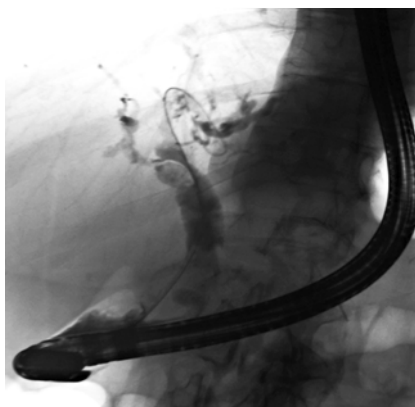


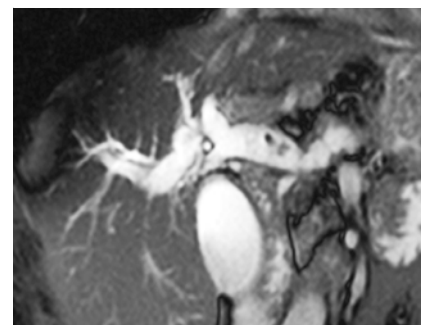
## Cholangioscopy and electrohydraulic lithotripsy in the management of fistulated pancreatic duct stones



► **Fig. 1** Computed tomography image showing the features of chronic pancreatitis with a densely calcified stone.



► **Fig. 2** Endoscopic retrograde cholangiopancreatography showing heavily calcified stones within the extrahepatic ducts.



► **Fig. 3** Magnetic resonance cholangiopancreatography confirming the presence of a pancreatobiliary fistula.



► **Video 1** Cholangioscopy and electrohydraulic lithotripsy are performed to treat fistulated pancreatic duct stones.

An 80-year-old man with a history of alcohol-induced chronic calcific pancreatitis presented with new pain and obstructive jaundice. The computed tomography (CT) scan confirmed features of chronic pancreatitis and showed a heavily calcified stone within the bile duct and associated dilatation (► **Fig. 1**). Endoscopic

retrograde cholangiopancreatography (ERCP) demonstrated dense calcified stones within the extrahepatic bile ducts (► **Fig. 2**).

Stone extraction was unsuccessful with the extraction balloon and mechanical lithotripter. A plastic pigtail biliary stent was deployed to assist biliary drainage.

Subsequent magnetic resonance cholangiopancreatography (MRCP) showed continuity of the pancreatic duct and bile duct, suggesting the presence of a pancreatobiliary fistula (► **Fig. 3**).

The patient underwent a further ERCP with peroral transpapillary cholangioscopy (► **Video 1**). Direct visualization demonstrated a pancreatobiliary fistula associated with the lower bile duct, as well as the presence of white, heavily calcified stones within the extrahepatic bile ducts. Cholangioscopic assessment of the pancreatic duct through the fistula revealed intraluminal papillary projections, consistent with an intraductal papillary mucinous neoplasm (IPMN). Intraductal electrohydraulic lithotripsy (EHL) and subsequent balloon trawl were used to clear the biliary stones. Biopsies confirmed the presence of an IPMN.

Pancreatobiliary fistulas associated with pancreatic IPMN have previously been described; however, we believe this is the first video-reported case of fistulated pancreatolithiasis that was treated with EHL.

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## Competing interests

None

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