Electrohydraulic lithotripsy for pancreatic duct stones under temporary 6-mm fully covered metal stent placement

Pancreatic duct stones (PDSs) can be treated by electrohydraulic lithotripsy (EHL) under endoscopic retrograde cholangiopancreatography (ERCP) guidance [1, 2]. The availability of the digital single-operator cholangioscope (SpyGlass DS; Boston Scientific, Natick, Massachusetts, USA) [3, 4] allows EHL to be more easily performed. However, if patients’ conditions are complicated by main pancreatic duct (MPD) stenosis, EHL for PDSs under pancreatoscopy guidance may be challenging. Herein, we describe some technical tips for the use of EHL to treat a PDS with placement of a temporary 6-mm fully covered self-expandable metal stent (FCSEMS).

A 49-year-old man was admitted to our hospital because of abdominal pain due to chronic pancreatitis. On computed tomography (CT) scanning, a pancreatic stone was seen in the pancreatic body. Stone removal under ERCP was therefore attempted. A duodenoscope (JF260V; Olympus Optical, Tokyo, Japan) was inserted into the ampulla of Vater, and an ERCP catheter (MTW Endoskopie, Düsseldorf, Germany) was inserted into the MPD. Pancreatography showed a tight stricture in the pancreatic head (Fig. 1a) and a stone in the pancreatic body. Although balloon dilation was performed, it was not possible to achieve enough dilation. Therefore, to allow insertion of the pancreateoscope, placement of a metal stent (6-mm × 6-cm, Niti-S Biliary S-Type Stent Long Suture; TaeWoong Medical, Seoul, Korea) was performed (Fig. 1b).

After 1 day, with the FCSEMS fully expanded, the pancreateoscope was inserted into the MPD through the stent (Fig. 1c; Video 1). The pancreatic stone could be clearly observed and EHL was attempted. An electrohydraulic shock wave generator (Lithotron EL27; Walz Elektronik GmbH) was used to generate shock waves of increasing frequency, which were applied as a continuous sequence of discharges during EHL. EHL was successfully performed and the stone was subsequently removed using...
a basket catheter through the FCSEMS (▶Fig.2). Finally, the FCSEMS was removed and a plastic stent was placed instead, without any adverse events (▶Fig.3).

The use of our technique may be indicated, even in patients whose management is complicated by an MPD stricture.

Competing interests
None

The authors
Takeshi Ogura, Atsushi Okuda, Akira Miyano, Nobu Nishioka, 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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