C-Mac guided bronchial blocker (COOPDECH™) insertion for one lung ventilation in an adolescent with difficult airway

Sir,

Difficult airway is always challenging, especially if lung separation is required for thoracic surgery.[1] A 16-year-old male patient was posted for resection of right upper lobe of the lung. His preoperative airway evaluation revealed Mallampatti Grade 2, buck teeth, mouth opening two fingers and slightly limited neck extension. After upper-airway anesthesia (10% lignocaine oral spray, nebulization with 2% lignocaine and 4% lignocaine transtracheal block) and intravenous sedation (midazolam and fentanyl), direct laryngoscopy revealed Cormack and Lehane Grade 3. The decision to insert a 35 French left double lumen tube (DLT) under C-Mac video laryngoscope guidance was taken. DLT could not be negotiated through the cords. Hence, a gum elastic bougie was inserted into the trachea under C-Mac guidance. Later, the 35F DLT was rail-roaded over the bougie. However, it was unable to be negotiated through the vocal cords, despite maneuvering. Since we did not have a smaller sized DLT, a 6.5 mm portex cuffed endotracheal tube (ETT) was rail-roaded into the trachea over the bougie under C-Mac guidance. Then, intravenous propofol and muscle relaxant (atracurium) were given for mechanical ventilation. An endobronchial blocker (COOPDECH™ [Diaken Medical Co. Ltd, Japan.]: Type B, length 600 mm, outer diameter 3 mm) was then inserted through the ETT into the right bronchus and cuff inflated.

Its correct position was confirmed with a fiber-optic bronchoscope (inserted through the ETT) and deflation of the right lung was ensured intra-operatively. In the entire course of events, the patient maintained saturation and his vital parameters were within normal limits.

The above case highlights that, difficulties can arise even in well prepared anticipated difficult airway scenario, especially if one lung ventilation[2] is needed for surgery. C-Mac video-laryngoscope is a well-known tool used in difficult airway, where airway can be secured under vision with head in a neutral position and without the use of a stillete. Since a 35F DLT was unable to be inserted, even through a bougie, a bronchial blocker was chosen for lung separation. Our case is unique as a C-Mac guided bougie was first inserted in a situation of the difficult airway, followed by rail-roading of a single lumen tube into the trachea and further into the right bronchus. This was followed by conventional blocking of the right bronchus using a COOPDECH™ (Diaken Medical Co. Ltd.), inserted in place via the ETT under fiber-optic guidance.[3,4] The single lumen tube was then withdrawn into the trachea and final position of the bronchial blocker confirmed by fiber-optic bronchoscopy. Lung separation was also assessed clinically by chest auscultation. The rest of the perioperative course was uneventful. One lung ventilation was discontinued after thoracotomy and the patient was successfully extubated at the end of surgery over a tube exchanger device.

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