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Oxygen Insufflation Through the Fiberscope to Assist Intubation Is Not Recommended

To the Editor:—In the case report by Hershey and Hannenberg, the danger of oxygen insufflation through the suction channel of a fiberscope during fiberoptic tracheal intubation is demonstrated.¹ In this case, insufflation of 3 l/min of oxygen through the channel inlet of a Pentax FI-10P fiberscope (Pentax Precision Instrument Corporation, Orangeburg, NY) (suction channel of 1.2 mm) resulted in inflation and rupture of the stomach. As discussed in the article, the Pentax FI-10P fiberscope has two working (suction) channel inlets. The channel inlet located on the lower part of the body of the fiberscope is used for injection of local anesthetics and the passage of forceps or brushes. Oxygen insufflated through this inlet will be continuous and uninterrupted and is independent to the activation of the suction mechanism.

During a prolonged or difficult fiberoptic intubation, the possibility for esophageal entry and oxygen inflation of the stomach is real. In teaching the fiberoptic intubation technique to a novice, the danger of inadvertent fiberscope entrance into the esophagus also is high, and oxygen insufflation should be avoided. Severe retching or vomiting as a result of poor topical anesthesia also may contribute to the rupture of the stomach.

Barotrauma to the lung also is possible if the fiberscope is passed through a narrowed glottis and passage of the endotracheal tube is delayed because of the narrowed airway. If the flow of oxygen is not halted, rupture of the lung is possible. One such case was presented to us, but as far as we know, a similar case has not been reported in the literature. Pulmonary barotrauma also may be induced if fiberoptic intubation is performed in an awake patient with a poorly anesthetized airway or in a patient during light general anesthesia without muscle relaxant. As the fiberscope is advanced into the trachea, laryngeal spasm can take place, closing down the airway over the fiberscope. A oxygen flow rate of 3 l/min or more may lead to overinflation and rupture of the lungs.

Insufflation of oxygen through a fiberscope to assist fiberoptic intubation has been recommended,^{2,3} but we have not recommended oxygen insufflation for that purpose. The citing of our paper in the letter by Hershey & Hannenberg may have been misleading.⁴ On occasion, we have used oxygen insufflation to assist spraying of local anesthetic agent when a fiberscope with a large suction channel (2.00 mm or larger) is used.⁴ In spraying local anesthetic through a fiberscope with a small suction channel of 1.5 mm (Olympus LF-2,

Olympus America Inc., Melville, NY) or 1.2 mm (Olympus LF-1 and Pentax FI-10P), there is no need to use oxygen.⁵

In preparation for a fiberoptic intubation, we recommend connecting the suction tubing to the fiberscope suction port and testing the function of the system.⁵ Small size fiberscopes with inadequate suction channel are poor choices of equipment for routine use in adults. A fiberscope with 5.0-mm insertion cord and a suction channel of 2.0 mm or larger will eliminate the need for insufflating oxygen to assist fiberoptic intubation.

Andranik Ovassapian, M.D.

Professor of Anesthesiology
Northwestern University Medical School
Chief, Anesthesiology Service
VA Chicago Health Care Service-Lakeside Division

Paul S. Mesnick, M.D.

Assistant Professor of Anesthesiology
Northwestern University Medical School
Attending Physician
VA Chicago Health Care Service-Lakeside Division
333 E. Huron
Chicago, Illinois 60611

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