

WEBAIRS

ANZTADC Case Report Writing Group



Lingual Nerve Injury

WebAIRS recently received a report of lingual nerve (LN) palsy associated with a dual lumen supraglottic airway device (DL-SGA). The patient woke with a bilateral lingual nerve neuropraxia, described as numbness in the front half of tongue. There was no motor involvement, with normal speech, tongue movement, and eating. They had not noticed less taste until they were asked. It was unchanged three days later. A search of the webAIRS database using structured query language revealed that a further 15 cases have been reported making 16 in total. In the webAIRS case series, five were associated with the use of a standard single lumen SGA and 11 with a DL-SGA.

A Google query to gain general information regarding LN palsy revealed that a well-known Australian singer, songwriter, and actress, Delta Goodrem, had also suffered a similar complication in 2020 and subsequently had to relearn how to both speak and sing. It happened that in her case it was a known complication of the surgery performed rather being related to anaesthetic management¹.

Lingual nerve (LN) injury or neuropraxia is a potentially serious but rare complication following general anaesthesia^{2,3,4} or surgery involving the oral cavity or neck⁴. Causes of LN injury after general anaesthesia are multifactorial with

possible mechanisms including difficult laryngoscopy^{2,3}, prolonged anterior mandibular displacement, oropharyngeal airways, macroglossia and tongue compression². Airway manipulation³ pressure from an endotracheal tube (ETT)², and pressure from SGAs⁴ are also all implicated as causative factors for LN injuries. Any dental or surgical procedure near the LN might also cause trauma to the nerve either directly, or by pressure, or by stretching the LN during tissue retraction⁵.

Estimated frequency

The overall incidence rate of postoperative lingual neuropraxia in a retrospective matched case-control study was 0.066%, 6.6 cases per 10,000 (36 patients over 4 years), in patients receiving general anaesthesia with an airway device. Risk factors associated with postoperative LN injury in this study were head and neck surgery, ASA 1 to 2 and young age².

Incident Management

Recommended management of lingual neuropraxia includes supportive psychotherapy in conjunction with medication administration of steroids, antidepressants, and anticonvulsants. Expected recovery is within 3 months without special treatment and frequently within days or weeks. However, some

injuries are reported as permanent. Microsurgical reconstruction of the LN could provide improved sensation when lingual neuropraxia does not spontaneously improve².

Outcomes

All the cases in the webAIRS case series were reported as temporary harm. However, some of these were assumed to be temporary as the patient had not phoned back to report ongoing symptoms. Some of the cases took several weeks to resolve and some cases had reported substantial improvement when followed up but still had some minor numbness. This is in keeping with the literature reviewed²⁻⁵. In Delta's case it was a slow road to recovery, taking almost a year⁶. However, in her case it was surgical trauma and a known risk for the type of procedure rather than pressure from an airway device¹.

Conclusion

In conclusion, future research could be considered regarding the relationship of SGA cuff volume, pressure, and position within the oral cavity to prevent lingual nerve injury⁵.

However, it should be noted that SGAs are not the only cause of LN palsy and that any anaesthetic or surgical device used in the oral cavity has the potential to cause this type of injury.

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