CORRESPONDENCE
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Tip of Polyvinyl Chloride Double-lumen Endotracheal Tube
Inadvertently Wedged in Left Lower Lobe Bronchus

To the Editor.—Brodsky et al. recently described obstruction of the left upper lobe (LUL) bronchus using a 37 French left-sided polyvinylchloride (PVC) double-lumen endotracheal tube. They stated that the probable cause was the blocking of the LUL bronchus with the endobronchial cuff.

We had a related experience using a 41 French leftsided PVC double-lumen endotracheal tube, resulting in a brief period of hypoxemia (\(P_{aO_2} = 38 \text{ mmHg on 100\% oxygen}\)) following the onset of one-lung anesthesia during right thoracotomy. We were able to show in our case that the mechanism was the inadvertent wedging of the double-lumen tube's tip in the left lower lobe (LLL) bronchus, which caused significantly decreased flow to the LUL. Our procedure was as follows. We first deflated the bronchial cuff, but noted no air leak from the open tracheal lumen. This suggested to us that the tip was wedged in a bronchus. We then deflated the tracheal cuff, withdrew the double-lumen tube about a centimeter, and reinflated it. The expected air leak became clearly evident. Reinflation of the bronchial cuff led to louder breath sounds over the LUL and to rapid correction of the hypoxemia.

We agree with Brodsky et al. that both the upper and lower lung fields should be auscultated when a double-lumen endotracheal tube is placed. If the LUL has diminished breath sounds owing to either the wedging of the tip in the LLL bronchus or the obstructing of the LUL bronchus with the cuff, then withdrawing the endotracheal tube 1 or 2 cm should cure the problem.

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REFERENCE

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Anesthesia and Monitoring for Pediatric Radiation Therapy

To the Editor.—Anesthetic problems during radiation therapy for children have been addressed, but no standard protocol has been developed.\(^1,2\) In response to a difficult case, we developed a protocol including ketamine anesthesia and pulse oximetry that has proven most satisfactory.

A combative, 25-kg, 6-yr-old boy required 23 cranial radiation therapy treatments over a month's time. He had undergone craniotomy for medulloblastoma 6 weeks previously and had a functioning ventriculoperitoneal shunt in place. Each radiation treatment required the patient to be sequestered, prone, and motionless beneath a linear accelerator for 10 to 20 min. Because of the patient's mental status, intravenous cannulae rarely remained in place for more than a few h after each treatment and had to be restarted daily. Pretreatment medication consisted of dexamethasone plus a nonparticulate antacid (Bicitra\(^\circledR\)). On arrival to the radiation therapy department, we administered ketamine, 4 mg/kg im, which produced excellent conditions for cannulae and monitor placement. The latter consisted of continuous ECG monitoring (Datascpe 2000\(^\circledR\)), a pulse oximeter (Nellcor\(^\circledR\)), and automatic, noninvasive blood pressure monitoring (Sentron\(^\circledR\), Bard Biomedical). The initial dose of ketamine also allowed the radiation therapists to position the patient face down with his head immobilized on a custom-made headrest.

Two closed-circuit television cameras provided visual monitoring. One camera was directed to the linear accelerator gantry to confirm that the patient remained immobile during treatment. The other camera focused on the adjacent pulse oximeter and noninvasive blood pressure monitor. A microphone transmitted the audible ECG signal and the saturation-dictated pitch of the oximeter signal.

After the patient was positioned and monitors were
placed, ketamine was administered intravenously in approximately 0.5-mg/kg doses just before each of the three to four 5-min radiation treatments. At the end of the procedure, the patient was transported to the postanesthesia recovery room and then usually was discharged to the ward in excellent condition in less than 30 to 40 min.

Low-dose ketamine for pediatric radiotherapy provides excellent sedation and brief induction and recovery times, facilitates repeated catheterization and dosing, and probably preserves protective airway reflexes. Also, pulse oximetry, in addition to blood pressure and ECG monitoring, is extremely valuable as a global monitor of cardio-pulmonary function, particularly for patients isolated from anesthesia personnel.

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Isorhythmic Dissociation

To the Editor:—Sosis et al. refer again to the type of “junctional” rhythm in which upright P waves traverse the QRS complex.1,2 To classify this as isorhythmic dissociation3 is to give formal identity and recognition to one of the more common physiopharmacologic aberrations during inhalation anesthesia. Perhaps the associated reductions in arterial pressure in an aging population of surgical patients account for the greater consideration now being given to a phenomenon so long observed and little regarded. Meanwhile, an interest in the mechanism of this and other so-called “junctional” rhythms may be stimulated by clinical observations. We wish, therefore, to add calcium chloride (up to 1 g intravenously) to the growing list4 of sometimes-successful “treatments.” In one patient, the reversion was demonstrated three times at successive intervals (without increases in heart rate)—which, obviously, implies a brief duration for whatever effect calcium induces. Such changes in cardiac conduction during anesthesia do not seem comparable in significance, reversibility, and probable mechanism to the grosser abnormalities of organic disease.

We have also recently observed an instance in which the P wave was upright on moving into the QRS complex but was inverted as it emerged to the right. Was this a case of “isorhythmic-nodal” conversion, or is a less-neat classification required, based on sophisticated electrophysiologic studies?

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REFERENCES


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REFERENCES


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