Air-Q blocker: A novel supraglottic airway device for patients with difficult airway and risk of aspiration

Sir,

Air-Q blocker intubating laryngeal airway (Air-Q ILA blocker) is a novel supraglottic airway device (SAD) which has a separate gastric tube with esophageal blocker along with ventilation tube.[1] We successfully used Air-Q blocker in a patient with Rubinstein — Taybi syndrome (RTS) who had features of difficult airway with risk of gastric aspiration.[2] The anesthetic concerns include difficult airway due to craniofacial abnormalities, gastric aspiration, congenital heart disease, arrhythmias, and possibility of sudden cardiac arrest, low-muscle tone, mental retardation and skeletal abnormalities.[3,4]

An 18-year-old male, 50 kg, 140 cm, was posted for elective surgery for bilateral complicated cataract. He had developmental delay, mental retardation, facial dysmorphism (microstomia, micrognathia, retrognathia), thyromental distance 5 cm, Mallampatti class II with normal neck extension. He had a ventricular septal defect with left-to-right shunt (gradient 50 mmHg, ejection fraction 50%). Hematological and biochemical investigations were normal. RTS was diagnosed in genetic clinic work-up.

He was kept fasted 8 h for solids and 3 h for clear fluids. On the morning of surgery, a 20G intra-venous cannula was secured, injection ranitidine 50 mg and metoclopramide 10 mg were administered. His baseline vitals were normal. After preoxygenation for 5 min anesthesia was induced with fentanyl 50 mcg and propofol 80 mg and deepened with sevoflurane (4-8% in O₂). Check laryngoscopy revealed Cormack and Lehane’s grade IV which could be made grade IIb with optimal external laryngeal manipulation. Air-Q ILA blocker of size 2.5 was successfully inserted in a single attempt. Esophageal blocker was pushed into the esophagus through the second lumen and kept inflated [Figure 1]. Patient was put on pressure support mode of ventilation and anesthesia was maintained with sevoflurane (1.0-1.2 MAC) in O₂:Air (FiO₂ 0.5, Drager Primus Anaesthesia workstation). Intra-operative analgesia was provided with paracaine eye drops and injection paracetamol 1 g. He received 500 ml Ringer’s lactate, dexamethasone 8 mg and ondansetron 4 mg. Intra-operative course was uneventful. At the conclusion of surgery, sevoflurane was discontinued, and when the patient was fully awake the device was removed after thorough oropharyngeal suctioning. Postoperative course was uneventful.

Rubinstein-Taybi syndrome is a rare chromosomal disorder which occurs due to mutation in CREBBP and EP300 genes.[2] Most of the characteristic clinical features of RTS were present in this patient. Airway management was challenging due to difficult airway and risk of gastric aspiration. For RTS patients, endotracheal intubation is considered gold standard.[2,3] Awake fiberoptic endotracheal intubation would have been safest, but was not feasible as the patient was mentally retarded and uncooperative. Moreover, SADs are ideal for providing anesthesia for short duration procedures like ophthalmic surgery; as they cause minimal changes in hemodynamics, intraocular pressure and minimal trauma to the airway. So, we decided to use a SAD which is useful in difficult airway, easy to insert, causes minimal airway trauma, prevents gastric aspiration and serves as a conduit for subsequent endotracheal intubation if required. Hence, Air-Q ILA with esophageal blocker was chosen. However, subsequent endotracheal intubation through

Figure 1: Air-Q Blocker in situ
Air-Q ILA blocker was not performed as the surgery was of short duration, and there was no evidence of pulmonary aspiration. SJ Twigg and Cook[4] reported successful use of ProSeal LMA\textsuperscript{TM} (Laryngeal Mask Airway Company Ltd, UK) in a patient of RTS. However, intubation through the ProSeal LMA may be difficult and cumbersome due to narrower airway tube. Successful endotracheal intubation using Air-Q ILA in patients with anticipated difficult airway\textsuperscript{5} and a child with RTS\textsuperscript{6} could be found in the literature. We chose Air-Q ILA blocker (Cookgas LLC, Mercury Medical, Clearwater, FL, USA) as it combines the advantages of a conduit for subsequent intubation (as its shape is like intubating LMA and unlike ProSeal LMA) and providing secured airway with nearly complete protection against gastric aspiration, due to the presence of a separate gastric drainage channel with in-built esophageal blocker. Air-Q blocker is available in three sizes of 2.5, 3.5, and 4.5 for patients weighing between 30-50 kg, 50-70 kg, and 70-100 kg respectively. The device has integrated bite block. We found it easy to insert, cuff leak was minimal, and ventilation was effective. The insertion of esophageal blocker was also easy. There was no cough and sore throat in the postoperative period.

To conclude, in patients having difficult airway with increased risk for gastric aspiration, Air-Q ILA blocker should be considered effective and alternative device to endotracheal intubation.

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