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Anaesthetic Management of a 6 Year Old Child with Penetrating Airway Foreign Body through Palate

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1. Introduction

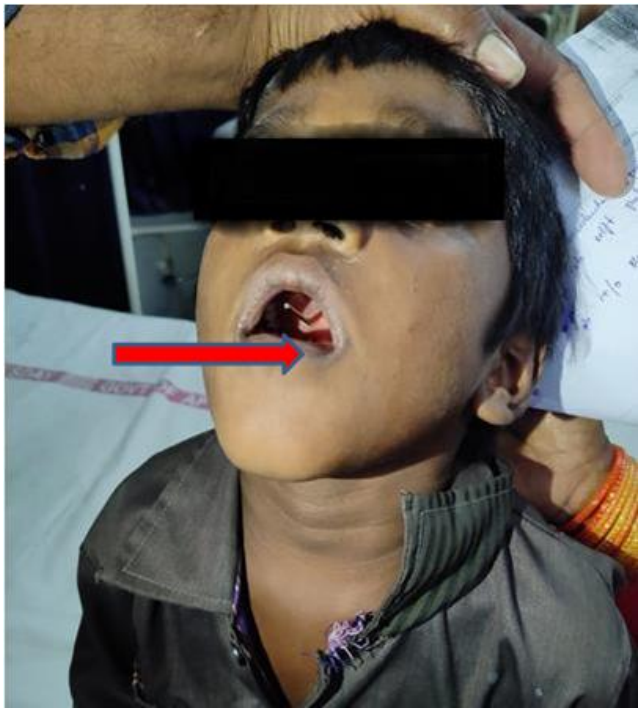
Foreign body penetrating injuries of palate are quite rare in literature. Most cases occur in infants and children and are usually accompanied by poor and confusing history. Moreover impacted penetrating foreign body to airway is very uncommon but presents with airway management challenge. This case report highlights the difficulty encountered while securing the airway and subsequent removal of foreign body in the child whose airway was compromised due to penetrating foreign body in the hard palate.

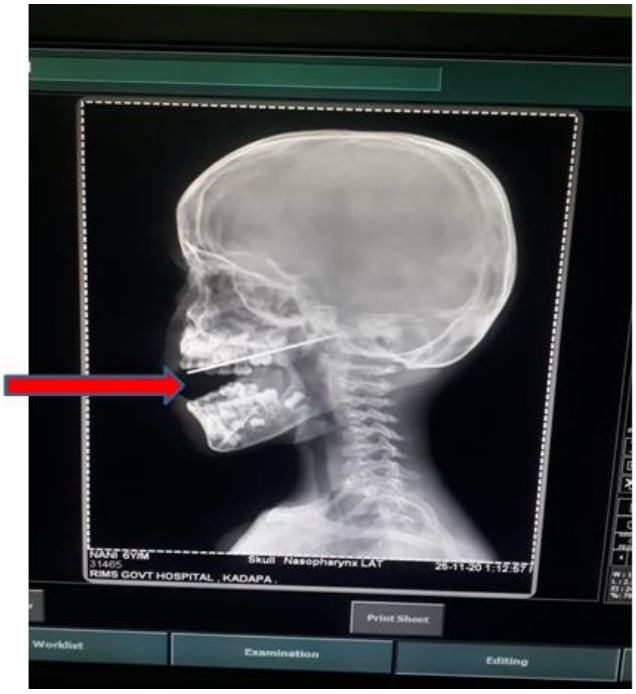
A six year old boy was presented to casualty with a rusty nail piercing and penetrating the hard palate with minimal bleeding and no cerebrospinal fluid leak .The boy had no episode of convulsions or altered level of consciousness.

On pre-anaesthetic evaluation, drooling of saliva was noticed from his open mouth. The boy was afebrile , vitals were normal and systemic examination was not significant.

