

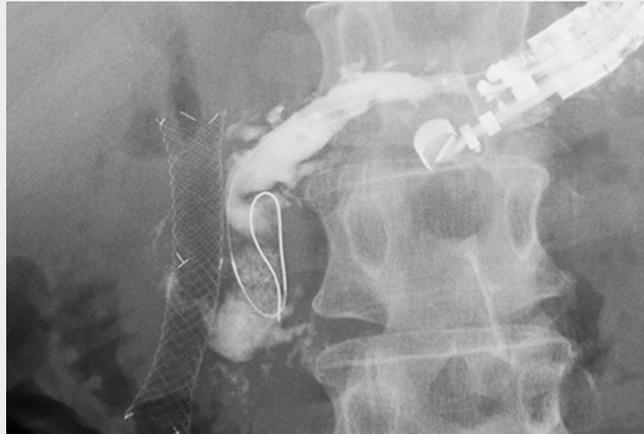
## Endoscopic ultrasound-guided pancreatic duct drainage using a fine-gauge balloon catheter



► **Fig. 1** The novel fine-gauge balloon catheter (REN biliary dilation catheter; KANEKA, Osaka, Japan). The top of this balloon catheter is only 3 Fr and tapered, and is coaxial with the guidewire.

Pancreatic duct drainage under endoscopic retrograde cholangiopancreatography (ERCP) is an established method to treat chronic pancreatitis. However, a pancreatic duct stone is sometimes impacted in the main pancreatic duct. Therefore, pancreatic duct drainage may sometimes be challenging. Recently, various techniques under endoscopic ultrasound guidance have been reported, including biliary drainage or pancreatic duct drainage (EUS-PD) [1–4]. During an EUS-PD procedure, tract dilation is one of the challenging steps. To dilate the tract, electrocautery dilation can be easily performed compared with graded dilation because the parenchyma in chronic pancreatitis is sometimes hard. Recently, a fine-gauge balloon catheter has been available in Japan (REN biliary dilation catheter; KANEKA, Osaka, Japan) (► **Fig. 1**). The top of this balloon catheter is only 3 Fr and is tapered. In addition, this balloon is coaxial with the guidewire [5]. We herein describe technical tips for EUS-PD using this balloon catheter (► **Video 1**).

The echoendoscope was inserted into the stomach, and the main pancreatic duct was identified. The main pancreatic duct was punctured using a 19-G needle (Sono Tip Pro Control 19G; Medi-Globe GmbH, Rosenheim, Germany), and the contrast medium was injected (► **Fig. 2a**). Then, a 0.025-inch guide-



► **Video 1** The main pancreatic duct is punctured using a 19-G needle, and the contrast medium is injected. The 0.025-inch guidewire is inserted into the main pancreatic duct. Then, the main pancreatic duct and stomach wall are dilated using fine-gauge balloon catheter. Finally, a plastic stent is deployed from the main pancreatic duct to the stomach.



► **Fig. 2** Fluoroscopy images. **a** The contrast medium was injected through a 19-G needle. **b** A 0.025-inch guidewire was inserted into the main pancreatic duct. **c** The main pancreatic duct and stomach wall were dilated using the fine-gauge balloon catheter. **d** A plastic stent was deployed from the main pancreatic duct to the stomach.

wire was inserted into the main pancreatic duct through the needle (► **Fig. 2 b**). Next, the fine-gauge balloon catheter was inserted and successfully dilated the stomach and pancreatic duct walls (► **Fig. 2 c**). Finally, a plastic stent (Gadellius Medical Co, Ltd, Tokyo, Japan) was successfully deployed without any adverse events (► **Fig. 2 d**).

This fine-gauge balloon catheter may have clinical impact not only for use during ERCP but also as a dilation device in various drainage techniques under EUS guidance.

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### Competing interests

None

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### Bibliography

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