Clinical Workshop

C. PHILIP LARSON, JR., M.D., Editor

A Case of Difficult Extubation

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Difficulty in extubation is rarely encountered. The following unusual case describes our first such problem.

**Report of a Case**

A 9-year-old girl was brought to the operating room for repair of a patent ductus arteriosus. She appeared small for her age and weighed only 21.6 kg. Premedication included meperidine, 20 mg, and promethazine, 15 mg.

Anesthesia was induced with thiopental, 150 mg, and gallamine, 80 mg, and maintained with nitrous oxide, oxygen, and halothane. A 23 French (ID 6.5 mm) Rusch cuffed nasal tube was passed orally with some force. The anesthesia and operation were uneventful. At the termination of anesthesia, an hour later, the resident anesthetist attempted to remove the endotracheal tube; even by exerting some force, he was unable to do so. The attending anesthetist also attempted removal, without success. The tube, however, could be pushed downward. During this time, the patient regained consciousness, became agitated, and made efforts to remove the tube.

Another attempt at removal was made, this time rotating the tube gently. When turned approximately 180 degrees, the tube slid out smoothly. The tube appeared normal, the cuff was deflated, and no sign of tube deformity was observed. The patient was hoarse for a few days, but recovered fully.

We believe this complication resulted from forceful intubation with a tube which was larger than necessary. The enlargement at the cuff site was apparently held by the tense vocal cords, preventing removal of the tube. Removal could be accomplished either by relaxation and abduction of the vocal cords (by use of a muscle relaxant or by inducing a cough) or by rotation of the tube. Rotating the tube makes the anterior prominence or curvature of the tube face to the back of the rima glottidis, where the laryngeal opening is largest.

A Stylet for Difficult Orotracheal Intubation

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Anesthesiologists periodically encounter a difficult intubation due to inability to expose and visualize the larynx. Not infrequently, the problems faced during preliminary tracheal

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intubation necessitate tracheostomy. The Siker mirror blade 1 and the Huffman prism 2 are very valuable aids in visualization of larynx in these situations; however, it is often difficult or impossible to place an endotracheal tube into the trachea with these devices as the tube blocks the view of the laryngeal opening or distorts the image. A thin stylet can be placed into the trachea with relative ease and used as a guide for subsequent endotracheal intubation, as described below.