



Hypoglossal Nerve Injury from LMA Placement in a 10 year old

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INTRODUCTION

- Cases of hypoglossal and lingual nerve injury have been reported as complications following the use of the laryngeal mask airway (LMA).
- High intra cuff pressure of LMAs have been closely correlated to the development of sore throat in children.
- Previous studies have reported that anesthesiologists routinely inflate LMA cuffs to twice the manufacturer recommendations.
- Cuff pressures of LMAs are not routinely checked with a manometer, despite evidence this would be beneficial.
- It is generally recommended that minimal air volumes be used to develop an effective LMA seal.

CASE REPORT

A 10 year-old female with a PMH of multiple venous malformations involving the left half of her body presented with new onset of left posterior shoulder pain and recurrent pain of the left distal thigh, left proximal forearm, left knee and left labia majora. The patient had a history multiple sclerotherapy treatments under general anesthesia (GA) with no reported complications and improvement of symptoms after prior sclerotherapy. The patient weighed 47.5 kg, medications included aspirin 81 mg oral daily, and allergies included hydrocodone, oxycodone, foam tape, and surgical prep wash. Her most recent procedure was eight months prior to this case and a size 2.5 LMA was inserted successfully with no complications noted.

The patient presented to the Interventional Radiology for repeat sclerotherapy. She had a mask induction and then peripheral IV placement. An LMA 3.0 was placed uneventfully and atraumatically. She received GA with 3% sevoflurane and 50% FiO₂, as well as 8 mg dexamethasone, 2 mg morphine, 4 mg ondansetron, 25 mg ketorolac, and 500 mL of LR during the case.

A left popliteal block and left femoral block were placed with US guidance (10 mL of 0.2% ropivacaine were used in each block) pre-procedure. She was positioned in a modified right lateral decubitus position with a donut for head and neck support and arms on blankets. She was lateral for approximately 2 hours. At the end of the procedure she received a left interscalene block with an additional 10 mL of 0.2% ropivacaine. The LMA was removed deep with no complications and she was transported to the PACU where she woke up with a left tongue deviation and questionable nerve palsy. She could not drink liquids or swallow pudding and had garbled, unintelligible speech, all of which were greatly concerning to her and her mother.

The case was discussed with the interventional radiologist and the acute pain team and a decision was made to consult pediatric neurology. On the way to PACU to discuss the consult with mom, the patients symptoms resolved. The patient was drinking and eating and she went home talking normally with no residual sequelae.

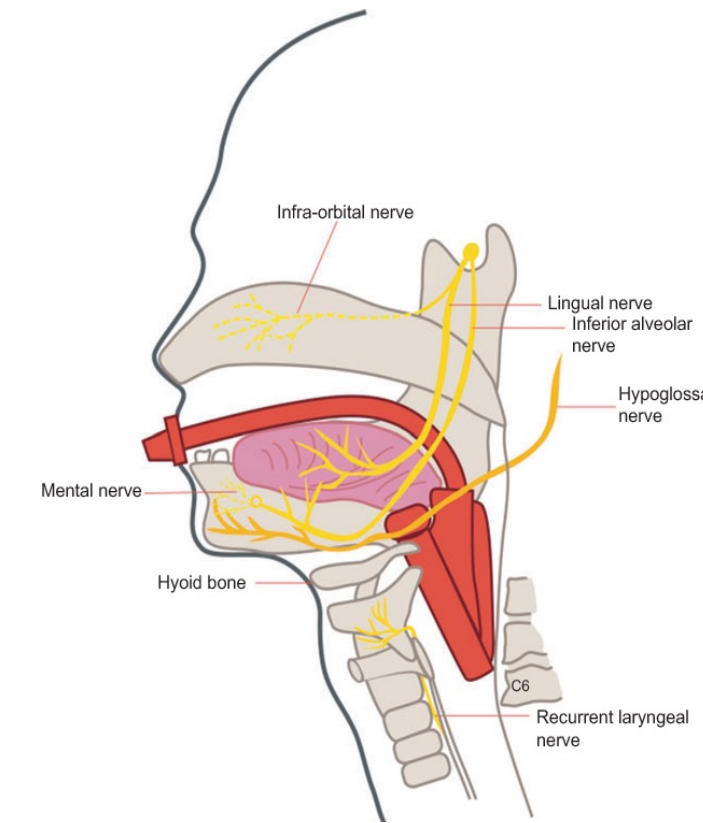
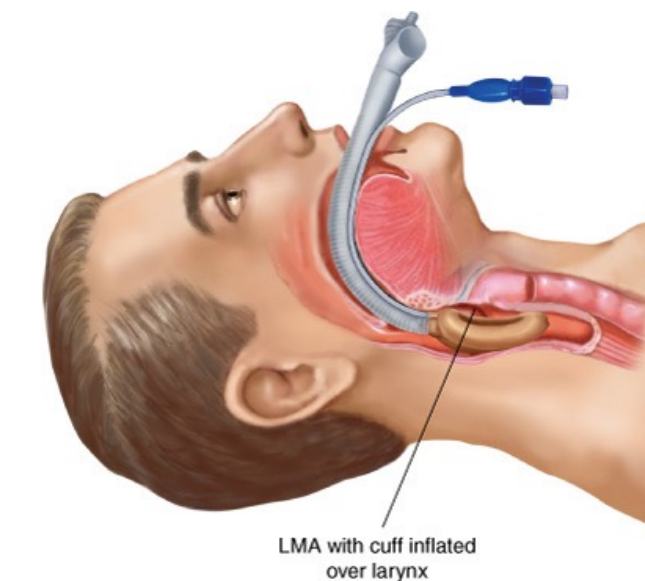


