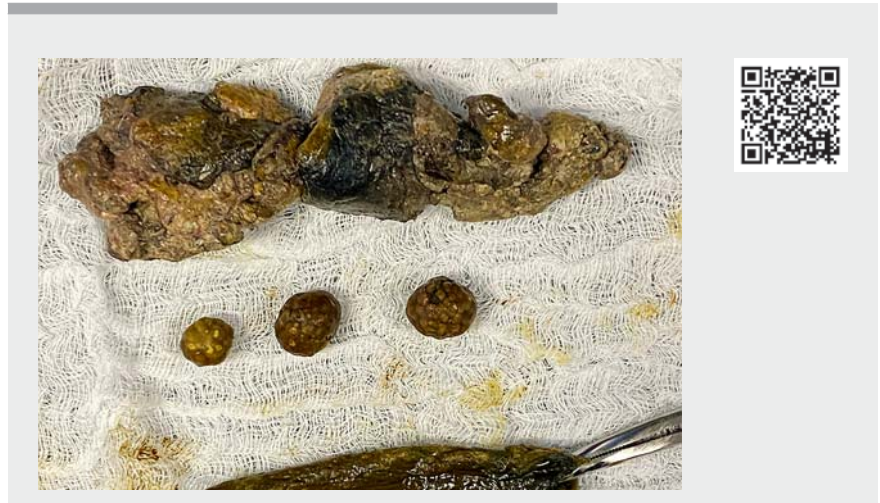


## Endoscopic transgastric cholecystectomy during direct endoscopic necrosectomy for walled-off necrosis of the pancreas



► **Fig. 1** Photograph of the extracted gallbladder, the three stones it contained, and the result of the necrosectomy.



► **Video 1** Video showing a patient with walled-off necrosis of the pancreas who underwent transgastric cholecystectomy during his third direct endoscopic necrosectomy.



► **Fig. 2** Fluoroscopic image showing the 10-Fr transgastric plastic double-pigtail stents placed on the gallbladder bed and at the former location of the pancreas.

Pancreatic fluid collections may occur as a result of acute pancreatitis, although many spontaneously resolve. However, a subset of patients with necrotizing pancreatitis may develop symptomatic well-defined necrotic collections, classified as walled-off necrosis (WON) [1, 2]

A 54-year-old man who was admitted with moderately severe acute biliary pancreatitis made a good response to treatment and was discharged 4 days after

admission. However, 60 days later, he returned with abdominal pain, vomiting, and delayed gastric outflow. A computed tomography (CT) scan showed an encapsulated heterogeneous pancreatic collection, measuring 11 × 18 cm, compatible with WON, and endoscopic treatment was chosen. Endoscopic ultrasound (EUS)-guided drainage was performed, with insertion of a 10-mm, 10-cm transgastric self-expandable metal stent (SEMS); however, he continued to have an intermittent fever and worsened clinically.

In the following weeks, he underwent two sessions of direct endoscopic necrosectomy, obtaining partial clinical improvement after the second. Magnetic resonance cholangiopancreatography (MRCP) 3 weeks after the EUS drainage showed intrahepatic biliary duct dilatation and a common bile duct filling defect. Endoscopic retrograde cholangiopancreatography (ERCP) was then performed, which showed a cystic duct/infundibulum biliary fistula and a small distal choledocholithiasis. Biliary sphinc-

terotomy was performed, which allowed removal of a biliary stone and insertion of a 10-Fr, 10-cm biliary plastic stent. Pancreatography was then performed, which showed complete disruption of the main pancreatic duct with contrast extravasation (type IV-A Lera-Proença) [3]. A large amount of necrotic content and bile output through the necrosis was evident. Direct endoscopic necrosectomy was performed with a snare, and a large piece of tissue was removed along with the necrotic remains. This piece of tissue was removed through the mouth and was found to be the gallbladder, with three biliary stones contained within it (► **Fig. 1**). Upon review, it was possible to identify the gallbladder bed and the former location of the pancreas, with no evidence of bleeding. Fluoroscopy showed air in the vesicle bed, but no signs of a pneumoperitoneum. We therefore placed 10-Fr transgastric plastic double-pigtail stents at the gallbladder bed and the former location of pancreas (► **Fig. 2**; ► **Video 1**). The patient progressed well, showing clinical and laboratory improve-





ment, and was discharged 7 days after the procedure.

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### Competing interests

The authors declare that they have no conflict of interest.

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