Epigastric compressions facilitate complicated tracheal location during fiberoptic bronchoscopy: An unique rescue maneuver

Sir,

Awake fiberoptic intubation (AFI) is an essential skill for management of difficult or anticipated difficult airway. Flexible fiberoptic bronchoscope allows a competent practitioner an unmatched opportunity to secure almost any airway encountered. The two well-known major difficulties encountered during AFI are location of the glottis and passage of the endotracheal tube over the fiberscope into the trachea. Difficulty in localization of the trachea becomes more pronounced whenever the intraoral architecture is pathologically deformed owing to growths or tumors. The glottis in these cases is shifted at atypical locations instead of their usual anatomical site or occluded from view by collapsed structures rendering its visualization and the subsequent procedure complicated. We encountered similar difficulty in localization of the glottis during AFI in two of our cases with anticipated difficult airways that were mitigated by the application of epigastric thrusts.

After obtaining written and informed consents from both the patients, we wish to report about this maneuver.

Case 1: A 43-year-old female with pleomorphic parotid adenoma with intraoral extension was posted for AFI [Figure 1a]. During performance of AFI, it was observed that the gross deformity of the airway did not allow the visualization of the laryngeal inlet. Abdominal thrusts were applied twice, and the glottic opening was seen momentarily and guided by the location of the glottis; the fiberscope was realigned and could be passed.

Case 2: A 50-year-old male with parotid tumor extending up to middle cranial fossa and oropharynx was undergoing AFI [Figure 1b]. Deformed intraoral anatomy did not allow visualization of the glottis as the intraoral structures were grossly deviated and collapsed that did not allow passage of the fiberscope. The intermittent application of epigastric...
thrusts eased the visualization of the laryngeal inlet and through the transitory gaps created during epigastric thrusts the fiberscope could be negotiated inside the larynx, and the airway was subsequently secured.

Flexible fiberoptic bronchoscope is the single most important (Gold Standard) instrument for managing difficult airway. Locating the glottis and passage of fiberscope through it is a known complication, especially after induction of anesthesia due to collapse of tongue, epiglottis, and soft palate against the posterior pharyngeal wall or distorted intraoral anatomy. Various maneuvers have been described to overcome this difficulty such as tongue protrusion, jaw thrust, head extension, and various airways like Berman,[3] Ovassapian,[4] and Williams[5] have been developed. Epigastric thrusts raise the intragastric pressures that get transmitted in the hypopharynx through esophagus which momentarily opens and realigns the altered and collapsed structures by increasing air space. Coordinated bronchoscopic movements during this period allow the operator the brief window after visualization of the glottis to realign the scope, and guide it toward the required trajectory to negotiate it inside the trachea and subsequent railroading of the endotracheal tube. We, therefore, suggest the use of this maneuver in addition to the described ones for localization of the glottis and passage of the scope beyond it in particularly complicated cases.

The application of epigastric thrust can aid in anatomical alignment in problematic cases, however, awake patients are likely to experience momentary discomfort because of the compressions. Moreover, the possible risk of regurgitation and subsequent aspiration should be guarded against.

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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