Letters to Editor

Fiber optic intubation of a neonate with Syngnathia under local anesthesia and sedation

Sir,
A 28-day-old child weighing 2.6 kg presented to the pediatric surgeon with complete fusion of upper and lower gums since birth [Figure 1]. Computed tomography scan of temporomandibular joint (TMJ) showed reduced bilateral TMJ space with a fibrous fusion of maxilla and mandible, more on the left side. The TM joints were not ankylosed.

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A 28-day-old child weighing 2.6 kg presented to the pediatric surgeon with complete fusion of upper and lower gums since birth [Figure 1]. Computed tomography scan of temporomandibular joint (TMJ) showed reduced bilateral TMJ space with a fibrous fusion of maxilla and mandible, more on the left side. The TM joints were not ankylosed.
There was also micrognathia with retrognathia and right sided cleft in bony palate.

The child was posted for the release of fibrous synechiae under general anesthesia. She was shifted to the operation theater, with intravenous (IV) line in situ. General anesthesia was planned after nasal fiber optic intubation with local anesthesia and sedation. She was preoxygenated with 100% oxygen for 5 min and injection glycopyrrolate 10 mcg/kg and injection fentanyl 1 mcg/kg were administered intravenously. Local anesthesia was achieved using a nasal MADgic mucosal atomizer device spray with 0.5% lignocaine injected through it. A size 3.0 flexometallic endotracheal tube (ETT) was lubricated well with lignocaine gel and passed through the right naris. Fiber optic intubation was undertaken with a 2.8 mm size fiberscope (KARL STORZ) having a suction channel and an injection port. The fiberscope was passed through the ETT and a “spray as you go technique” was used to anesthetize the upper airway. The vocal cords were visualized, sprayed with 0.5% lignocaine and the fiberscope passed into the trachea until the carina was visualized. The pediatric circuit was attached and after checking for capnographic trace and movement of reservoir bag with respiration, the patient was anesthetized with a mixture of oxygen, nitrous oxide, sevoflurane, and atracurium. Using osteotomes, release of fibrous synechiae was undertaken, mouth opening created and the raw area over the right half of gums was left to heal. The anesthesia was reversed uneventfully.

Congenital fusion of the gums is extremely rare and can be of different degrees — mucosal synechiae, fibrous synechiae, and complete bony fusion (syngnathism).[1] It may be associated with other congenital defects such as aglossia, facial hemiatrophy, retrognathia, and cleft palate as were present in our case. Treatment requires surgical separation and depends on the type of fusion. Local anesthesia and intermittent general anesthesia by face mask have been used for mucosal synechiae-release under circumstances where fiber optic intubation was not available.[1,2]

Airway and ventilatory management for surgical separation of the fused jaws under general anesthesia presents severe problems as the laryngeal inlet is very small. Repeated attempts at intubation can injure the delicate airway tissues leading to the emergency requirement of the surgical airway, which by itself is a daunting task in an infant. Seraj et al.[3] used a technique where after induction of the patient with ketamine, a nasopharyngeal airway was inserted, and general anesthesia delivered through a breathing circuit attached to it with the patient breathing spontaneously.

Nasal fiber optic intubation is the technique of choice for difficult airway management. Alfery et al.[4] described a technique where a neonate with congenital fusion of gums was given local anesthesia and IV ketamine given in boluses while Lonnée et al. used general anesthesia with sevoflurane to successfully perform nasal fiber optic intubation.[5] Having successfully performed oral intubation under local anesthesia and sedation in an infant with an oral mass we decided to use a similar technique.[6]

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There are no conflicts of interest.

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Sir,

Endotracheal tube cuff (ETC) injury by needle, scalpel, electrocautery or retractors during neck surgery can result in cuff puncture necessitating endotracheal tube replacement.[1] Temporary interventions (pharyngeal packing, jet ventilation and continuous air/O2 insufflations), albeit with varying degree of success, can be employed when tube replacement is not feasible.[2] We encountered a situation wherein the ETC developed a leak (probably puncture by instruments) during laryngectomy. Written and informed consent was taken from the patient for reporting this case.

A 52-year-old male patient with laryngeal carcinoma (already tracheostomised) was posted for total laryngectomy and hemithyroidectomy [Figure 1]. Postinduction, his tracheostomy tube was replaced with a size 8.5 mm flexo-metallic tube passed directly through the stoma into the trachea and fixed over the chest with sutures. Midway through the surgery, ventilatory discrepancies were noted between the delivered (500 ml) and expired (260 ml) tidal volumes activating low-pressure alarm. Active search for the cause ensued. An audible bubbling noise emanating from the tracheostomy site and the deflated pilot balloon indicated cuff leakage. Re-inflating pilot balloon with air did not improve the situation. We decided to use a mixture of 2% lignocaine jelly (5 ml) and distilled water (5 ml) as a sealant through the pilot balloon, as already described in the literature.[3] However, when we tried injecting the mixture using a 10 ml sterile syringe through the pilot balloon it was not possible. Probably, the narrow caliber of the cuff inflation tube hampered the flow of the diluted jelly through it into the cuff. Thus, the pilot balloon started getting inflated, but the leakage from the cuff was not curbed. Considering the stage of the surgery and possible momentary loss of airway control upon removal of the defective tube, another 10 ml of the same solution was prepared and drawn in a syringe aseptically. The operating surgeon was requested to inject the solution with a 22G needle directly under vision inside the cuff. Consequently, an adequate seal was obtained which restored ventilatory parameters, and bubbling sounds ceased. Surgery restarted and was completed uneventfully in 45 min. Postsurgery, the flexo-metallic tube’s cuff was deflated by aspirating the jelly using a large bore needle. It was replaced with a tracheostomy tube keeping the difficult airway cart ready and the residual muscular block was then reversed.

Iatrogenic injuries to the ETC during neck surgeries cause intraoperative leaks hampering proper ventilation. In our case, since the operative and tracheostomy sites were near, ETC injury might have occurred. Replacing the tube would have been the definitive management, but it demanded invading the sterile surgical zone, delays due to repositioning, re-painting and draping and added expenditure on the tube (in certain resource-challenged environments). Moreover, the risk of transient loss of airway control in an airway surgery with a bloody field and access restriction compounded the chances.

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