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 of 7–8 mm in size (▶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.
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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Competing interests

Jorge Canena is a consultant for Boston Scientific but did not receive any financial arrangements for this research or any assistance with manuscript preparation.

The authors

Gonçalo Alexandrino, Luís Lourenço, Catarina G. Rodrigues, David Horta, Jorge Reis, Jorge Canena

Department of Gastroenterology, Hospital Prof. Doutor Fernando Fonseca, IC 19 Amadora 2720-276, Portugal
Fax: +351-21-4345566 goncaloalexandrino@gmail.com

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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.