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 using a balloon catheter (Fig. 5b). Finally, a single-pigtail plastic stent (7Fr, 20 cm length)
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.

Competing interests

None
References


Bibliography

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