

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



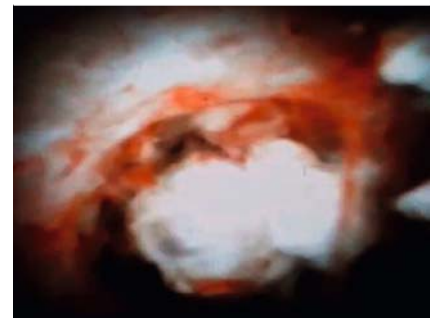
► **Fig. 1** Magnetic resonance cholangiopancreatography, showing an abrupt stop at the pancreatic body, followed by major dilation of the remaining body and tail.



► **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.



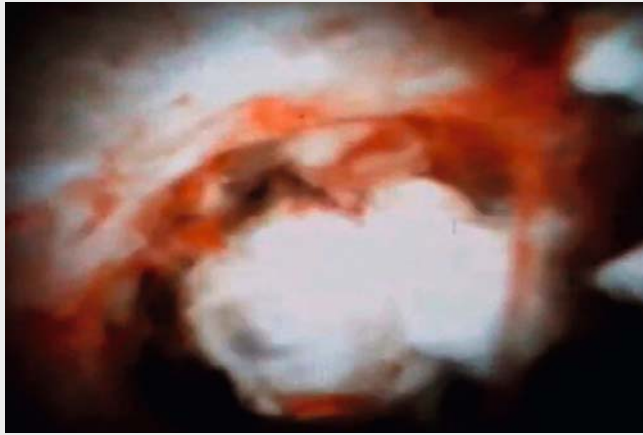
► **Fig. 4** Pancreatoscopy image showing a large intraductal stone impacted on a main duct stricture.

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).

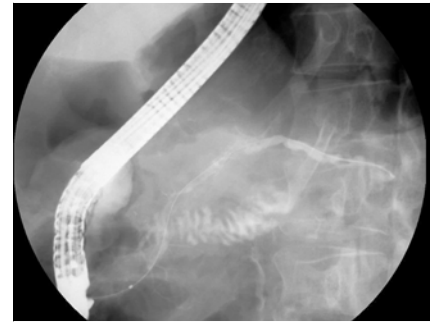
A magnetic resonance cholangiopancreatography was performed, showing Wirsung dilation, namely of the tail, and an abrupt stop in the pancreatic body of unknown cause (► **Fig. 1**). Endoscopic ultrasound revealed an intraductal stone in the pancreatic body (7.4 mm), and a dilated Wirsung in the body 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- $\mu$ m 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.



▶ **Video 1** Intraductal pancreatoscopy with holmium laser lithotripsy was performed until complete stone fragmentation was achieved.



▶ **Fig. 5** Pancreatogram image showing resolution of the pancreatic stricture after successful endotherapy.

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.

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### Bibliography

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### CORRECTION

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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.