LINGUAL NERVE INJURY: A COMPLICATION OF OROTRACHEAL INTUBATION

Case Report

BY

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SUMMARY

Manipulation of the laryngoscope during a difficult orotracheal intubation resulted in compression injury of the lingual nerve. Tongue sensation gradually returned after one month.

Lingual nerve injury as a complication of laryngoscopy and tracheal intubation appears to be previously undescribed in the anaesthesia literature. Such a case is now reported.

CASE REPORT

A healthy, 44-year-old male underwent an excisional biopsy of an asymptomatic granuloma of the left lung base. After morphine and hyoscine premedication, anaesthesia was induced with thiopentone and maintained with halothane, nitrous oxide, and oxygen. Relaxation was achieved with suxamethonium. Direct laryngoscopy was unexpectedly difficult. Considerable lifting force was applied to the floor of the mouth via the Macintosh laryngoscope blade, and cricoid pressure was also required to bring the arytenoid cartilages into view. Tracheal intubation was then accomplished and the anaesthetic and operation progressed without further difficulty.

On the first postoperative day the patient noted an area of numbness, "as if it had been injected with Novocaine", along the right side of his tongue. Neurological examination revealed hypaesthesia confined to the right anterolateral portion of the tongue. Taste discrimination was absent in the same area. Secretomotor function was not evaluated. Tongue motion was unimpaired and other neurological signs and symptoms were absent.

The patient was discharged on the eleventh postoperative day in good condition, but without return of tongue sensation. The numbness persisted for an additional two weeks, then faded over a two-week period. When interviewed six months later, the patient was completely asymptomatic.

PATHOLOGIC ANATOMY

The intrinsic and almost all extrinsic muscles of the tongue are innervated by the hypoglossal nerve. Touch and taste sensations from the posterior one-third of the tongue are conveyed primarily by the glossopharyngeal nerve, and from the anterior two-thirds by the lingual nerve. The hypoglossal and glossopharyngeal nerves are not anatomically exposed to trauma from intra-oral sources. However, the lingual nerve is available for palpation, elicitation of paraesthesia, or nerve block, and vulnerable to pressure from a laryngoscope blade along its submucosal course from the medial mandibular surface to the underside of the tongue. The natural history of the case reported is typical of acute compression or stretch injuries (neurapraxia) because of its brief duration and complete recovery. Although axonal function is impaired, anatomical continuity is preserved without Wallerian degeneration.

Lingual nerve injuries have also occurred during lengthy suspension laryngoscopies for microsurgery of the larynx. The tongue retractor of the oral surgeon has also been implicated in lingual nerve compression. In all cases sensation returned within several weeks.

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A PROPOS D'UNE BLESSURE DU NERF LINGUAL SURVENUE COMME COMPLICATION D'UNE INTUBATION OROTRACHEALE: OBSERVATION D'UN CAS

Sommaire

La manipulation d'un laryngoscope au cours d'une intubation orotrachéale difficile a entraîné une lésion par compression du nerf lingual. La sensibilité est progressivement revenue normale au niveau la langue au bout d'un mois.
BOOK REVIEW


This book fulfills a great need for information on work undertaken in this field during the last ten years. For inhalation anaesthesia halothane has replaced all the other volatile drugs apart from nitrous oxide and has allowed nitrous oxide to be given with never less than 20 per cent oxygen. For intravenous induction methohexitone and propanidid have replaced thiopentone and for sedation the benzodiazepines have replaced the barbiturates.

This book is based on a number of articles on Anaesthesia for Dental Surgery published in the Educational number of March 1968, by the British Journal of Anaesthesia. It is directed more to the medically trained anaesthetist rather than to the dental surgeon giving anaesthetics, as it is not intended to be a textbook covering the whole field of anaesthesia in dental surgery. For example the chapter on pre-operative assessment of the patient by Moore would do well to mention the dangers of iatrogenic disease, as it is sometimes difficult to find out immediately what drugs the ambulant dental patient is taking. The use of felypressin instead of adrenaline to combine with local anaesthetics may lead to safer operating conditions. The remainder of the chapter by Moore gives a good account of the surgeon's requirements for intra-oral surgery.

The chapter by Thompson on apparatus for administering accurate percentages of nitrous oxide and halothane is comprehensive and it may be of interest to the reader to compare the advantages and disadvantages of the positive pressure intermittent flow machine with continuous flow Rotameters.

The chapter on the levels of nitrous oxide analgesia by Parbrook gives an excellent account of the work undertaken in this field and the references are extensive.

The chapter on inhalation anaesthesia in the dental chair by Goldman is most comprehensive and the craft or art will be easier to learn after reading this account. Goldman describes the use of a tracheostomy trocar and cannula, on page 57. This type of apparatus should always be readily available as tracheostomy has no place as a method of resuscitation in the dental surgery. The use of a gag with Ackland jaws to keep the mouth open is advocated. This necessitates the use of right- and left-hand gags. With modern anaesthesia the patient should be sufficiently relaxed to allow the insertion of opposing jaw gags which can be used on either side of the mouth and the relaxation will help to prevent trauma to teeth.

For conservative dentistry on people who wish to have no memory of their treatment Howells rightly describes the concern experienced by the use of intravenous anaesthetic drugs where a quality of anaesthesia may be required during the airway and notes that more dentists are turning to conservatism undertaken with local anaesthesia and intravenous diazepam.

The experiences of Bracken, Brookes and Goldman in the use of premixed gases in dental practice is described on page 75, and their use of a new type of pressure-pot halothane vaporizer at the Eastman Dental Clinic is interesting and exciting. The six advantages of a pressurized vaporizer of this type are given in detail.

The question of posture, as discussed by Love in the chapter on the complications of dental anaesthesia, is one of great concern. Should the patient be upright or supine during operation in the dental chair? The dangers of fainting and falling in blood pressure whilst maintaining the upright position are well recognized and the aspiration of fluid and foreign bodies can occur with inadequate packing. Nevertheless, fainting has been described with the patient in the horizontal posture and pooling of blood at the back of the throat is more likely to occur. The patients with cardiac orthopnoea are more comfortable sitting up prior to anaesthesia. Also in pregnant and obese patients there are disadvantages in the horizontal position. Whilst it is still regarded as normal practice for patients to be anaesthetized seated in the dental chair there will be a school of thought in favour of this position. When, if ever, it comes to be regarded not as the normal position then an untoward result following this practice may have to be answered in a court of law.

In view of the complications enumerated by Love it is interesting to speculate on the great and increasing demand in Britain to be unconscious during dental treatment either for exodontia, conservation, or minor oral surgery, as compared with other countries.

One of the best chapters in the book is left to the end. This is on anaesthesia for major oral and maxillofacial surgery by Davies and Scott. The anaesthetic principles involved in these cases are well enumerated and the part on the emergency treatment of the acutely traumatized patient is both lucid and helpful.

This book should certainly be read by every anaesthetist studying for the final F.F.A.R.C.S. and by all dentists interested in general anaesthesia.

Gough Hughes