Retromolar intubation: A better alternative to submental intubation or tracheostomy for dental occlusion by intermaxillary fixation

Sir,

Patients with complex maxillofacial trauma requiring intraoperative restoration of dental occlusion by intermaxillary fixation (IMF), pose a great challenge even for experienced anesthesiologists. In most situations, airway management using oral endotracheal tube (ETT) is potentially ruled out. We report a case of a 31-year-old male with panfacial trauma (bilateral maxillary, right mandibular and nasal bone fractures) posted for open reduction and internal fixation (ORIF) of multiple fractures, where we managed to secure the airway by oral intubation with a regular polyvinyl chloride (PVC) ETT and provided occlusion by using the retromolar space for tube placement. We ruled out various methods of airway management like nasotracheal intubation, which is traumatic, contraindicated in nasal or base of skull fractures and cerebrospinal fluid leak. Though tracheostomy provides a secure airway and nil surgical interference, it was not considered as it is invasive and associated with subglottic stenosis, injury to lingual nerve/esophagus, speech and swallowing difficulties. Submental intubation avoids the need for short term tracheostomy. However, it is associated with orocutaneous fistula, injury to sublingual/submandibular gland, hypertrophic scarring and infection. We used standard general anesthesia technique and intubated the patient with an oral PVC tube of 8 mm ID [Figure 1]. It was then grasped with gloved fingers and passed into the retromolar space. ETT was fixed with elastic plaster at the angle of the mouth. Dental occlusion required for the procedure was achieved with no noticeable changes in airway pressures or visible tube kinking [Figures 2 and 3]. After ORIF had been completed, the temporary occlusion was released. At the end of the procedure, patient was extubated and shifted to the postoperative ward.
The retromolar space is a potential space for ETT placement bounded anteriorly by the last molar and posteriorly by the anterior edge of ascending ramus of mandible. Adequacy of this space can be confirmed by placing finger behind the distal molar.\(^5\) Unlike the technique described by Malhotra et al., the need of a flexometallic tube and fixation by wire ligature in a figure of eight patterns is not always necessary as seen in our patient if the space is adequate. Hence, it is a feasible alternative to the invasive methods described above, cheaper, associated with fewer complications and less time-consuming.\(^2\) However, when the space is insufficient due to impacted/erupting third molar, its use may be limited.\(^6\) Martinez et al., described that the erupting/impacted tooth can be extracted before performing a semi lunar (180°) osteotomy.\(^4\) However, this technique is associated with destruction of bony anatomy. Space consumed by oral ETT can interfere with the application of dental fixation devices, and surgical field can be compromised, especially in cases of bilateral maxillary/mandibular fractures.\(^7\) Furthermore, the efficacy of retromolar intubation in patients with pre-existing temporomandibular dysfunction and its use for long-term postoperative use is doubtful.\(^8\) Despite these limitations, retromolar intubation can be considered an excellent alternative when temporary dental occlusion by IMF is required as it rules out the need for invasive airway management and complications related to them.

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