Electronic hydraulic lithotripsy by antegrade digital cholangioscopy through endoscopic ultrasound-guided hepaticojejunostomy

This report describes antegrade electronic hydraulic lithotripsy (Lithotron EL 27; Walz Elektronik, Rohrdorf, Germany) using a digital peroral cholangioscope (SpyGlass DS System; Boston Scientific, Marlborough, Massachusetts, USA) [1,2] through an endoscopic ultrasound (EUS)-guided hepaticojejunostomy route for common bile duct (CBD) stones (▶Video 1).

A 77-year-old man, who underwent total gastrectomy with a Roux-en-Y procedure for gastric cancer, presented with cholangitis caused by CBD stones. Endoscopic transpapillary drainage was attempted, but the scope could not be inserted into the ampulla; therefore, EUS-guided hepaticojejunostomy was performed. From the Roux-en-Y jejunum, the dilated intrahepatic bile duct was punctured with a 19-gauge needle under EUS. After guidewire insertion toward the distal bile duct, the puncture site was dilated using a balloon dilator (diameter 4 mm, REN; Kaneka Medix, Osaka, Japan) (▶Fig. 1). A covered metal stent (diameter 8 mm, length 8 cm, Niti-S; Taewoong Medical, Gyeonggi-do, South Korea) was inserted between the intrahepatic bile duct and the Roux-en-Y jejunum (▶Fig. 2). The following day, the patient’s cholangitis was markedly improved, and he was discharged 3 days after surgery.

The patient was re-admitted to our hospital 4 weeks later to continue treatment for CBD stones. The cholangioscope was inserted over the guidewire through the metal stent (▶Fig. 3), and the CBD stones were revealed by cholangioscopy (▶Fig. 4a). The stones were crushed by electronic hydraulic lithotripsy (▶Fig. 4b). Subsequently, the metal stent was removed and a balloon dilator was inserted into the fistula toward the ampulla and dilated up to 12 mm (▶Fig. 5a). The CBD stones were pushed out into the digestive tract in an antegrade fashion using a balloon catheter (▶Fig. 5b). Finally, a single-pigtail plastic stent (7Fr, 20 cm length)

▶Fig. 1 Fluoroscopic image showing a common bile duct stone (arrowhead) and balloon dilator (arrows).

▶Fig. 2 Stent deployment between the intrahepatic bile duct and the Roux-en-Y jejunum (arrows). a Fluoroscopic image. b Endoscopic image.

▶Video 1 Antegrade electronic hydraulic lithotripsy using a digital peroral cholangioscope through an endoscopic ultrasound-guided hepaticojejunostomy fistula. This novel method could become a rescue procedure when the conventional transpapillary approach is unsuccessful.
[3] was deployed between the CBD and the Roux-en-Y jejunum (Fig. 6). The patient resumed eating 4 days after surgery with no adverse effects, and was discharged 7 days after surgery.

Endoscopy_UCTN_Code_TTT_1AR_2AH

Competing interests

None

The Authors

Yasuo Otsuka, Ken Kamata, Mamoru Takenaka, Kosuke Minaga, Hidekazu Tanaka, Masatoshi Kudo
Department of Gastroenterology and Hepatology, Kindai University School of Medicine, Osaka-Sayama, Japan

Corresponding author

Ken Kamata, MD, PhD
Department of Gastroenterology and Hepatology, Kindai University Faculty of Medicine, 377-2 Ohno-Higashi, Osaka-Sayama, 589-8511, Japan
Fax: +81-72-3672880
ky11@leto.eonet.ne.jp
References


Bibliography
DOI https://doi.org/10.1055/s-0043-119971
Published online: 9.10.2017
Endoscopy 2017; 49: E316–E318
© Georg Thieme Verlag KG
Stuttgart · New York
ISSN 0013-726X

ENDOSCOPY E-VIDEOS
https://eref.thieme.de/e-videos

Endoscopy E-Videos is a free access online section, reporting on interesting cases and new techniques in gastroenterological endoscopy. All papers include a high quality video and all contributions are freely accessible online.

This section has its own submission website at https://mc.manuscriptcentral.com/e-videos