excision, marsupialization and even external approaches through neck in cases of very large cysts, complete Excision is usually the treatment of choice, with low recurrence

The new method of excision of cyst after elevating the micro flaps and re draping the on the raw surface causes faster healing process, less post operative edema and less post operative symptoms.

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