

# Carbon Dioxide Laser Excision of a Big Epiglottic Cyst

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## Summary

Epiglottic cyst is usually asymptomatic and the commonest presentation is foreign body sensation in the throat. Treatment of epiglottic cysts depends on their size and on the clinical symptoms. Surgery is necessary for large ones. Various modalities of therapy include endoscopic excision, marsupialization and deroofting with or without a carbon dioxide laser. We report our experience of managing a case of a large epiglottic cyst with a carbon dioxide laser.

**Key Words:** Carbon dioxide laser, Excision, Epiglottic Cyst

## Introduction

Epiglottic cyst is usually asymptomatic and the commonest presentation is foreign body sensation in the throat. Epiglottic cyst rarely causes airway obstruction in adults<sup>1</sup>. Presenting symptoms of epiglottic cysts vary with cyst size, age of the patient, as well as extension into the airway. Adult epiglottic cysts often cause a lumpy sensation in the throat but seldom produce respiratory distress.

Secondary infection of an epiglottic cyst may progress to epiglottitis or epiglottic abscess. Henderson *et al*<sup>2</sup>, reviewed 26 such cases in 40 years, most of which were adults. The major organisms identified were pneumococci, beta-hemolytic streptococci, and staphylococci. A mortality rate of up to 30% has been reported<sup>3</sup>. So, early diagnosis and appropriate therapy of epiglottic cysts are of utmost importance.

## Case Report

A 52 years old Malay man presented with a history of foreign body sensation in his throat for six months. There was no history of dysphagia or odynophagia.

There was also no history of difficulty in breathing and no noisy breathing. He also did not have any throat pain. He did not experience any change of voice or pain on vocalizing. On examination he was comfortable and not in any respiratory distress. There was no stridor. He was pink and the vital signs were normal. A laryngoscopic examination using a 70° endoscope showed a single smooth swelling on the lingual surface of the epiglottis which obscured the vallecula (Fig 1). The base of tongue was normal, the vocal cord and the pyriform sinus were not visualized.

After the patient consented, a direct laryngoscopy and excision of the cyst using carbon dioxide laser was planned. We initially performed a flexible fiberoptic laryngoscope to confirm the diagnosis and visualize all the surrounding structures like the pyriform sinus and both vocal cords which had not been seen by the rigid laryngoscopic examination. Intraoperative finding showed that the cyst arose from the lingual surface of the epiglottis. The cyst was removed completely using carbon dioxide laser. Patient recovery post operatively was unremarkable. He was followed-up for one year and did not show any recurrence (Fig 2).

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## Discussion

Retention cysts of the larynx have squamous or columnar lining. They originated from obstructed seromucinous salivary glands. The squamous variant is common on the lingual surface of the epiglottis, in vallecula and on aryepiglottic folds. Laryngeal cysts constitute approximately 5% of benign laryngeal lesions. The majority of cysts originate from the epiglottis<sup>2</sup>. Epiglottic cysts are specifically defined as cysts occurring at the lingual and dorsal surfaces of the epiglottis. Indirect mirror or flexible laryngoscope may provide the first clue of an epiglottic cyst, and further imaging studies may be needed. Neck lateral X-ray may mimic acute epiglottitis with a thumb sign. CT scan can demonstrate a low-density mass at the tongue base.

Treatment of epiglottic cysts depends on their size and on the clinical symptoms. Surgery is necessary for large ones. A lateral pharyngotomy approach to remove the cyst is preserved for recurrent cases<sup>4</sup>. An endoscopic technique with a carbon dioxide laser can be successfully applied in nearly all cases due to the laser's good hemostatic effect<sup>3</sup>. To avoid local recurrence, the cyst wall has to be completely resected. Surgery can

usually be done under oral intubation but it is difficult in a patient with a huge cyst. Aspiration of the contents to reduce the cyst size helps and can avoid a tracheostomy. Prophylactic antibiotics and adequate hydration after surgery are always utilized to avoid acute epiglottitis<sup>4</sup>.

The advantages of using carbon dioxide laser over conventional surgery are shorter operating time and less trauma to the surrounding structures<sup>2</sup>. Removal with laryngeal instruments would be time consuming and difficult not only because of the size of the mass but also local bleeding. Open surgery via lateral pharyngotomy or laryngofissure will be too invasive and may cause damage to the vocal cords<sup>2</sup>.

A huge epiglottic cyst may simulate other obstructive airway disease but it can easily be ignored by clinicians. Secondary infection of an epiglottic cyst can cause catastrophic acute airway obstruction and requires an emergent tracheostomy. Early definitive diagnosis and management obviate an unnecessary tracheostomy. In conclusion, resection with an endoscopic carbon dioxide laser is recommended as the treatment of choice.

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## References

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