

Laryngeal Cyst Aspiration- An Aid to Improve Glottic View

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SUMMARY

Large laryngeal cyst is a rare, benign lesion of the larynx and may cause difficulty in tracheal intubation. Laryngoscopy in these cases can provoke a sudden increase in size due to bleeding or oedema formation and cause severe respiratory obstruction. Due to compression by the mass on the larynx, airway problems are frequent. Stridor and sudden airway obstruction can occur due to large cysts and may necessitate urgent securing of the airway. A case of a laryngeal cyst is reported which occupied right side of larynx leading to obscured indirect laryngoscopic findings and external needle aspiration improved glottic view. Another advantage was avoidance of tracheostomy and more invasive fiberoptic intubation.

INTRODUCTION

Cysts of the larynx can be congenital or acquired. The congenital forms are rare. The acquired forms include ductal and saccular cysts. Ductal cysts form due to obstruction in seromucinous glands. Saccular cysts arise from the saccula laryngis & may contain fluid or air.¹ They do not communicate with the laryngeal lumen and are filled with mucus. There are two types of saccular cyst: anterior and posterior. The anterior variety are smaller and expand medially. The posterior type can expand through the thyrohyoid membrane.² A laryngocoele is an air filled saccular cyst that communicates freely with the laryngeal lumen. There are three types of laryngocoele: internal, external and combined³.

These patients may pose difficulties for anaesthesiologist to secure airway. We here report a case of combined cyst with compromised IDL findings in whom prophylactic external needle aspiration proved useful in decompressing the swelling thereby avoiding difficulty in airway management.

CASE REPORT

A 53 years old female with the diagnosis of

combined saccular cyst reported for endoscopic marsupialization. She presented with the complaints of difficulty in swallowing, lump in neck and hoarseness of voice for the past two years. She also had slight difficulty in breathing for the last seven days with no stridor or snoring. Indirect laryngoscopic findings revealed the cyst to be obscuring the aryepiglottic fold, pyriform fossa and vocal cord on right side causing a compromised glottic opening. The epiglottis was compressed and only left vocal cord was visible. X-ray film of soft tissues of the neck revealed a round globular swelling. CT scan showed a well defined fluid filled mass on right side of larynx causing compression of airway (Fig. 1).

Preanaesthetic assessment revealed a palpable lump of size 4x3 cm in the neck on right side and a Mallampati grade-II view. Her biochemical investigations were unremarkable. Difficult intubation was anticipated in view of nature and position of the mass. It was planned to undertake a trial of awake intubation with a fibrescope using a small sized endotracheal tube. Patient was premedicated with tablet ranitidine at night. In operating room intravenous access was established and monitoring for heart rate, electrocardiogram

(ECG), noninvasive blood pressure (NIBP) and SpO₂ was instituted. A joint decision was then taken by the anaesthetists and surgeons first to aspirate the cyst under local anaesthesia and then undertake a trial of intubation.

About 30 cc of straw coloured fluid was aspirated from the cyst externally. Some fluid was left behind intentionally so as to delineate the walls of cyst during endoscopic marsupulization. Induction was

