

A Modified Approach to Mask Ventilation in Nasal Trauma

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Respected Sir,

Good mask ventilation and tracheal intubation are critical skills for securing an airway during general anesthesia. Facial deformities following physical assault are common and pose a challenge with regard to airway management. In patients with nasal soft tissue injuries it is particularly difficult to choose a facemask which provides a good fit over the bridge of the nose while avoiding pressure on the site of injury. We encountered one such patient who required a forehead flap for nasal soft tissue reconstruction. Owing to nasal trauma and associated soft tissue edema with bleeding, difficult mask ventilation was anticipated. We are reporting this case with anticipated difficult mask ventilation where the conventional face mask was used but with a modification.

A 35 yr old male patient (ASA 1), with a history of physical assault and associated loss of soft tissue over nose, columella and exposed alar cartilage presented to the emergency for reconstructive surgery. Before induction of anesthesia, we attempted to fit a mask over his face (anatomical/transparent /air cushioned type). We realised that the air cushion of appropriate available sizes of mask (sizes 4 and 5) was impinging on the traumatised nose. Partial deflation of the air cushion of the largest available mask (size 5) instantaneously resulted in an excellent fit over the face without causing any pressure on the injured area. Keeping the difficult airway cart ready, general anesthesia was induced with Inj. Fentanyl 2 mcg/kg and Thiopentone 5 mg/kg. An oral airway was inserted along with the partially deflated mask. Mask ventilation was performed followed by Inj. Vecuronium 0.1 mg/kg iv and tracheal intubation achieved with a size 8 mm ID cuffed endotracheal tube. Rest of surgical and anesthetic course was uneventful (Figures 1 and 2).



Figure 1: Showing loss of soft tissue over nose.



Figure 2: Applying largest mask on the traumatised nose.

Airway management can be a complex issue in a patient with facial deformities. This warrants preparedness on the part of an anesthesiologist regarding use of alternative techniques to achieve successful ventilation. Other techniques listed in literature include the use of a pediatric mask to ventilate a patient with a nasal tumour [1]. There is also mention of use of a conventional face mask in the reversed position to ventilate a patient posted for a forehead flap separation [2]. In our case instead of using the broader base of the mask we partially deflated the mask so as to increase the area that could be covered under it. But, similar to the case reported by Bajwa et al we too had used a Guedel's airway to achieve more efficient mask ventilation. In case of failure of the above technique we had also kept in mind a plan B similar to Shimosaka et al. [3] where they had used an LMA and fibre optic bronchoscope for ventilation and intubation respectively, in a case of giant nasal tip tumour. Thus, we conclude that in case of nasal soft tissue injuries one of the alternate techniques that can be applied to

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attain an adequate mask fit and ventilation is partial deflation of the facemask.

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