Oral cavity examination revealed a sharp metallic object penetrating the hard palate. The nasal cavities were patent and dry. Patient was assessed as American Society of Anaesthesiologists class I E. Body mass index was 18 kg/ sq.m. All investigations were within normal limits

A radio opaque straight object penetrating the hard palate and nasopharynx till the base of the skull was observed in X- ray. Patient was scheduled for emergency exploration of the oral cavity and foreign body extraction under general anaesthesia

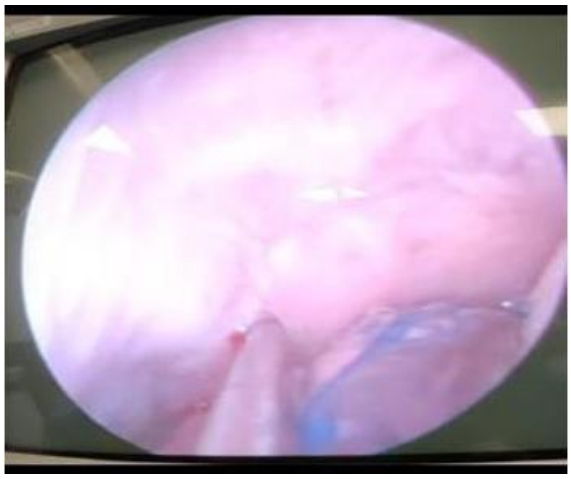


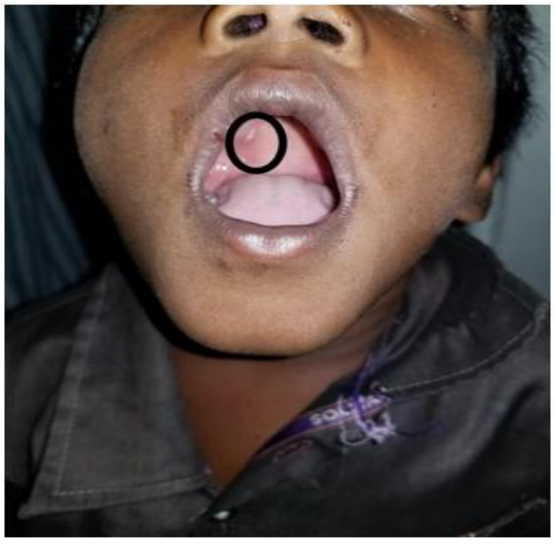


To allay his anxiety and facilitate smooth induction, intravenous glycopyrrolate 4ug/kg, midazolam 0.03mg/kg, ketamine 1mg/kg were administered via intravenous cannula and shifted to operating theatre. In the theatre, monitors (SpO2, NIBP and ECG) were attached and preoxygenated with 100% oxygen.

After administration of Fentanyl 1ug/kg and Ondansetron 0.1mg/kg, child was induced with propofol 2mg/kg. Atracurium 0.5mg/kg was administered to facilitate endotracheal intubation. Laryngoscopy and endotracheal intubation were modified accordingly so as not to interfere with penetrating nail. Anaesthesia was maintained with O2: N2O; Sevoflurane with intermittent positive pressure ventilation.

Oral cavity, oropharynx and nasopharynx were examined .A sharp metallic object (nail) measuring about 12cm was taken out from the hard palate with the help of a bone nibbler . There was minimal amount of bleeding from the puncture site.After completion of surgery, residual neuromuscular blockade was antagonised with Neostigmine 0.05mg/kg and Glycopyrrolate 8ug/kg. Postoperative course was uneventful and the child was discharged on second post operative day





2. Discussion

Penetrating injuries into the oropharyngeal cavities are rare and routinely encountered in children. The anaesthetic management of these cases mainly depends on the size of the foreign body, location of the foreign body and the hemodynamics of the patient. It is desirable to give general anaesthesia to these patients as it abolishes the patient movements and avoids further injuries to adjacent structures**.**

It is imperative to secure the airway as it is shared by both anaesthesiologist and surgeon, even though securing airway may pose a challenge. In view of anticipated bleeding and aspiration, throat pack is mandatory. There are other airway management options but of limited application in pediatric age groups.

3. Conclusion

To conclude, penetrating airway injuries pose a challenge to anaesthesiologists, especially in pediatric age group .In our case, it was dealt with utmost care and airway management strategy was suitably modified for favourable outcome.

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