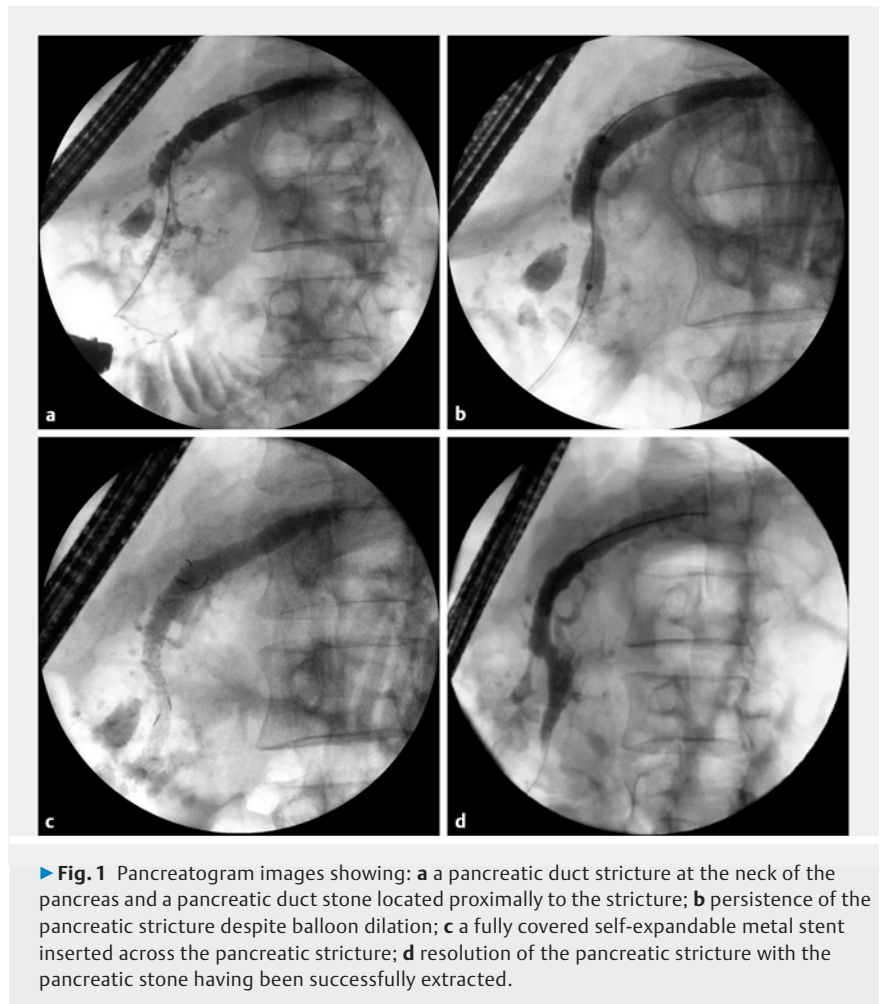


Chronic pancreatitis with pancreatic duct stricture and calculi treated by fully covered self-expandable metal stent placement and intraductal pancreatoscopy-guided laser lithotripsy

A 38-year-old man with chronic pancreatitis caused by heavy alcohol consumption presented with recurrent abdominal pain due to underlying pancreatic duct calculi and stricture of the main pancreatic duct (► **Fig. 1 a**). Endoscopic cholangiopancreatography (ERCP) was performed and a plastic pancreatic stent was inserted, which relieved the pain. Attempts at stricture dilation with a dilation balloon (► **Fig. 1 b**) and insertion of multiple plastic stents, and fragmentation of the pancreatic duct stones by extracorporeal shockwave lithotripsy (ESWL) were unsuccessful.

A 6×90-mm fully covered self-expandable metal stent (FCSEMS) designed for pancreatic duct drainage (Niti-S Bumpy Pancreatic Stent; Taewoong Medical, Gyeonggi-do, South Korea) was therefore inserted to dilate the stricture (► **Fig. 1 c**). When the FCSEMS was removed 3 months later the stricture had resolved and ERCP with intraductal pancreatoscopy (Spyglass; Boston Scientific Corp., Marlboro, Massachusetts, USA) and Holmium-yttrium aluminum garnet laser lithotripsy could be successfully performed (► **Fig. 1 d**; ► **Video 1**). There were no procedure-related complications.

Insertion of multiple plastic pancreatic stents is the standard approach to dilate and achieve long-term resolution of dominant pancreatic duct strictures [1]. ESWL is generally required for pancreatic stone fragmentation prior to ERCP and stone extraction [2]. In a pilot study of 32 patients that described the use of the Niti-S Bumpy pancreatic stent, which is specifically designed with antimigration features to treat benign pancreatic strictures, successful stricture resolution was achieved in all patients after temporary placement for 3 months, with no stent migration or adverse effects [3].



The limited data on the use of laser lithotripsy for pancreatic duct calculi have suggested it may be safe and effective. A US multicenter study with 28 patients reported successful resolution in 79% of patients, with one episode of post-ERCP pancreatitis [4].

In our patient, both FCSEMS placement and pancreatoscopy with laser lithotripsy were required to achieve successful endoscopic therapy.

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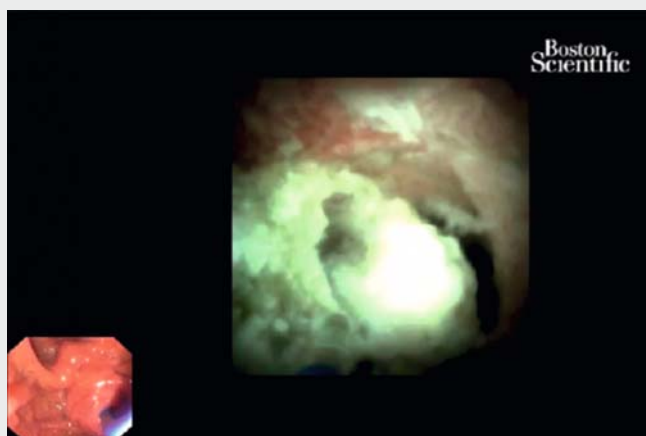
Competing interests

None

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Video 1: Endoscopic cholangiopancreatography is performed with balloon dilation of a pancreatic stricture followed by insertion of a fully covered self-expandable metal stent. After subsequent removal of the stent, intraductal pancreatoscopy with laser lithotripsy is performed and the stone is successfully extracted.

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