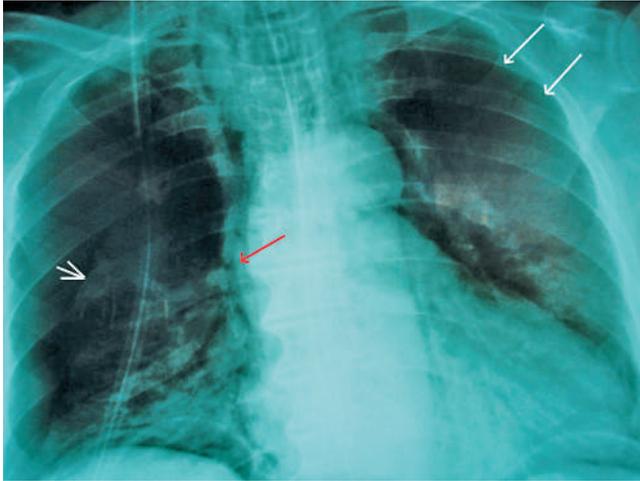


## Bilateral pneumothorax following endoscopic retrograde cholangiopancreatography: a case report

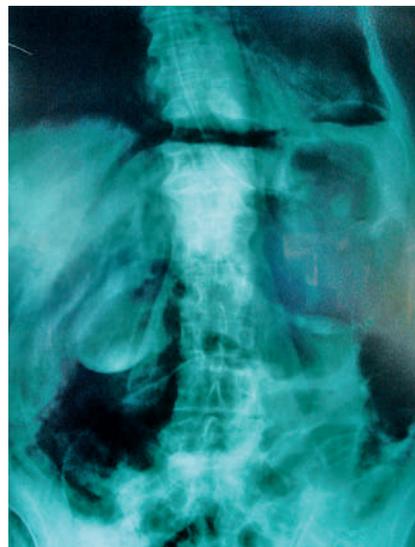


**Figure 1** Chest radiograph revealed bilateral pneumothorax (right: white arrow; left: white arrows), pneumomediastinum (red arrow), pneumoretroperitoneum, pneumoperitoneum, and subcutaneous emphysema.

Although endoscopic retrograde cholangiopancreatography (ERCP) and sphincterotomy is an essential diagnostic and therapeutic modality for biliary and pancreatic diseases, it carries significant morbidity. A rare case of bilateral pneumothorax along with pneumomediastinum, pneumoperitoneum, pneumoretroperitoneum, and subcutaneous emphysema complicating ERCP with sphincterotomy is reported.

A 56-year-old woman with acute cholangitis underwent ERCP with sphincterotomy and extraction of the choledochal duct stones. Over the ensuing 20 min, hypotension, tachycardia, tachypnea, decreased oxygen saturation, bilaterally diminished breath sounds, abdominal distension, and subcutaneous emphysema were identified. Chest and abdominal radiography revealed bilateral pneumothorax, pneumomediastinum, subcutaneous emphysema, pneumoperitoneum, and pneumoretroperitoneum (● **Figure 1** and ● **2**). The patient was managed with immediate bilateral chest tube placement, nasogastric suction, and broad-spectrum antibiotics, and was discharged on the tenth day.

Pneumothorax, pneumomediastinum, pneumoperitoneum, subcutaneous emphysema, and pneumoretroperitoneum after ERCP are rare [1–5]. Bilateral pneumothorax has only once been reported [4]. The most usual origin of air leakage is from a duodenal perforation [5]. However, in the absence of obvious perforation, air dis-



**Figure 2** Abdominal radiograph showed free air diffusely in the peritoneal cavity and retroperitoneum.

section is probably related to the use of compressed air to maintain patency of a lumen [5]. Since no perforation was identified in our patient in the postsphincterotomy cholangiogram, esophagogram, upper gastrointestinal series, and abdominal CT, we postulate that the complication presented here occurred due to interstitial air tracking from the duodenum because of increased airway pressure after air insufflation during ERCP. However, the possibility of a small perforation that could not be demonstrated may be taken into consideration. Air can dissect from the retroperitoneum into the peritoneum, me-

diastinum, pleura, or subcutaneous tissue, resulting in pneumoperitoneum, pneumomediastinum, pneumothorax, or subcutaneous emphysema, respectively [1]. Subcutaneous emphysema, pneumothorax, pneumomediastinum, pneumoperitoneum, and pneumoretroperitoneum constitute infrequent complications of ERCP/endoscopic sphincterotomy while bilateral pneumothorax is extremely rare. Despite the dramatic physical and radiographic findings, the patient responded to early treatment and conservative management with a favorable outcome.

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