Tension Pneumothorax and Widespread Pneumatosis after Endoscopic Retrograde Cholangiopancreatography

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A previously healthy, 23-yr-old woman presented to the emergency department with a 1-day history of severe upper abdominal pain, nausea, and tea-colored urine. On physical examination, jaundice and scleral icterus were noted with increased liver function tests and an abdominal ultrasound that demonstrated gallstones. She underwent an endoscopic retrograde cholangiopancreatography in the endoscopy suite under general anesthesia with tracheal intubation. After 60 min of uneventful anesthetic course, peak airway pressures suddenly increased (>40 mmHg) as oxygen saturation decreased (88%). Chest auscultation revealed bilateral decreased breath sounds and palpable crepitus. With fluoroscopy immediately available, chest x-ray was performed while preparing for needle decompression of presumed bilateral pneumothoraces (fig. A). Oxygen saturation decreased further (to 82%) with tachycardia (110 beats/min) and hypotension (91/49 mmHg). The anesthesiologist emergently inserted a 14-gauge angiocath at the second intercostal space, mid-clavicular line. The patient’s oxygen saturation, heart rate, and blood pressure immediately normalized, and the endoscopy procedure was aborted. Computed tomography revealed extensive subcutaneous gas (a), pneumomediastinum with gas tracking around the thoracic aorta and esophagus (b), bilateral pneumothoraces (c), pneumoperitoneum (d), pneumoretroperitoneum (e), and small focus of intrathoracic gas (f) (fig. B). She underwent surgical repair of the duodenal perforation and was discharged home on the fifth postoperative day.

The gastroenterology suite is a common site for anesthesia-related complications.1 Duodenal perforation is also a known risk associated with endoscopic retrograde cholangiopancreatography.2,3 This case illustrates how knowing the potential site-specific and procedure-specific risks led the anesthesiologist to promptly diagnose and treat this rare, but life-threatening, complication.

References