Technique: Intraoperative laryngocele inflation with LMA

Nathan Gonik MD, MHSA; Sudarshan Setty MD; Bradley Schiff MD
Department of Otorhinolaryngology - Head and Neck Surgery

Abstract

Background: Laryngoceles are pathologic air filled dilations of the laryngeal ventricle. They are most often benign and incidental findings. Resection may be necessary in the setting of infection, airway obstruction, dysphagia, and phonatory disturbances. There has been much debate about the ideal surgical modality. External laryngoceles, however, are almost universally treated with open resection via a lateral or midline cervical approach. Care must be taken to resect the laryngocele in its entirety to avoid recurrence. In cases of recurrent infection the normal surgical planes are often fibrosed and obscured, increasing the risk of neurovascular sacrifice and functional losses.

Materials/Methods: We are reporting a case of recurrent infections in a large, palpable external laryngocele. During resection the patient was ventilated using an endotracheal tube (ETT). Additionally, a laryngeal mask airway (LMA) was inserted posterior to the ETT, resting in the hypopharynx, and attached to a Jackson-Rees circuit. Air was passed through the LMA to inflate the laryngocele and better define its borders. The LMA was also used to identify the root of the laryngocele in the paraglottic space and ensure its airtight closure.

Results: We felt that the LMA assisted our dissection and helped progress the surgery safely in a fibrosed surgical field. We have not seen this method described previously. The patient continues to be free of recurrence 9 months after surgery.

Discussion: Inflation of a laryngocele is not an entirely new concept. The trumpet maneuver is utilized during the physical exam to better define the nature of lateral neck and laryngeal masses. Pressure within the laryngeal ventricle is generated by inflating the cheeks under pressure. Synthesizing this maneuver in an appropriate patient can help facilitate a complete and safe resection.

Case

- 44 year old female with multiple episodes of painful neck swelling
- Found to have recurrent infections of right sided external laryngocele without impressive internal component
- On exam, swelling increased with cheek inflation
- Preoperatively, a fibrosed field was anticipated

Procedure

- Patient easily intubated
- After intubation, LMA placed posterior to ETT, resting in hypopharynx (figure 2-3)
- While being ventilated via ETT, LMA was attached to Jackson-Rees circuit and pressurized air
- Gentle pressure on bag allowed for visible inflation of the laryngocele
- Visualizing the inflated edges of the laryngocele facilitated complete and safe resection without sacrifice of neurovascular structures (figure 4)

Discussion

- Trumpet maneuver can be performed intraoperatively via LMA insufflation of laryngocele
- In a fibrosed field, the margins of the laryngocele can be easily identified with inflation
- Laryngocele was successfully excised without injury to neurovascular structures

References: