Bronchofiberoscopy: To Intubate Or Not To Intubate!

Bronchofiberoscopy for examination of the tracheobronchial tree has considerable advantages over conventional rigid bronchoscopy, not the least of which is ease of insertion into a lightly sedated patient. Introduction of the bronchofibroscope via a sterile nasopharyngeal airway facilitates its passage, prevents its contamination by nasal secretions and protects the nasal mucosa from trauma (Wanner A, Zigelboim A, Sackner MA: Nasopharyngeal airway: a facilitated access to the trachea. Ann Int Med 75:593-595, 1971; Wanner A, Amikam B, Sackner MA: A technic for bedside bronchofiberoscopy, Chest 61:287, 1972). Manipulation of the flexible bronchofiberscope via the transnasal approach permits access to airways in the upper lobes even to subsegmental bronchi. In over 800 examinations in patients aged 11 to 96 years, performed by our group, there has been no mortality and no significant morbidity. Mild bronchospasm has occurred in about 1 percent of patients during exploration of the tracheobronchial tree, but it has never been severe enough to warrant discontinuance of the procedure. In so far as patient acceptance is concerned, endotracheal intubation in a conscious patient as a conduit for the bronchofiberscope clearly has no advantage over rigid bronchoscopy. Although the intubation of conscious subjects has been advocated as beneficial for the training of resident physicians, we believe that the resident staff should first learn intubation on manikins and later on unconscious patients. Intubation of alert patients should be reserved for personnel with more experience than can usually be obtained by an intern or resident. Even in the best hands, intubation with an endotracheal tube carries significant morbidity which we have not observed with transnasal passage of the bronchofiberscope. In 3 percent of postoperative patients, hoarseness develops as a result of the act of intubation and the position of the endotracheal tube during the procedure (Jaffe BF: Postoperative hoarseness. Am J Surg 123:432-436, 1972). The tip of the laryngoscopic blade may produce mild trauma or arytenoid dislocation. Forceful intubation may produce vocal cord laceration, vocal edema and hemorrhage. During the intubation, movement of the head from side to side can produce pressure on one cord and then the other. Too large a tube can damage the larynx. “Bucking” of the patient with inadequate local anesthesia results in forceful spasm of the vocal cords around the endotracheal tube which leads to vocal cord edema. In addition to this potential morbidity, the presence of an endotracheal tube in susceptible individuals may precipitate an asthmatic attack (Schnider SM, Papper EM: Anesthesia for the asthmatic patient. Anesthesiology 22:886-892, 1961). It appears to us that indications for endotracheal intubation as a mode for introduction of the bronchofiberscope in a conscious patient are exceptional; it might be useful in multiple brushings for cytologic examinations in search for carcinoma-in-situ. However, multiple passages of the bronchofiberscope via the transnasal approach can usually be carried out without difficulty for brushings, although we recognize it might not be technically feasible in all patients. We strongly believe that the bronchofiberscopic examination is best accomplished for the patient by the transnasal rather than the endotracheal intubation route.

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The Use of Indirect Indices of Myocardial Oxygen Consumption in Evaluating Angina Pectoris

Estimation of the patient’s ability to perform exercise is an essential feature in the symptomatic evaluation of angina pectoris due to coronary artery disease. When practiced individuals perform work according to a suitable protocol, the duration of exercise necessary to precipitate ischemic chest pain (subsequently termed “exercise capacity”) is reliably reproducible. Since exercise capacity reflects the functional limits which circumscribe the activities of the patient, an accurate assessment of this quantity is vitally important in evaluating treatment programs and other interventions potentially influencing anginal symptoms. It is far more logical to use this measurement as an index of symptomatic status than highly subjective and variable quantities, such as the frequency of occurrence of chest pain or the number of nitroglycerin tablets consumed.

Nevertheless, the use of exercise capacity as an index of a symptomatic change has important limitations. Muscular effort performed by the body is only indirectly related to cardiac stress. In con-

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