

Non-Conventional Use Of Suction Catheter In Difficult Airway

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Abstract

Dear Editor,

A 19 years old male patient came to the accident & emergency department of the institute with history of penetrating injury on right side of neck with a sharp glass object two hours ago. The patient was bleeding profusely from the injury site and there was swelling on the right side of neck. He was conscious, oriented but was restless. His pulse rate was 132 min^{-1} , blood pressure was 80/60 mmHg and respiratory rate was $28 \text{ breaths min}^{-1}$ with adequate tidal volume. Chest auscultation revealed decreased air entry on right side. A right intercostal chest tube drain was introduced which drained 200ml of air. Peripheral arterial oxygen saturation (SpO₂) was 96%. Immediate exploration of neck was planned. His pre-anesthetic evaluation was unremarkable except that he had his meals three hours ago. His blood samples were sent for analysis but no investigation results were available. He was pre-medicated with ranitidine 50mg IV and metoclopramide 10mg IV slowly. Anticipating difficult airway due to presence of swelling in neck, surgeons were kept ready for emergency tracheotomy.

On the operating table monitoring for heart rate, ECG, SpO₂ and non-invasive blood pressure was instituted and venous access was secured with two 16G cannula. The patient was pre-oxygenated with 100% oxygen for three minutes and there was adequate communication of patient's respiratory efforts with breathing circuit reservoir bag. He received glycopyrrolate 0.2mg IV followed by ketamine 100mg IV and cricoid pressure was applied. Subsequently, suxamethonium 100mg IV was administered and no positive pressure ventilation done. Direct laryngoscopy was done and to surprise no glottic structures were visible in spite of external manipulation. The airway was grossly edematous and there was some blood and clear secretions in oral cavity

that were suctioned. Tracheal intubation could not be done by the experienced anesthesiologist in two attempts. Subsequently, laryngeal mask airway (LMA) was introduced but ventilation was not possible. LMA was removed and mask ventilation tried but it was also not possible. SpO₂ decreased to 70%. To clear the secretions suction catheter (size: 16 FG) was introduced under direct laryngoscopic view, which stuck to the edematous tissues. Suction was disconnected and the catheter was blindly manipulated and fortunately it was successfully negotiated into the trachea. At this time SpO₂ was 45% on monitor but with no bradycardia. The connector of tracheal tube 5.5mm ID was attached to suction catheter and connected with Bain's coaxial circuit. Oxygen flush was used intermittently three to four times. Oxygen saturation improved to 72%. It was possible to ventilate patient with 100% oxygen through the suction catheter with Bain's coaxial circuit with adequate expiration and SpO₂ improved to 100%. Fearing losing the airway, surgeons were asked to do tracheotomy that took ten minutes. During this time patient was ventilated with 1% halothane in 100% oxygen. A 1.25 cm rent in the posterior aspect of right common carotid artery was repaired and blood loss adequately replaced. Rest of the intra- and postoperative periods were uneventful. After decanulating the tracheotomy tube patient was discharged from the hospital on seventh postoperative day.

The suction catheter has been used for guiding the insertion of a ProSeal laryngeal mask airway.¹ It has also been used to assist nasotracheal intubation in patients with previous pharyngoplasty² or when standard technique is unsuccessful in patients whom airway management is urgent, but not emergent.³ This report emphasizes the unconventional use of suction catheter in management of difficult airway in an emergent condition.

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