We report an unexpected failed laryngeal mask airway in a patient with unrecognized lingual tonsil hypertrophy (LTH). A 19-year-old obese woman presented for extraction of multiple teeth via intravenous general anesthesia. Surgery was interrupted due to a laryngospasm midway through the procedure. The laryngospasm required the existing laryngeal mask airway to be removed so the patient could be suctioned. Although it is unclear the extent of obstruction caused by LTH, the surgery had to be postponed due to the discovery of enlarged lingual tonsils, which prevented endotracheal intubation. One reason for unexpected difficult airways is attributed to LTH. It is recognized that LTH is more common in patients with obstructive sleep apnea; however, LTH also has an increased prevalence in obese children with prior palatine tonsillectomies or adenoidectomies. Unexpected LTH can complicate general anesthesia by making placement of a laryngeal mask airway difficult. Thus, further research needs to be conducted to gain a deeper understanding on how to reduce the risks presented by LTH during sedation surgeries.

Key Words: Lingual tonsil hypertrophy; Endotracheal intubation; Laryngospasm; Anesthesia; Sedation; Complication; Intubation.
Additionally, the LMA has successfully confirmed While our patient did not re-monitor and good breath sounds through the pretracheal stethoscope. A size 5 placement with a small leak at 20 cm of H₂O pressure. When oxygen saturation dropped to 87%, a decision was made to immediately intubate the trachea orally. The patient was then given 120 mg (1 mg/kg) of succinylcholine (Anectine, Sandoz Pharmaceuticals Inc) intravenously. After skeletal muscle fasciculation, the patient was easily mask ventilated with positive pressure oxygen. The attempt to intubate the trachea via direct laryngoscopy was unsuccessful on 2 attempts due to the lack of visualization of the glottis from an excess of hypertrophic tissue at the base of the tongue. Intubation was attempted with both Macintosh #3 and #4 blades and a Miller #3 blade (SunMed Greenline). She was again easily mask ventilated until she started to breathe spontaneously. Her oxygen saturation quickly rose and stabilized at 100%, and she was hemodynamically stable with a blood pressure of 130/79 mm Hg and a pulse rate of 89 beats/min. Even though she could be ventilated, a decision was made to terminate the case and initiate a further work-up prior to the development of any additional anesthetic complications. During the recovery period, evaluation of the airway with the patient in a sitting position again demonstrated the lingual tonsil hypertrophy with the aid of a laryngeal mirror.

**DISCUSSION**

It is difficult to anticipate complications arising from LTH because it often occurs in asymptomatic individuals. However, patients with LTH may present with a number of symptoms including sore throat, dysphagia, globus sensation, snoring, feeling of having a lump in the throat, alteration of voice, chronic cough, snoring, and obstructive sleep apnea. Additionally, two thirds of patients with LTH have had a palatine tonsillectomy or adenoidectomy. Research at Cincinnati Children’s Hospital Medical Center found that obese children have a higher frequency of LTH, with a slightly higher occurrence in children with previous tonsillectomies. While our patient did not report any of the typical symptoms, she did fall at a higher risk because of obesity and a history of prior tonsillectomies. Thus, it is recommended that for individuals at a higher risk for LTH, their surgeons check for LTH prior to surgery. LTH can be detected using a simple laryngeal mirror.

While it is unclear the extent of airway obstruction caused by LTH in our case, the enlargement of the patient's lingual tonsils prevented endotracheal intubation when a more stable airway was needed following a laryngospasm. The use of an LMA is controversial in patients with LTH; however, there are several cases in which the LMA was successfully used in patients with obstructed airways. Additionally, the LMA has successfully been used in “cannot-intubate-cannot-ventilate” situations because the LMA requires less time and is less invasive than other techniques such as a tracheostomy.
However, Davies et al. warn against repeated attempts using the LMA because of potential damage to the surrounding tissue. Repeated insertions of the LMA can prove traumatic to the airway by causing lingual tonsil edema or bleeding. It could even lead to a “cannot-intubate-cannot-ventilate” situation, which we wished to avoid. When unable to intubate via LMA, fiberoptic intubation has proven to be more successful because fiberoptic intubation avoids damaging the tonsillar tissue. Asbjornsen et al. recommend awake fiberoptic intubation for patients with known LTH. However, in the event of an unanticipated difficult intubation scenario, intubation via an ENT laryngoscope is recommended. Since neither fiberoptic intubation nor video laryngoscopy were available in our office, the decision to attempt to place an oral endotracheal tube via traditional direct laryngoscopy was made. Upon discovery of LTH, extra precaution was taken to not further aggravate the tissue when our initial intubation attempt was unsuccessful, so the anesthetic was terminated.

In summary, unexpected LTH presents many complications during general anesthesia, and further research needs to be conducted on innovative intubation methods to make anesthesia safer for patients with LTH. It is vital for anesthesiologists to be aware of the possibility of enlarged lingual tonsils, particularly in patients with increased risk for LTH prior to intubation in order to be prepared. A significant amount of research has been conducted on LTH in patients with Down syndrome or obstructive sleep apnea. However, key indicators for hypertrophy in otherwise healthy patients are obesity and previous tonsillectomies. Enlargement of the lingual tonsils most likely occurs as a compensatory mechanism for the loss of the palatine or adenoid tonsils. Being aware of such issues may help curtail unexpected complications.

REFERENCES