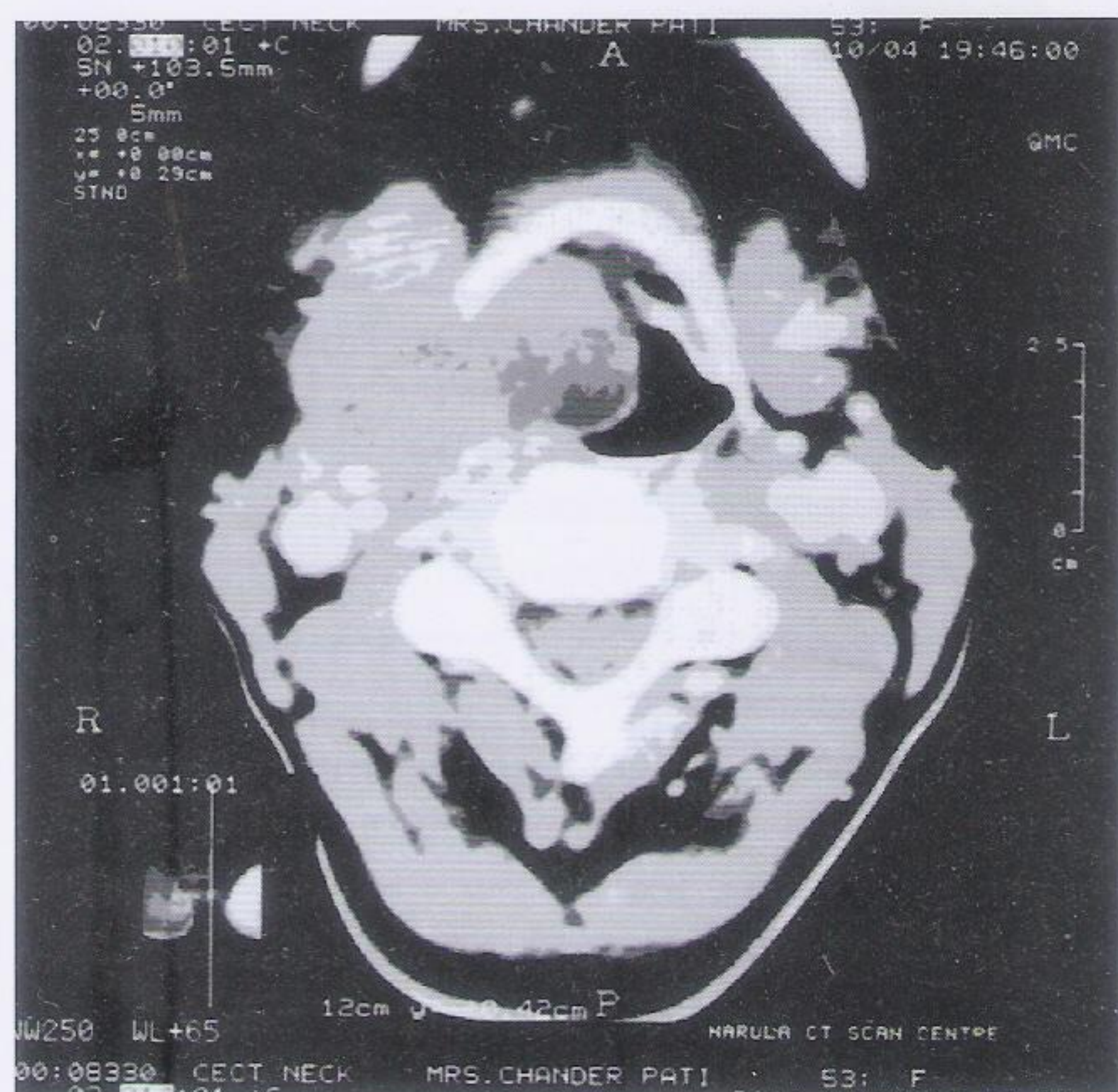


Fig 1: CT Slice Showing the Cyst

then carried out with intravenous glycopyrrolate 0.2mg and propofol 120mg. Anaesthesia was deepened with sevoflurane (2-8%) in oxygen and laryngoscopy was performed which revealed a narrow glottic opening. Intubation could be achieved with a smaller endotracheal tube size of 5.0mm ID. Anaesthesia was maintained with oxygen, nitrous oxide and 2% sevoflurane. Vecuronium bromide 0.08 mg/kg was used for relaxation and fentanyl 2g/kg for analgesia. Surgery lasted for 1 hour. Roof and medial wall of the cyst were excised and after that, vocal cords were clearly visible. Intra and post operative periods were uneventful.

DISCUSSION

Incidence of laryngeal cysts in infants is 1:3,00,000 births⁴ and in adults, is 5% of benign tumors.⁵ Intubation is difficult in such cases as direct

laryngoscopy fails to expose epiglottis as cysts are large, fragile and tend to bleed⁶. The swelling can impinge against epiglottis, displacing it posteriorly making its mobilization difficult.⁷ Even mask ventilation may be difficult in large cysts as there may be too narrow a passage for gases. Our patient had a large cyst as it had displaced the medial wall of piriform fossa and vallecula.

Aggarwal et al reported a large vallecular cyst obscuring epiglottis, vallecula and glottic opening. They used a right molar approach with spontaneous breathing using straight blade laryngoscope. This spared the swelling and they were able to visualize the right vallecula. The actual mechanism for improved visualization was due to reduction of soft tissue compression and lowering of proximal end of line of sight.⁸ We did not try molar approach as the cyst was quite large and that might not have improved the laryngoscopic view.

Donne et al reported a case of combined saccular cyst in a 71 years old lady with a two week history of noisy breathing, difficulty in swallowing and snoring and presented to casualty with acute stridor in whom an emergency tracheostomy had to be done.⁹ Shandilya et al in a retrospective review of benign cysts of adult endolarynx over two years reported nine patients requiring emergency airway management in the form of tracheostomy or intubation.¹⁰ The absence of stridor may not always correlate to the size of cyst as in the case reported by Raveh et al.¹¹

Awake fiberoptic intubation is an effective alternative but is more invasive and may be traumatic. Cyst aspiration avoided the trauma associated with these techniques. It is suggested that needle aspiration of cyst should be done in large laryngeal cysts in awake patients prior to intubation, so as to avoid catastrophes. It decompresses the swelling and improves the glottic view. The cyst should not be fully aspirated so as to delineate its walls intraoperatively. Thus, preoperative tracheostomy can be avoided.

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