



Comment on “bronchus perforation by EZ-Blocker™ endobronchial blocker during esophageal resection after neoadjuvant chemoradiation”

Swapnil Y Parab

Department of Anesthesiology, Critical Care and Pain, Tata Memorial Hospital, Homi Bhabha National Institute, Mumbai, India

I read, with great interest, the case report “Bronchus perforation by EZ-Blocker™ endobronchial blocker during esophageal resection after neoadjuvant chemoradiation” [1]. I congratulate the authors for reporting the first incidence of bronchus perforation by EZ-Blocker™ and, more importantly, for the successful management of this rare complication. Regarding this, I wish to make a few comments.

In this patient, airway control was secured using single lumen tube (SLT) insertion followed by EZ-Blocker™ insertion under bronchoscopic guidance. The patient was planned to undergo laparoscopic surgery followed by thoracoscopic surgery. Therefore, there was no need for lung isolation during the first half of the surgery. Many studies on laparoscopic procedures have reported cephalad movement of the carina because of pneumoperitoneum creation and Trendelenburg position during the laparoscopic surgery [2,3]. Such movement, in the presence of an EZ-Blocker™ hinging against the carina, could result in dislodgement of the blocker, followed by bronchial perforation. In

this case, the risk was further potentiated by old age, possibility of microangiopathy (patient was a known case of coronary artery disease), and irradiation, leading to mucosal fragility. Moreover, EZ-Blocker™, unlike other bronchial blockers, has pointed tips for bronchial segments. As all lung isolation devices potentially carry risk of damage to the airway mucosa (double lumen tubes [DLTs] carry a higher risk than blockers), their use should be restricted only to the segment of the surgery in which lung isolation is required. In this case, authors could have planned bronchial blocker insertion after completion of the laparoscopic surgery.

Furthermore, authors mentioned that bronchoscopic inspection of EZ-Blocker™ position was difficult in the prone position because of central airway collapse below the SLT level. This could have resulted in missing the blocker dislodgement. This is a common finding when bronchoscopy is performed in the prone position. In such cases, by positioning the bronchoscope at the SLT tip, the endotracheal tube can be pushed toward the carina under direct vision. While making this movement, the blocker should not be fixed to the SLT at its proximal end in order to prevent excessive pressure on the carina or bronchial mucosa. This maneuver helps open the collapsed lower airway, without distal movement of the blocker. Once the position of the blocker is confirmed, SLT can be withdrawn slightly so that the SLT tip lies away from the carina. It is also important to inflate the bronchial cuff after changing the patient's position. Blockers with inflated cuffs tend to get displaced while changing the patient's position. Keeping the SLT tip close to the carina can prevent retrograde displacement of the endobronchial blocker, as described by Ho et al. [4]. This technique carries a potential risk of injury to the carina; therefore, it should not be used when

Corresponding author: Swapnil Y Parab, M.D.
Department of Anesthesiology, Critical Care and Pain, Tata Memorial Hospital, Homi Bhabha National Institute, 13, Periyar Building, Anushaktinagar, Mumbai, Maharashtra 400094, India
Tel: +91-9819319866, Fax: +91-022-24146937
Email: swapnil.parab@gmail.com
ORCID: <https://orcid.org/0000-0003-0850-2913>

Received: April 18, 2019.
Revised: May 22, 2019.
Accepted: May 28, 2019.

Korean J Anesthesiol 2019 December 72(6): 616-617
<https://doi.org/10.4097/kja.19161>

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carinal movement is expected because of the Trendelenburg position or capnothorax creation. Moreover, frequent bronchoscopic inspection of the SLT position can help prevent injury to the carina. It should be mandatory to inspect the bronchial blocker position after changing the patient's position, despite the difficulty. Another option is to use DLT rather than bronchial blockers when the prone position is required during the surgery. DLTs are less likely to get dislodged, and bronchoscopic inspection is easier using DLTs in the prone position.

In summary, dislodgement of lung isolation devices can pres-

ent with serious intraoperative complications. Basic principles concerning lung isolation devices (i.e., careful selection of the device, use of the device only when needed, and confirming the device position before the start of lung ventilation) remain the gold standard for safe thoracic anesthesia.

Conflicts of Interest

No potential conflict of interest relevant to this article was reported.

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