

Pancreatoscopy-guided electrohydraulic lithotripsy in a patient with calcific chronic pancreatitis

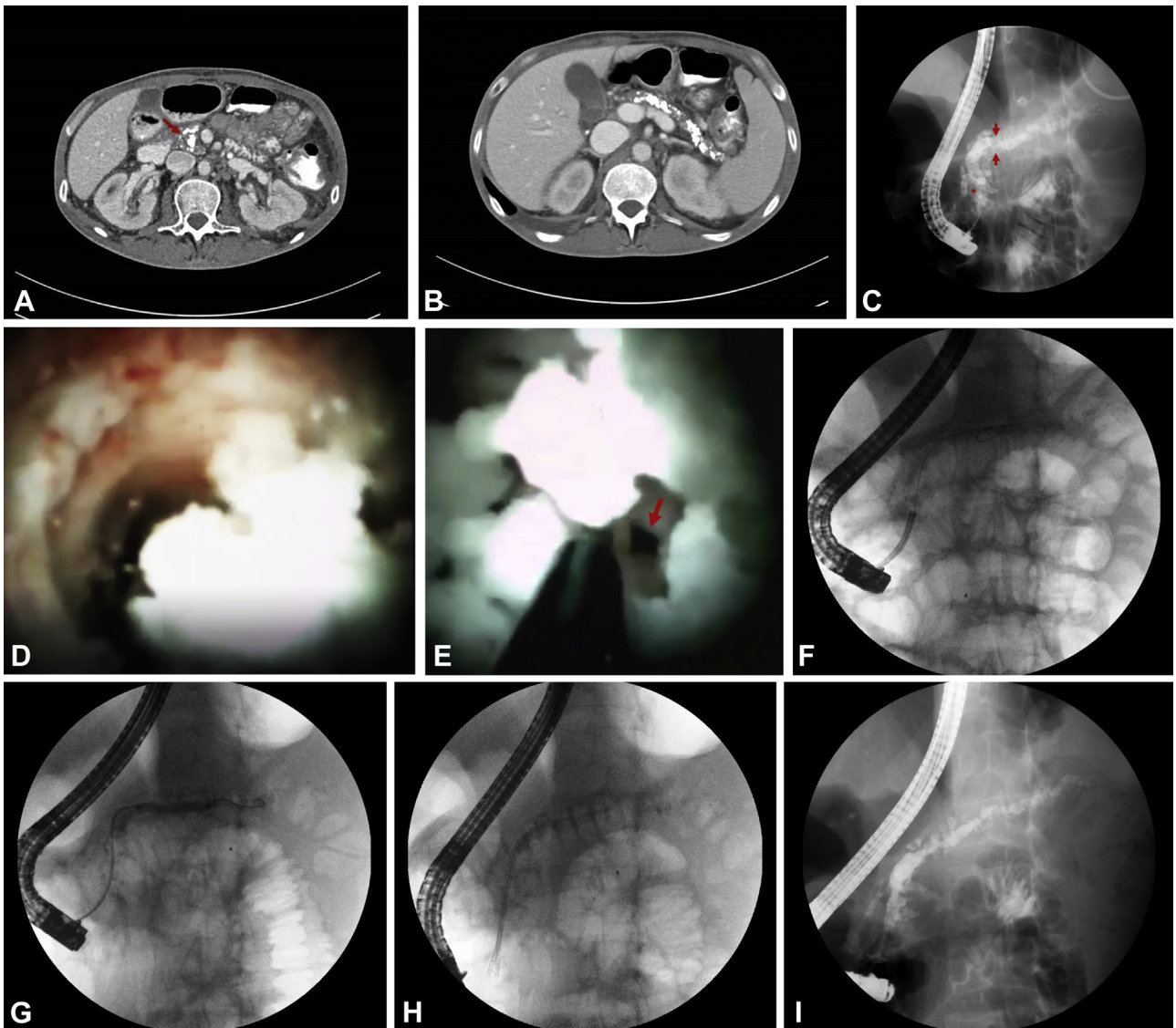


Figure 1. **A, B,** Contrast-enhanced CT images in a patient with chronic calcific pancreatitis. **A,** Enlarged pancreatic head with multiple parenchymal and intraductal calcifications (*arrow*). **B,** Atrophic and heterogeneous pancreas with multiple parenchymal calcifications and ductal stones. **C,** Initial pancreatogram showing markedly dilated pancreatic duct, multiple filling defects, an obstruction in the head (*asterisk*), and a pronounced obstruction in the distal body (*arrows*). **D,** Pancreatoscopic digital image of the distal pancreatic body showing obstruction of lumen caused by large intraductal stones. **E,** Pancreatoscopic digital image of the distal body stricture (*arrow*), which was revealed after pancreatoscopy-guided intraductal lithotripsy. **F,** Fluoroscopic images showing outcomes after electrohydraulic lithotripsy of the ductal stones. Digital pancreatoscope direction of cannulation of the distal body obstruction by the guidewire. **G,** Balloon dilatation, up to 6 mm, of the stricture associated with the distal body obstruction. **H,** Stent placement in the head and pancreatic body with 2 stents, 7F × 9 cm and 7F × 12 cm. **I,** Pancreatogram after cessation of endotherapy and electrohydraulic lithotripsy, revealing stone clearance and improvement of obstruction.

Written transcript of the video audio is available online at www.VideoGIE.org.

A 46-year-old man with a history of alcoholic chronic calcific pancreatitis presented with recurrent abdominal pain and a weight loss of 5 kg in the past 3 months. Contrast-enhanced CT showed an atrophic heterogeneous pancreas with multiple parenchymal calcifications and ductal stones (Figs. 1A and B). Endotherapy was started with the aim of relieving the abdominal pain.

The first ERCP revealed dilatation of the main pancreatic duct, multiple repletion defects related to intraductal stones, and associated obstructions, more pronounced in the head and distal body (Fig. 1C). The distal body obstruction could not be crossed with a guidewire in the initial ERCP. Pancreatic sphincterotomy and hydrostatic balloon dilation (up to 6 mm) of the head obstructions were performed, followed by stone extraction with an 8.5-mm extraction balloon.

