Letter to the Editor

Giant maxillary hemangioma in a child—Ketamine to the rescue

To the Editor

A 6-year-old child weighing 20 kg presented with a large oral mass that had rapidly progressed in size over the past 3 months. There were frequent episodes of spontaneous bleeding from the mass that the child’s parent described as “spurting,” and each episode was associated with a blood loss of ~100 mL. The mass involved the left upper alveolus and palate and was protruding through the oral commissure (Figure 1). The mass was extremely friable, bleeding even on slight touch. A clinical diagnosis of maxillary hemangioma was made and an excision under general anesthesia was planned for the child.

The anesthetic challenge was the inability to institute mask ventilation, use a supraglottic airway device, or topicalize the upper airway using nebulized lidocaine. This was compounded by the possibility of hemorrhage into the pharynx. Nasal fiberoptic intubation through the right nostril was the only choice available to secure the airway. The right nostril was prepared with xylometazoline nasal drops. Glycopyrrolate and midazolam were given intravenously before moving the child to the operating room (OR). In the OR, the surgical team was scrubbed and ready to perform a tracheostomy if required. One mg kg$^{-1}$ of ketamine was administered intravenously to put the patient to sleep. A pediatric fiberoptic bronchoscope (FOB) was inserted gently into the right nostril to prevent injury to the adenoids. A repeat dose of ketamine 1 mg kg$^{-1}$ was administered just before introducing the FOB into the glottis and the endotracheal tube was railroaded over the FOB into the trachea. The child underwent a left partial maxillectomy uneventfully.

Hemangiomas of the maxilla are rare tumors that grow rapidly and may even become locally invasive. Medical management includes administration of corticosteroids, interferon, and vincristine, not commonly used because of significant adverse effects. Surgical management involves excision, laser treatment, or both. In our patient, surgical excision was thought to be the most appropriate treatment based on examination and radiographic investigations.

Giant oral tumors in the pediatric patient pose a significant airway challenge, especially when complicated by the inability to ventilate with a mask. The giant size of the mass protruding out of the oral cavity made mask ventilation impossible. This necessitated the need to maintain spontaneous ventilation until a definitive airway was established. In addition, any manipulation of the airway could have easily started a bleed from the tumor, leading to loss of the airway.

Inhalational induction of anesthesia with sevoflurane was not possible and propofol poses a risk of oversedation, apnea, and sudden loss of airway control if not used correctly. However, ketamine provides excellent analgesia, which prevents the sympathetic stimulation associated with the FOB, and tracheal intubation with preservation of spontaneous respiration. Dexmedetomidine is another drug that creates a state of “cooperative sedation” from which the patient is easily rousable, whereas its antisialagogue effect contributes to good conditions for fibreoptic intubation. A previous report describes the successful use of dexametomidine and ketamine for fibreoptic intubation in a child with severe mandibular hypoplasia. We have outlined an algorithm that can be used to manage a pediatric patient with a large oral mass in whom mask ventilation or use of a supraglottic airway device is not possible (Figure 2). In conclusion, this case illustrates yet another successful
attempt at the use of ketamine for fiberoptic intubation in a child with a giant maxillary hemangioma.

**Conflicts of interest**

None.

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**References**


Vimi Rewari*, Senthil Sabapathy, Rashmi Ramachandran

Department of Anaesthesiology, All India Institute of Medical Sciences, Ansari Nagar, New Delhi 110029, India

* Corresponding author. Department of Anaesthesiology, All India Institute of Medical Sciences, Ansari Nagar, New Delhi–110029, India.

E-mail address: vimirewari@gmail.com (V. Rewari).

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