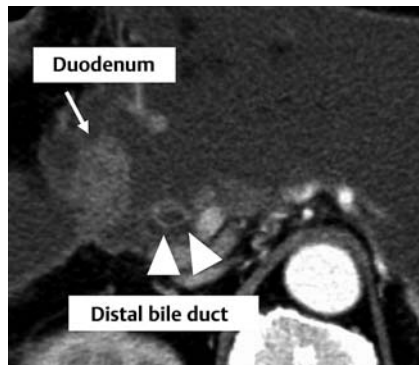
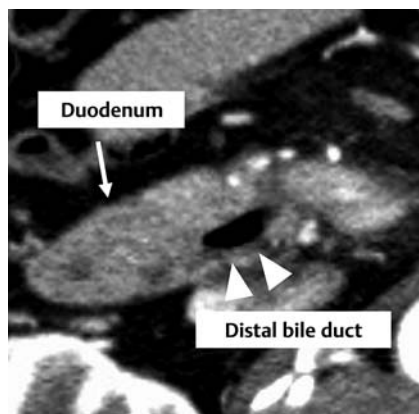


## A case of massive bleeding after endoscopic sphincterotomy in a patient with a history of large walled-off pancreatic necrosis in the area of the pancreatic groove



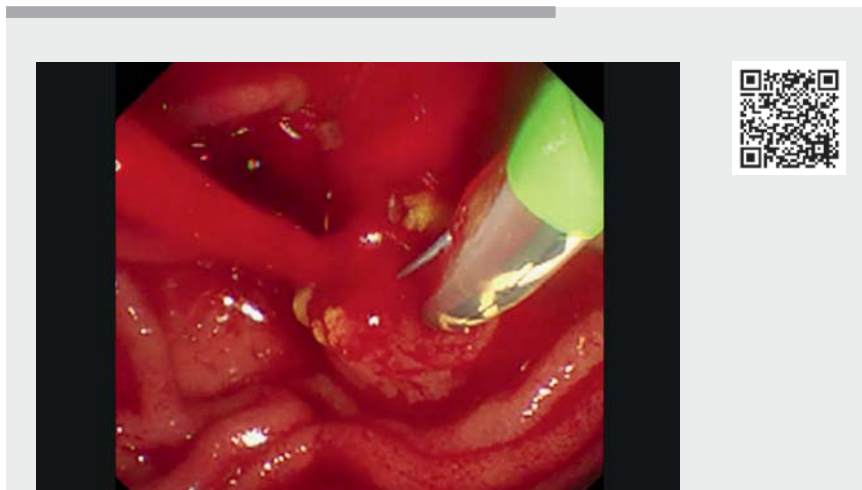
► **Fig. 1** In a 73-year-old man hospitalized for choledocholithiasis, walled-off pancreatic necrosis (WOPN) 7 years previously had extended widely into the area of the pancreatic groove.



► **Fig. 2** Computed tomography revealed pneumobilia in the distal bile duct (arrowheads) but no pseudoaneurysm or abnormal vascular growth in the pancreatic arcade.



► **Fig. 3** Hardness of the ampulla of the major papilla (black arrowheads) and severe structural abnormality of the distal bile duct (white arrowheads) were considered to be the results of inflammatory spread of the WOPN.



► **Video 1** Endoscopic hemostasis with placement of a self-expandable metallic stent for massive postendoscopic sphincterotomy bleeding.

Walled-off pancreatic necrosis (WOPN) associated with severe acute pancreatitis is sometimes fatal [1]. Interventional endoscopic ultrasonography has improved clinical outcomes; however, the long-term prognosis in such cases remains unknown [2, 3]. WOPN extending to the area of the pancreatic groove has been reported to cause structural abnormalities to the bile duct, with the presence of abnormal blood vessels [4].

A 73-year-old man was hospitalized for choledocholithiasis. He had undergone direct endoscopic necrosectomy 7 years previously for a large WOPN due to idiopathic severe acute pancreatitis (► **Fig. 1**). The WOPN had extended widely into the groove area. Magnetic resonance cholangiopancreatography for recurrent epigastric pain revealed multiple choledocholithiasis. Computed tomography revealed pneumobilia but

no pseudoaneurysm or abnormal vascular growth in the pancreatic arcade (► **Fig. 2**). He had never undergone endoscopic retrograde cholangiopancreatography (ERCP), and pneumobilia suggested a fistula between the WOPN and the bile duct.

Initial ERCP showed abnormal hardness of the major papilla and severe structural distal bile duct abnormality without a duodenal diverticulum (► **Fig. 3**). A medi-

um incision was performed for endoscopic sphincterotomy (EST) [5]; the patient went into shock due to massive arterial bleeding (▶ **Video 1**). Immediate balloon compression was ineffective. Rapid hemostasis was later achieved by placement of a self-expandable metallic stent (SEMS; fully covered type, 10 mm × 6 cm) and no transfusion was required. The SEMS was safely removed, without rebleeding, 14 days after the ERCP. Most stones flowed out naturally through the SEMS; the last was extracted at the same time that the SEMS was removed.

The severe structural abnormality of the distal bile duct and hardness of the major papilla were considered to be the results of inflammatory spread of the WOPN. Where advanced inflamed WOPN is present in the groove area, the safety of EST in terms of the recommended direction and length of incision has not been fully investigated. For this reason, it is important to be careful about the presence of unexpected blood vessels when performing EST beyond a small incision.

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### Competing interests

The authors declare that they have no conflict of interest.

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