Double-Lumen Tube Malfunction Caused by the Carinal Hook

To the Editor—Potential problems with carinal hooks include increased difficulty passing the tube through the larynx, laryngeal trauma, amputation of the hook during passage, malpositioning of the tube due to the hook and physical interference when performing a pneumonectomy.1 We present a case in which tracheal tube orifice obstruction was caused by a carinal hook in a left-sided Carlen's double-lumen tube (DLT).

A 57-yr-old woman was scheduled for a left upper lobectomy. Her medical history was unremarkable, and her height and weight were 165 cm and 74 kg, respectively. Chest x-ray and computed tomography scan showed normal airway anatomy except for a space-occupying lesion in the left upper lobe. After induction of general anesthesia and obtaining adequate muscle relaxation, a well lubricated 35-French left-sided polyvinylchloride Carlen's DLT (Rüsch, Kernen, Germany) was inserted and rotated using standard technique.2 After advancing the DLT and encountering some resistance, the tracheal and bronchial cuffs were inflated. Although ventilation of both lungs was attempted, breath sounds were heard only over the left hemithorax, and greater than expected resistance to manual ventilation was detected. A deep insertion of the DLT into the left main bronchus was suspected, the cuffs were deflated, and the tube was pulled back slowly until bilateral breath sounds appeared. Ventilation was possible via the bronchial orifice only, and attempts to ventilate the tracheal lumen failed because of high resistance. A fiberoptic examination demonstrated an intact bronchial lumen, but the distal end of the tracheal lumen was obstructed. The DLT was pulled back, and the trachea was extubated. On examination of the DLT, an obstruction of the distal aperture of the tracheal lumen caused by the carinal hook was noted (fig. 1, top).

The exact mechanism leading to this type of DLT obstruction is obscure. Possible sites that could bend the carinal hook back at an angle of 180° include rigid structures and narrow passages, e.g., teeth and vocal cords. However, we speculate that the DLT was advanced too deeply into the left main bronchus. At this point, the hook was bent back by the carina and trapped in the distal orifice of the tracheal lumen. When the DLT was withdrawn to facilitate bilateral lung ventilation, the distal bronchial portion of the DLT straightened, thus further impacting the hook into the tracheal aperture.

This case has demonstrated that carinal hooks in the Carlen's DLT can be a hazardous source of tube obstruction. We recommend that close surveillance of this DLT is warranted and that a fiberoptic endoscope should be used routinely in conjunction with it.

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(Accepted for publication May 27, 1995.)

How Well Is Patient-controlled Analgesia Managed?

To the Editor—In a letter to the editor,1 Ready attempted to define which health-care providers are managing patient-controlled analgesia (PCA). He reports that 7.3% of responding institutions have an anesthesiology-based acute pain service (APS). However, the data are misleading. Table 1 indicates that 256 institutions have an anesthesia-based APS, whereas table 2 lists 221 institutions with anesthesiologists...
participating in the management of PCA. Additionally, based on Table 2, the number of institutions indicating their participation in PCA is greater than the number of institutions responding to the survey. From this, we infer that there is an overlap of the groups participating in the management of PCA. However, it is unclear which groups overlap and which have primary responsibility for PCA management. Those with the responsibility will determine the quality of care and ultimately, perhaps, patient outcome.

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(accepted for publication May 27, 1995)

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(accepted for publication May 27, 1995)

More on the Language of Anesthesia

To the Editor— I disagree with the comments made on terminology in the correspondence by Ben-David et al.1 These authors state that the terms “general anesthesia,” “conscious sedation,” and “combined technique” “confuse and frustrate communication.” I have no difficulty with these terms or the concepts they represent. Simple put, a general anesthetic is a drug-induced loss of consciousness administered usually for the purposes of performing an otherwise unpleasant surgical procedure. Our own definition within the specialty may refer to muscular relaxation and reduction of reflex activity, but those descriptions are unnecessary during discussions with patients. Whether the entire autonomic and hormonal response to a surgical procedure is blocked by the general anesthetic is irrelevant to the patient as long as there is no awareness of pain (Ben-David et al. misuse the word pain, which is a conscious sensation). It may be true that the nervous system is not entirely insensitive, but with adequate anesthesia, the patient does not move in response to a supramaximal stimulus, e.g., the patient appears to be

Anesthesiology. V 83, No 3, Sep 1995

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