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DOI:10.1111/anae.12917



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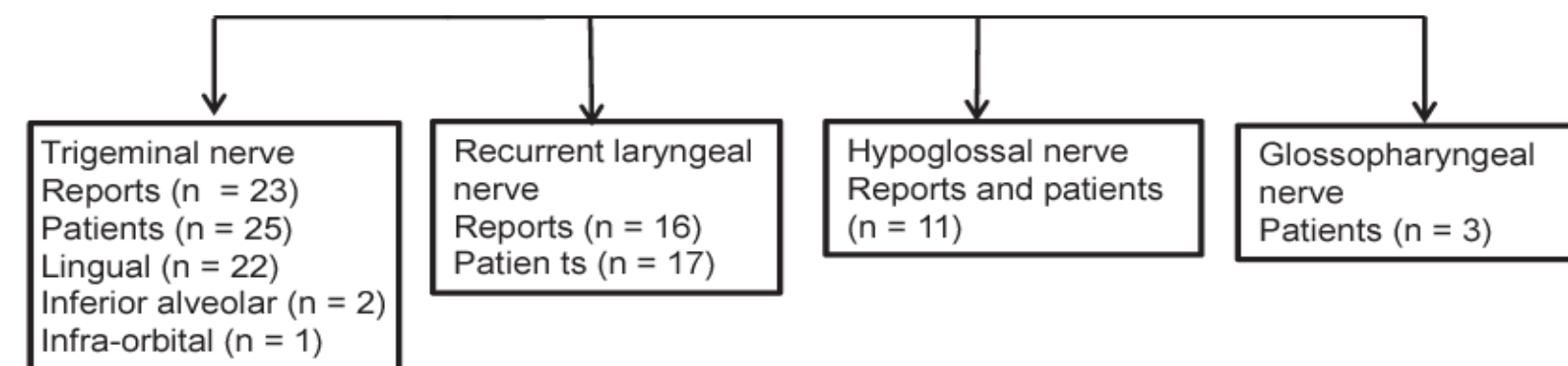
DISCUSSION

- This case highlights the rare but serious risks associated with LMA placement that are not routinely discussed nor considered among anesthesiologists and our patients.
- In our case, the patient was placed in a modified lateral position with some head rotation for longer than expected due to the complexity of her sclerotherapy (>2 hours), which likely played a role in development of the hypoglossal nerve palsy.
- Placement of a left interscalene block complicated the picture and differential diagnosis of this patient.
- Differential diagnosis included:
 - Nerve injury from LMA
 - Stroke from inadvertent intravascular injection of sclerotherapy (3% Sotradecol)
 - Paralysis of hypoglossal/lingual nerves from inadvertent spread of local anesthetic from interscalene block
- Luckily, our patient had complete resolution of symptoms in PACU (approximately 3 hours after end of surgery), but some patients have nerve palsies that take months to resolve.
- We recommend testing LMA cuff pressures with a manometer in all patients to prevent this sort of injury in future patients.



Cranial nerve injuries with supraglottic airway devices: a systematic review of published case reports and series.

Thiruvankatarajan, V. Van Wiik, RMAW, Rajbhoj, A.
Published 2015 in Anesthesia DOI:10.1111/anae.12917



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Available upon request.