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

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