
Paediatric ventilating bougie a rescue device in an unanticipated difficult mask ventilation in a patient with an impacted foreign body

Sir,

Aerodigestive impacted foreign bodies (FBs) of the airway have been described in literature, with FBs in the pharyngoesophageal region (86.2%) being the commonest and impacted meat being the most frequent FB in adults.^[1] Removal of an impacted food particle can present as a case of difficult mask ventilation (DMV) or difficult intubation (DI) or both, which may be due to FB itself or due to the patient's factors.^[2]

A 47-year-old male weighing 70 kg, (BMI-24.2 kg/m²) presented with cough, choking sensation, dysphagia

and dyspnoea of 72 hours duration after the consumption of chicken dish. Despite his negative initial examination by tongue depressor, Hopkins rod and fiberoptic laryngoscopy, patient continued to be symptomatic. X-ray of the neck and non-contrast CT scan confirmed a 3 cm long and 2 cm wide FB in the right pyriform fossa. The patient was planned for retrieval of the FB under general anaesthesia. Preoperative assessment was essentially normal with only presence of humped nose.

Preoperative consent and nil per oral (NPO) status were confirmed. Standard monitoring ensued. Patient was preoxygenated for five minutes and general anaesthesia (GA) was induced with I.V fentanyl 100 µg and propofol 140 mg and adequacy of mask ventilation (MV) was checked which was inadequate. Despite the use of airway manoeuvres, airway adjuncts and change over to two person/four hand technique, difficulty of MV continued and grade 4 stage of DMV developed with rapid desaturation with oxygen saturation (SpO₂) falling



Figure 1: A representative picture showing Laryngeal Mask Airway as a conduit for Paediatric Ventilating Bougie and Ambu® aScope™ as being utilised clinically in the patient

from baseline of 99% to 70%. As a rescue measure laryngeal mask airway (LMA) size 4 was placed, and adequacy of ventilation was confirmed. Once the oxygen saturation improved, injection atracurium 0.5 mg/kg I.V was administered and laryngoscopy revealed a Cormack Lehane grade III. In wake of difficult mask ventilation and difficult intubation LMA was reinserted and adult Ambu® aScope™ 3 Regular was inserted along with the paediatric bougie with ventilating port as the inner diameter of the LMA did not allow the adult bougie [Figure 1]. Paediatric bougie was placed beyond the vocal cords under fiberoptic vision and oxygenation continued while LMA and Ambu® aScope™ 3 Regular were removed as a single unit. A, 7.5 mm cuffed flexo-metallic endotracheal was rail-loaded over gum elastic bougie into trachea. FB was extricated in two pieces by the ENT surgeon using rigid laryngoscope. The perioperative period was uneventful and patient was extubated on table.

The patients of impacted FB can pose a situation of DMV or difficult intubation (DI) or both with incidence of DMV being (1.4%) and impossible MV (0.15%).^[2] The humped nose was the cause of DMV in our case which perhaps resulted in poor mask seal with leakage of gases. The aetiology of DMV includes presence of large tongue/epiglottis, beard, airway oedema, BMI >26 kg/m², obstructive sleep apnoea, laryngospasm, bronchospasm, irradiated neck and edentulous status.^[3] Role of supraglottic airway as per recommendations given by All India Difficult Airway Association (AIDAA) in the year 2016 cannot be negated in the DMV scenarios.^[4] The innovations like

using paediatric ventilating bougie judiciously under direct fiberoptic vision through LMA as a conduit has helped in tiding over the crisis of potential difficult intubation with DMV patients without compromising the oxygenation.

To conclude the anaesthesiologist should have a high index of suspicion for DMV in patients with humped nose as it can lead to incomplete mask seal and ineffective mask ventilation leading to rapid desaturation of patient. Various airway adjuncts both adult and paediatric when present in difficult airway cart can come handy in securing airway when faced with the condition of DMV/DI.^[5]

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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