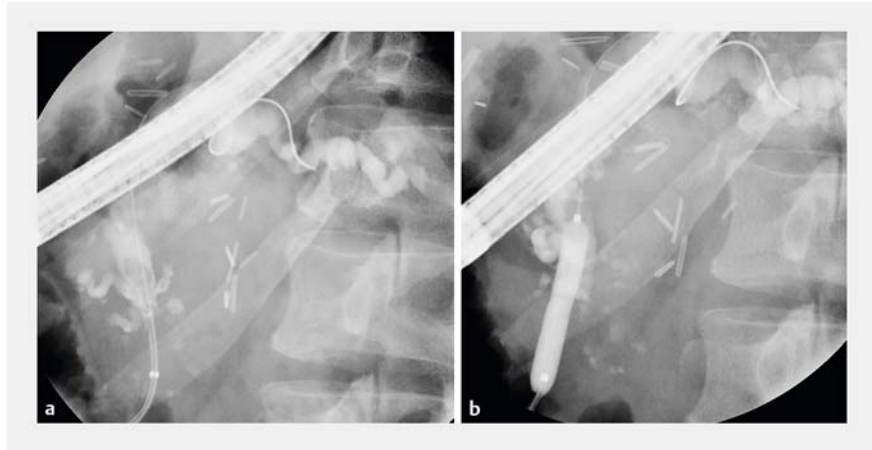


Self-expandable covered metallic stent as a conduit for pancreatic stone extraction

A 50-year-old man was referred for evaluation of alcohol-related chronic relapsing pancreatitis. Initial endoscopic retrograde cholangiopancreatography (ERCP) revealed a dilated pancreatic duct with a stone proximal to a distal stricture. The stricture was dilated to 6 mm using a balloon, and an 8.5-Fr plastic stent was placed to ensure drainage. ERCP 2 months later showed no improvement in the stricture and a 10-Fr stent was placed. Repeat pancreatography 2 months later (► **Video 1**) revealed a persistent distal stricture with a floating ovoid-shaped stone (6 × 10 mm) in the proximally dilated duct (► **Fig. 1 a**). The stricture was dilated to 6 mm (► **Fig. 1 b**), and an 8 mm × 4 cm fully covered Gore Viabil (Conmed Corp., Utica, New York, USA) self-expandable metallic stent (SEMS) was placed across the stricture. A rat-tooth forceps was passed through the SEMS and the stone was grasped (► **Fig. 2**) under fluoroscopic guidance. The stone and stent were then simultaneously extracted from the duct and removed from the pa-



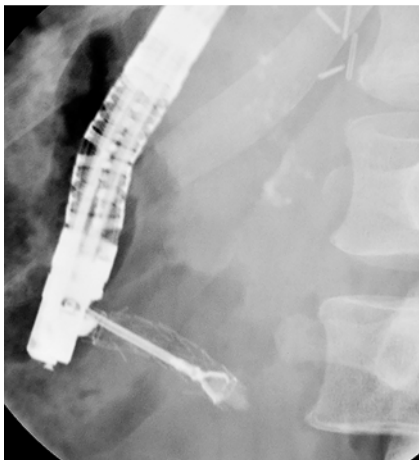
► **Fig. 1** Pancreatography. **a** Distal stricture with associated stone. **b** Dilation of the pancreatic duct stricture.

tient (► **Fig. 3**, ► **Video 1**). There were no post-procedural complications. Ductal hypertension, as a result of obstruction from pancreatic duct stones and strictures in chronic pancreatitis, is believed to be the major cause of pain and recurrent pancreatitis [1]. Treat-

ment options for pancreatolithiasis vary depending on stone location and size [2, 3]. The 2015 European Society of Gastrointestinal Endoscopy recommends the use of ERCP as first-line therapy in patients with a small number of stones with a diameter of <5 mm in the body



► **Fig. 2** Use of the rat-tooth forceps. **a** Endoscopic image showing advancement of rat-tooth forceps through the self-expandable metallic stent. **b** Fluoroscopic image showing rat-tooth forceps grasping the pancreatic duct stone.



► **Fig. 3** Fluoroscopic image showing simultaneous removal of the pancreatic duct stone and metallic stent.



► **Video 1** Removal of a pancreatic duct stone with the aid of a self-expandable metallic stent.

and proximal pancreas. For larger stones, extracorporeal shock wave lithotripsy prior to ERCP is recommended [4]. We present a unique method of pancreatic stone removal using a fully covered SEMS as a conduit for passage of a rat-tooth forceps across a distal stricture to facilitate pancreatic stone extraction.

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Competing interests

None

The authors

Heather Branstetter, Umangi Patel, Prashant Kedia, Paul R. Tarnasky
Gastroenterology, Methodist Dallas Medical Center, Dallas, Texas, United States

Corresponding author

Heather Branstetter, MD
Gastroenterology, Methodist Dallas Medical Center, 1441 N Beckley Avee, Dallas, Texas 75203-1201, United States
Fax: +1-214-947-3835
hbranstetter@tdmcc.com

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