

An unforeseeable adverse event during ERCP



Fig. 1 Computed tomography (CT) scan showing complete transection of the pancreatic neck with disruption of the main pancreatic duct and a peripancreatic fluid collection.



Fig. 2 View during endoscopic retrograde cholangiopancreatography (ERCP) showing correct placement of the 7-Fr plastic stent with evidence of the opacified collection (arrow).

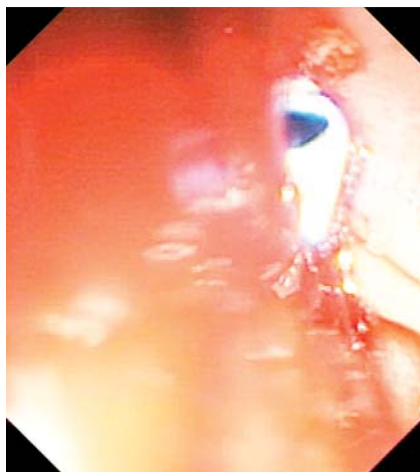


Fig. 3 View during a second endoscopic retrograde cholangiopancreatography (ERCP) a week later showing bleeding occurring immediately after stent deployment.



Fig. 4 Multiplanar abdominal computed tomography (CT) reconstruction showing the distal end of the pancreatic stent inside the portal vein. A considerable amount of air can be seen in the portal and splenic vein, as well as disseminated throughout the liver into the intrahepatic portal system.

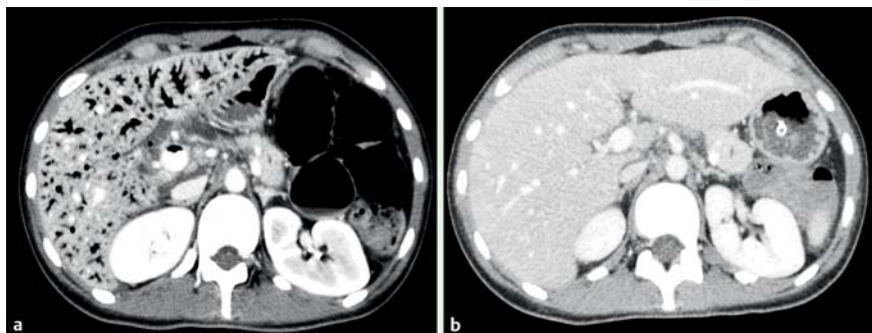


Fig. 5 Comparison between computed tomography (CT) scan images taken: **a** immediately after ERCP; **b** after the completion of hyperbaric oxygen therapy (HOT).

A 24-year-old previously healthy woman was involved in a bus accident in Nepal and sustained major blunt abdominal trauma with complete transection of the pancreatic neck. After 16 days of emergency stabilization in a local hospital, she was transferred to our center. Even though she appeared asymptomatic, abdominal imaging confirmed disconnected pancreatic duct syndrome with a 10-cm fluid collection (► Fig. 1). After multidisciplinary consultation, endoscopic transpapillary drainage was proposed [1, 2]. Following selective main pancreatic duct cannulation, the peripancreatic collection was opacified and a 7-Fr plastic stent (5 cm in length) was successfully placed (► Fig. 2). A week later, a second endoscopic retrograde cholangiopancreatography (ERCP) was performed to replace the stent with a larger one. During the procedure, a 0.031-inch guidewire was passed in the direction of the pancreatic tail and a 10-Fr plastic stent (5 cm in length) was inserted without prior opacification. Immediately after stent release, severe bleeding through the prosthesis was observed (► Fig. 3). An urgent computed tomography (CT) scan showed that the distal end of the pancreatic stent was inside the portal vein and there was massive portal air embolism (► Fig. 4). The stent was immediately removed without further bleeding and hyperbaric oxygen therapy (HOT) was initiated. Complete air embolism resorption was achieved after three HOT sessions (► Fig. 5). Two months later, endoscopic-ultrasound (EUS)-guided pseudocyst drainage was successfully performed and the patient was discharged without any further intervention. Air embolism is a rare but potentially life-threatening complication of ERCP, which can occur with different pathophysiologic mechanisms [3], including portal vein cannulation [4, 5]. In our case, a large plastic stent was inserted into the portal vein through the proximal pancreatic duct segment, establishing a direct connection between the portal vein and the intestinal lumen, which led to a massive portal air embolism. Portal thrombosis and sepsis are also possible serious sequelae of portal vein cannulation. The immediate removal of the stent and prompt initiation of HOT represent crucial steps to achieve a favorable outcome.

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Bibliography

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