The Beveled Tracheal Tube Orifice Abutted on the Tracheal Wall in a Patient with Forestier’s Disease

To the Editor—Forestier’s disease characterized by ankylosing hyperostosis of the spine is an acquired common disorder of the spine. We experienced difficulty in ventilating the lungs of a patient with Forestier’s disease after tracheal intubation. The patient, a 59-yr-old man, 61 kg in weight, was scheduled for devascularization of esophagogastric varices. He had moderate restricted motion of the neck but did not have neck pain or discomfort. Laboratory data and chest x-ray results were normal. Anesthesia was induced with intravenous thiopental (250 mg) and succinylcholine (60 mg). Although the lungs were ventilated easily via a mask, we could not visualize the laryngeal opening because of limitation of the head flexion and extension on laryngoscopy. A tube of 8 mm in internal diameter (Terumo Tracheon) was inserted almost blindly into the trachea. Bilateral breath sounds were heard, but ventilation suddenly became impossible when the patient’s head was extended. As soon as we advanced the tube a little, ventilation became possible. Fiberoptic bronchoscopy showed that the bevel of the tube abutted against the right tracheal wall, causing total obstruction in the position of the tube before its advancement. An anteroposterior cervical roentgenogram demonstrated considerable deviation of the trachea to the left, and a lateral cervical roentgenogram demonstrated large osteophytes of the cervical vertebral bodies of C5, C6, and C7 consistent with Forestier’s disease (fig. 1).

Forestier and Latier commented upon the characteristic involvement of the anterior and lateral aspect of the thoracolumbar region of the spine. In the cervical and lumbar regions, cortical hyperostosis of the anterior surface of the vertebral body and irregular and thick spur formation were radiographic observations. They named these abnormalities of cervical vertebrae Forestier’s disease. This disease is unfamiliar to many clinicians because of lack of patients’ complaints except for mild to moderate restriction of motion of the neck.

There are many reasons for problems with tracheal tube during anesthesia. In this case, the osteophytes of the cervical spine deviated the trachea to the left on extension of the neck, and the bevel of the tube abutted against the tracheal wall, thus obstructing the airway. If x-ray films of the neck had been taken in the preoperative period and we had been aware of the abnormality, we would have chosen a spiral tube or a tube with a lateral orifice to prevent ventilatory difficulty.

In conclusion, Forestier’s disease may be associated with difficult tracheal intubation and accidental obstruction of the tracheal tube caused by osteophytes of the cervical spine. We suggest obtaining x-ray films of the neck as part of a preoperative evaluation to rule out Forestier’s disease in a patient with restricted motion of the neck. We also suggest having available a fiberoptic bronchoscope and choosing a spiral tube or a tube with lateral orifices if Forestier’s disease is suspected.

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Fig. 1. Large osteophytes of the cervical vertebral bodies (C5, C6, and C7) are fused, and this constructive abnormality is thought to have distorted the trachea and main bronchi.
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Selective Bronchial Intubation with the Univent System in Patients with a Tracheostomy

To the Editor.—In routine anesthesia and in certain operations, selective bronchial intubation is warranted; however, in some cases, the procedure may be limited by particular patient characteristics. We report two patients in whom selective bronchial intubation through a tracheostomy was performed using the Univent system.

Case 1

A 50-yr-old man was scheduled for a right upper lobectomy to remove a cavitary nodule preoperatively diagnosed as metastatic epidermoid carcinoma. History included epidermoid carcinoma of the larynx treated with a total laryngectomy 5 yr before. To improve the surgical field and because of the unavailability of a Roberts shelf tube, selective right bronchial intubation was performed using a no. 8 Univent tube. The tube was introduced through the tracheostomy. After rotation of the tube to the right, the bronchial blocker was introduced to obstruct the right main bronchus (fig. 1).

Case 2

A 65-yr-old man was scheduled for a left pneumonec- tomy. A total laryngectomy for epidermoid carcinoma of the larynx had been performed 2 months before. We decided to perform selective left bronchial intubation through the tracheostomy and a No. 8 Univent tube was used. Correct position of the blocker was achieved on the first attempt and was confirmed by pulmonary auscultation. The bronchial blocker was withdrawn slightly when the surgeon cut and sutured the left main bronchus.

In both cases the procedure was completed in a few minutes and without complications. After thoracotomy, the efficacy of the selective intubation was confirmed, although the surgeon had to evacuate air from the lungs because of the small lumen of the blocker pilot tube. Although use of the Univent tube is less ideal than a double-lumen tube[3], i.e., the two lungs cannot be ventilated independently, and aspiration of secretions from the collapsed lung is difficult[4]—it represents an easy-to-use option for selective bronchial intubation of a patient in whom a tracheostomy is present. Confirmation of correct intubation by fiberoptic bronchoscopy is advised, as it would considerably shorten the time required to perform the technique, while limiting the number of possible errors.

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Fig. 1. Cross-section of the tracheobronchial tree showing the final position of the Univent tube.

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