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Submental Orotracheal Intubation for Maxillofacial Surgery

To the Editor:—Airway management for patients who suffered midfacial fractures is complicated. Tracheostomy and nasotracheal intubation may lead to other complications.¹ Nasal intubation can interfere with centralization and stabilization of nasal fractures. An oro-tracheal tube may compromise the reduction and maintenance of midfacial fractures.

We successfully treated a patient with multiple facial fractures using submental intubation. After a motor vehicle accident, a previously healthy 29-yr-old man sustained nasal and bilateral zygomatic fractures, as well as left maxillary fracture with left orbital blowout. There was no evidence of an intracranial or cervical spine injury.

After a regular intravenous anesthetic induction, a #7 endotracheal tube was placed orally. Anesthesia was maintained with isoflurane by inhalation and 100% oxygen. The surgeon made a 1-cm incision half-way between the chin and the angle of the mandible. A Kelly forcep was introduced through the skin incision and into the floor of the mouth by blunt dissection. The forcep was kept close to the inner side of the mandible. Care was taken to avoid the submandibular duct and the lingual nerve, which were medial to the proposed tube entry site. A second Kelly forcep was attached to the first Kelly forcep and brought out through the submental incision. A second #7 endotracheal tube was pulled through the submental incision (cuff end first). The initial oro-tracheal tube was then removed, and the second endotracheal tube was passed into the trachea (fig. 1). The submental intubation procedure took < 10 min to perform. The operative procedure, in which the multiple fractures were reduced and fixated, proceeded uneventfully. Intermaxillary fixation was performed without any impediment from the submental oro-tracheal tube. Anesthesia was discontinued, and the patient was extubated in the operating room after he awakened. The submental incision was not closed. His postoperative course was unremarkable. The submental incision healed with minimal scarring.

Tracheal intubation *via* the submental route was first described by Altemir in 1986.² After oro-tracheal intubation and establishment of the submental tract, the free end of the endotracheal tube was pulled through a submental incision and reconnected to the anesthetic circuit. There are technical problems with the original technique described. Because of the tight seal of the connector with the reinforced (spiral) endotracheal tube, it is difficult to separate the connector and tube during the transfer from the oropharynx through the submandibular tract. Green and Moore³ reported a modification of Altemir's approach. The airway was secured with a regular oro-tracheal tube first. A second endotracheal tube was inserted through the submental route before being exchanged with the previously positioned oro-tracheal tube. We used the modified technique successfully in our patient with multiple midfacial fractures.

The submental oro-tracheal intubation technique is simple. Further



Fig. 1. Submental oro-tracheal tube.

studies with submental oro-tracheal intubation and tracheostomy are needed to compare the risks and benefits of the techniques.

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