

Two-step endoscopic ultrasound-guided rendezvous technique combined with antegrade electrohydraulic lithotripsy for a huge pancreatic duct stone

The endoscopic ultrasound-guided rendezvous technique (EUS-RV) is a useful procedure for difficult cannulation of not only the bile duct, but also the pancreatic duct [1–4]. In addition, if guidewire passage from the papilla across the obstructed site is challenging, antegrade guidewire insertion under EUS guidance is one of several possible methods. Herein, we describe a two-step EUS-RV technique combined with antegrade electrohydraulic lithotripsy (EHL) for a huge pancreatic duct stone.

A 48-year-old man was admitted to our hospital with obstructive jaundice and acute pancreatitis due to chronic pancreatitis that was complicated by a huge pancreatic duct stone. Endoscopic retrograde cholangiopancreatography (ERCP) was therefore attempted. First, biliary drainage using a fully covered metal stent was successfully performed. Pancreatic duct drainage was then attempted; however, although pancreatic duct

cannulation could be performed, passage of the guidewire failed. Therefore, EUS-guided pancreatic duct drainage was performed using a 6-mm covered metal stent.

After 1 week, the covered metal stent was removed and, to obtain partial stone fragmentation, antegrade EHL was attempted using a digital single-operator cholangiopancreatroscope (SPY-DS; Boston Scientific) (► Fig. 1 and ► Fig. 2). After stone fragmentation had been partially obtained, guidewire passage beyond the huge pancreatic duct stone was again attempted, with the guidewire this time being successfully deployed (► Fig. 3 a). Next, the duodenoscope was removed, leaving the guidewire in position, before the scope was advanced again to the region of the papilla. The guidewire was grasped using biopsy forceps (► Fig. 3 b) and pulled into the scope channel. An ERCP catheter was then inserted, with successful passage

of the catheter across the huge pancreatic duct stone. Finally, a plastic stent was deployed without any adverse events (► Fig. 3 c; ► Video 1).

Our technique may be useful for situations where it is challenging to pass the guidewire across a site of obstruction.

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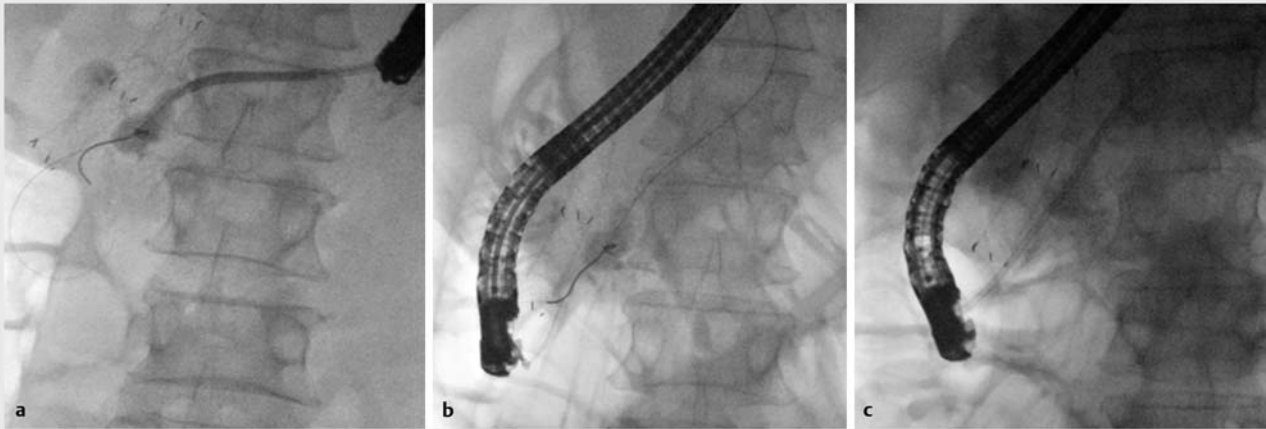
► Fig. 1 Radiographic image showing antegrade electrohydraulic lithotripsy being performed through an endoscopic ultrasound-guided pancreatic duct drainage route.



► Video 1 Endoscopic ultrasound-guided rendezvous (EUS-RV) technique combined with antegrade electrohydraulic lithotripsy (EHL). After guidewire placement, the covered metal stent is removed. A digital pancreatoscope is then inserted into the main pancreatic duct through the fistula and antegrade EHL is performed, resulting in partial stone fragmentation. The guidewire can now be advanced into the intestine across the huge pancreatic duct stone and through the ampulla of Vater. The EUS-guided rendezvous technique is then performed and, finally, a plastic stent is successfully deployed.



► Fig. 2 Endoscopic view showing partial fragmentation of the pancreatic duct stone.



► **Fig. 3** Radiographic images showing: **a** the guidewire being successfully advanced beyond the huge pancreatic duct stone and through the ampulla of Vater into the intestine; **b** endoscopic ultrasound-guided rendezvous technique being attempted; **c** a plastic stent successfully deployed.

Competing interests

None

The authors

Takeshi Ogura, Nobu Nishioka, Masanori Yamada, Kazuya Ueshima, Kazuhide Higuchi
2nd Department of Internal Medicine, Osaka Medical College, Osaka, Japan

Corresponding author

Takeshi Ogura, MD
2nd Department of Internal Medicine, Osaka Medical College, 2-7 Daigakuchou, Takatsukishi, Osaka 569-8686, Japan
Fax: +81-72-6846532
oguratakeshi0411@yahoo.co.jp

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DOI <https://doi.org/10.1055/a-0866-9082>
Published online: 25.3.2019
Endoscopy 2019; 51: E149–E150
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Stuttgart · New York
ISSN 0013-726X

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