After initial endotherapy, a plastic pancreatic stent 5F × 5 cm was placed and left in place for 2 months. Two additional ERCPs were undertaken, the number of stents being increased (up to 2 stents 7F × 7 cm) and the pancreatic head stone burden being reduced. However, it was still not possible to cross the pancreatic body obstruction with the guidewire because of impacted stones. Therefore, the patient underwent pancreatoscopy-guided intraductal lithotripsy (Video 1, available online at www.VideoGIE.org).

After papillary dilation with a 6-mm hydrostatic balloon, a digital pancreatoscope (Spyglass Direct Visualization System; Boston Scientific, Marlborough, Mass) was advanced over a guidewire to target the stones causing the obstruction in the distal body (Fig. 1D). Under continuous saline solution irrigation, electrohydraulic lithotripsy (medium power, 5 to 10 pulses at high energy) was performed, with total stone fragmentation. After successful pancreatoscopy-guided

lithotripsy, it was possible to visualize a stricture in the body (Fig. 1E) and to cross it with a guidewire (Fig. 1F). With the guidewire in position, the stricture was dilated, and 2 plastic stents, 7F × 9 cm and 7F × 12 cm, were placed (Figs. 1G and H). Before stent placement, stone fragments were removed with an extraction balloon. Three months later, the patient underwent additional ERCP with stent removal. The pancreatogram showed stone clearance and improvement of the obstruction (Fig. 1I). Endotherapy was stopped, and the patient remains asymptomatic without dependence on analgesic agents for the past 8 months.

Although experience is limited, pancreatoscopy-guided electrohydraulic lithotripsy associated with intensive endotherapy can induce stone clearance and clinical improvement alone or as a complement to extracorporeal shock-wave lithotripsy.

DISCLOSURE

Dr Canena is a consultant for Boston Scientific. All other authors disclosed no financial relationships relevant to this publication.

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