



SHORT COMMUNICATION

Oral endotracheal intubation in the management of midfacial fractures

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INTRODUCTION

The management of a patient's airway when operating on midfacial fractures can be difficult. Nasal intubation may compromise the reduction and stabilisation of nasal fractures and although it is rare, intracranial malposition of a nasopharyngeal airway has been reported.¹ Tracheostomy requires an invasive procedure with substantial morbidity. Various submental orotracheal intubation techniques have been advocated rather than tracheostomy.^{2,3} However, these may result in damage to submental structures and postoperative infections.³ Maxillomandibular fixation is often necessary intraoperatively for adequate reconstruction of facial fractures, so standard oral endotracheal intubation has been considered inappropriate in the management of these patients.³ Changing from a nasal tube to an oral tube at the end of an operation to treat nasal fractures is traditionally the least invasive way to manage the airway. However, this can lead to contamination of the surgical field and compromise the accuracy of reduction of the nasal fractures.

Oral intubation for midfacial fractures is not commonly advocated but it can be done using an armoured tube that has flexible metallic reinforcement.⁴ The tube is positioned behind the last molar tooth in the retromolar trigone, along the buccal sulcus, and out of the mouth. It can then be displaced laterally so that the teeth can be placed in maxillomandibular fixation.

We present a case of midfacial fractures where a simple modification of this technique allowed oral endotracheal intubation to be used successfully.

CASE REPORT

A 35-year-old man involved in a car crash sustained bilateral naso-orbitalethmoid fractures, bilateral Le Fort II fractures, and a fracture of his right zygomatic complex. He had no other injuries and on admission his Glasgow coma score was 15. He had no co-morbidities and there

were no indications that he would require prolonged post-operative ventilation or have potential compromise of his airway.

Clinical and radiographic examination (Fig. 1) showed a partially erupted and impacted lower right third molar and an upper right third molar that was non-functional with the lower right second molar.

Maxillomandibular fixation was needed to reduce the Le Fort II fracture and establish a good occlusion while manipulation and stabilisation of his nasal bones was also required. However, in view of the impacted and non-functioning right third molars the decision was taken to intubate him with an armoured endotracheal tube, i.d. 6.5 mm, and remove these teeth to give additional space. The patient was then placed in maxillomandibular fixation using arch bars with the tube directed between the extraction sockets. Coronal and intra-oral flaps were raised and the patient's facial fractures were reduced and stabilised with miniplates without any hindrance from a nasal tube. The patient's maxillomandibular fixation was released at the end of the operation.



Fig. 1 Panoramic radiograph showing third molar teeth.

Postoperatively he was extubated before leaving the theatre and made a good recovery.

DISCUSSION

This case shows that complex midface fractures that require maxillomandibular fixation can be managed with oral endotracheal intubation. Where third molars are absent or unerupted there is often room to position an armoured tube behind the last standing molars. When partially or fully erupted the third molars can be removed to make room for an oral armoured tube. This technique has the advantages of being simple, quick, the potential for low morbidity, and no extra-oral procedures are required. It should be considered in selected cases of midface trauma.

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