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Safety of Anesthesia for Patients with Anterior Mediastinal Masses: II.

To the Editor:—It was with some concern that we read the conclusions of a recent article by Ferrari and Bedford on the "safety" of general anesthesia in pediatric patients with mediastinal masses.[1] In their retrospective review, 7 of 44 patients (16%) developed potentially life-threatening airway compromise one or more times in the perianesthetic period. Five of the 7 patients who experienced life-threatening respiratory complications were symptomatic preoperatively. From these data, the authors conclude that "general anesthesia may be safely induced prior to radiation therapy." We would draw exactly the opposite conclusion. The data of Ferrari and Bedford indicate that general anesthesia in this patient population, especially in patients with preoperative symptoms, has a very high and unpredictable risk of total airway occlusion that is not amenable to routine maneuvers. Similar strong objections to the notion that these patients can be "safely" anesthetized has been voiced recently.[2] Woe be it to anesthesiologists who think that general anesthesia can be "safely induced" in children with mediastinal masses, only to find themselves unable to ventilate the lungs of such a patient and without a skilled pediatric bronchoscopist present and prepared to quickly intervene. If general anesthesia must be used, and even if it is induced with rigid bronchoscopy immediately available, the anesthesiologist must still have a high index of suspicion for the development of compression of the major conducting airway, the pulmonary artery, and/or the superior vena cava at any perioperative time that may not respond even to open chest cardiopulmonary resuscitation.[3,4]

MARK H. ZORNOW, M.D.
Assistant Clinical Professor of Anesthesiology

JONATHAN L. BENUMOF, M.D.
Professor of Anesthesiology

Department of Anesthesiology
University of California / San Diego
San Diego, California 92103

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In Reply:—Contemporary oncologic practice involves specific chemotherapy and radiation therapy protocols for specific types of tumors. This is particularly true for tumors of the anterior mediastinum, where differential diagnosis ranges from benign masses to malignancies that are eminently treatable. Our report[1] was generated with the anticipation that many other anesthesiologists would be faced with the same challenge: the patient who cannot tolerate local anesthesia but in whom a tissue diagnosis is required before treatment is initiated. We at no time suggested that this is easy or should be undertaken in a cavalier fashion.

We thank Dr. Tinker and Dr. Crane for sharing their experience in the use of ketamine for this purpose. Indeed, we often use ketamine in combination with an antisialagogue when these patients return for peripheral procedures such as bone marrow aspiration and/or lumbar puncture for administration of intrathecal chemotherapy. Coughing and laryngospasm are an ever-present risk during ketamine anesthesia; however, the prudent anesthesiologist must always anticipate the worst-case scenario and be prepared to intervene promptly, with whatever routine or extraordinary measures are necessary to reestablish ventilation and circulation.

Dr. Zornow and Dr. Benumof draw a conclusion that is opposite from our own experience: apparently, that general anesthesia cannot be "safely induced" in children with anterior mediastinal masses. Their recommendations, however, are virtually identical to those presented in the discussion of our report, namely: have a pediatric bronchoscopist available; have a high index of suspicion for airway and/or circulatory compromise throughout the perioperative period; and be prepared to perform extraordinary maneuvers such as right mainstem intubation or major postural changes.

Our conclusion regarding the relative safety of general anesthesia in patients with anterior mediastinal masses specifically exempted those with major preoperative cardiorespiratory symptoms. These are the patients who have been proven to be refractory to resuscitative measures and who should have tissue biopsy performed either without any sedation or only after initial treatment has diminished the size of the tumor and its presenting symptoms.

LYNNE R. FERRARI, M.D.
ROBERT F. BEDFORD, M.D.

Department of Anesthesiology
Massachusetts Eye and Ear Infirmary
243 Charles Street
Boston, Massachusetts 02114

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