Pancreatoscopy-guided laser lithotripsy in a patient with difficult ductal stone

A 63-year-old man with heavy alcohol consumption was referred to our institution for upper abdominal pain, weight loss, and a computed tomography scan showing signs of chronic pancreatitis (parenchymal calcifications and atrophy of the pancreatic body/tail).

A magnetic resonance cholangiopancreatography was performed, showing Wirsung dilation, namely of the tail, and an abrupt stop in the pancreatic body of unknown cause (▶Fig. 1). Endoscopic ultrasound revealed an intraductal stone in the pancreatic body (7.4 mm), and a dilated Wirsung in the body and tail (▶Fig. 2). The patient underwent endoscopic retrograde cholangiopancreatography (ERCP).

Pancreatography showed an irregular Wirsung contour in the head and irregularity in the body–tail transition, suggestive of an intraductal stone (▶Fig. 3).

Pancreatic sphincterotomy was performed, and the calculus was crossed with the guidewire, but it was impossible to cross it with a 6-mm dilation balloon. After hydrostatic balloon dilation of the pancreatic head (up to 6 mm), a pancreatoscope (Spyglass Direct Visualization System; Boston Scientific, Marlborough, Massachusetts, USA) was advanced over a 0.025-inch guidewire to reach a large intraductal stone (▶Fig. 4, ▶Video 1). After targeting the stone, laser bursts (Holmium laser, Auriga XL; Boston Scientific) of less than 5 seconds were delivered through the aqueous medium using a 365-µm diameter fiber (energy level 1200 mJ; frequency of 12 Hz). After stone fragmentation, ductal clearance was achieved with an 8.5-mm extraction balloon. Two pancreatic stents (12 cm, 7 Fr) were placed.

▶Fig. 1 Magnetic resonance cholangiopancreatography, showing an abrupt stop at the pancreatic body, followed by major dilation of the remaining body and tail.

▶Fig. 2 Endoscopic ultrasound revealed a large intraductal stone in the pancreatic body (7.4 mm), and a dilated Wirsung in the body and tail.

▶Fig. 3 Pancreatography showing irregularity in the proximal body, suggesting a large intraductal stone.

▶Fig. 4 Pancreatoscopy image showing a large intraductal stone impacted on a main duct stricture.
At follow-up 3 months later, repeat ERCP showed frank improvement of the head stricture, without filling defects in the remaining Wirsung (Fig. 5). The patient remained asymptomatic during follow-up (6 months) without further interventions.

Published experience is limited, but pancreatoscopy-guided laser lithotripsy for calcific chronic pancreatitis is a promising technique that can be used as a supplementary approach to extracorporeal shock wave lithotripsy or as a single modality in a small number of stones obstructing the main pancreatic duct [1–4].

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CORRECTION

In the above mentioned article one author was missing in the authors’ list. Correct is: Gonçalo Alexandrino, Luís Lourenço, Catarina G. Rodrigues, David Horta, Jorge Reis, Jorge Canena.
This was corrected in the online version on April 6, 2018.