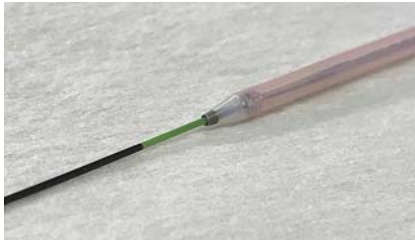


## One-step puncture and dilation with fine-gauge electrocautery dilator for endoscopic ultrasound-guided gallbladder drainage



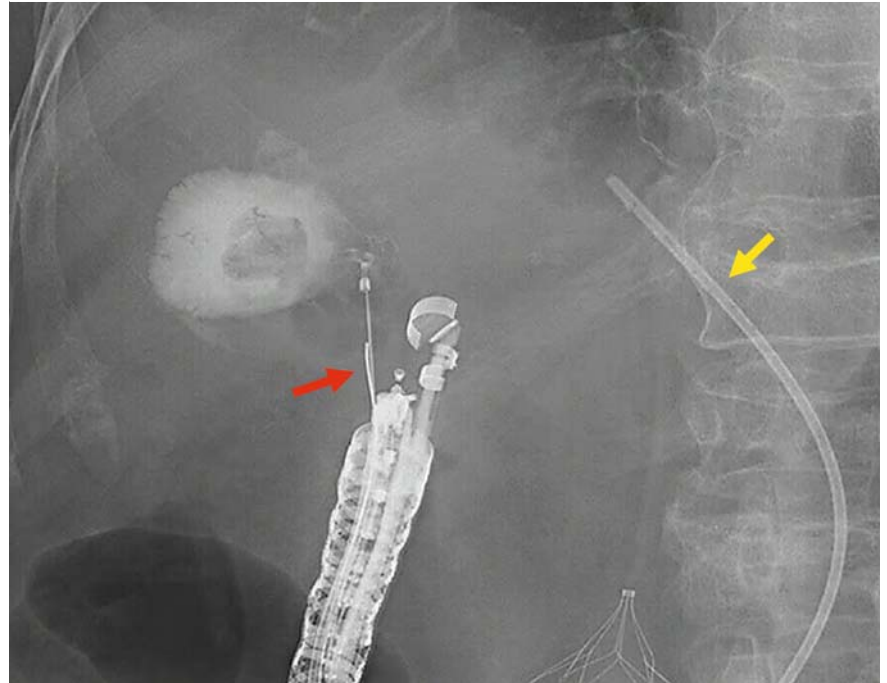
► **Fig. 1** The novel fine-gauge electrocautery dilator (Fine 025, Medico's Hirata Inc., Osaka, Japan). The distal end of the outer dilator has a 3-Fr metal tip. This electrocautery dilator is wire-guided and coaxial with a 0.025-inch guidewire. In addition, contrast medium injection is possible under guidewire loading.



► **Fig. 2** Endoscopic ultrasound image shows that the gallbladder was successfully punctured by the fine-gauge electrocautery dilator (red arrow).



► **Fig. 4** A 7-Fr double-pigtail plastic stent was placed within a fully covered metal stent.



► **Fig. 3** Contrast medium injection was possible under guidewire loading (red arrow). A plastic stent placed one and a half years earlier during endoscopic ultrasound-guided hepaticogastrostomy for the management of cholangitis was recognized (yellow arrow).

Recently the usefulness of a novel fine-gauge electrocautery dilator (Fine 025; Medico's Hirata Inc., Osaka, Japan) (► **Fig. 1**) has been reported for endoscopic ultrasound (EUS)-guided therapy [1–3]. Herein we describe a successful one-step puncture and tract dilation using this dilator during EUS-guided gallbladder drainage (EUS-GBD).

An 83-year-old woman was admitted to our hospital with recurrent gallstone cholecystitis. Considering her performance status, we decided to perform EUS-GBD.

The gallbladder was visualized using an echoendoscope from the duodenum. A shorter procedure time and fewer device exchanges may be required to reduce bile leakage; however, one-step devices, such as the Hot AXIOS (Boston Scientific, Marlborough, MA), are not yet available for EUS-GBD in Japan. Therefore, we at-

tempted to puncture the gallbladder and dilate the tract in one step using a fine-gauge electrocautery dilator (Fine 025) with a preloaded 0.025-inch guidewire (VisiGlide 2; Olympus Medical Systems, Tokyo, Japan).

The gallbladder was successfully punctured with an electrocautery dilator (► **Fig. 2**), and subsequent injection of contrast medium was possible under guidewire loading (► **Fig. 3**). After the guidewire was inserted and coiled into the gallbladder under fluoroscopic guidance, the dilator was removed. A fully covered metal stent (diameter, 10 mm; length, 6 cm) (BONA stent; Standard SciTech Inc., Seoul, Korea) was successfully placed without additional tract dilation from the gallbladder into the duodenum. Finally, a 7-Fr double-pigtail plastic stent (length, 10 cm) (Mediglobe GmbH, Rosenheim, Germany) was passed from



**▶ Video 1** Puncture and tract dilation in one step using a fine-gauge electrocautery dilator during endoscopic ultrasound-guided gallbladder drainage.

the gallbladder to the duodenum through the metal stent to prevent stent migration and food impaction (▶ **Fig. 4**, ▶ **Video 1**).

Our experience with this case suggests that puncture and tract dilation in one step using a fine-gauge electrocautery dilator is an option for EUS-GBD. Further studies involving many cases are needed to validate the safety and efficacy of this one-step procedure.

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### Competing interests

The authors declare that they have no conflict of interest.

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