

## Recanalization using diathermic dilator for stent obstruction due to tumor ingrowth

Endoscopic biliary drainage has become established as first-line treatment for obstructive jaundice. However, if the stent becomes obstructed by tumor ingrowth, re-intervention can sometimes be challenging. One of the challenges can be difficulty in dilating the stricture. Several techniques for resolving this have been reported, such as those using the Soehendra stent retriever or a needle-knife catheter [1,2]. More recently, Kawakami et al. have reported on the clinical impact of transpapillary dilation of refractory severe biliary stricture and main pancreatic duct stricture using a diathermic dilator (Cysto-Gastro-Set; Endo-Flex GmbH, Voerde, Germany) (Fig. 1) [3,4]. We report successful treatment for stent obstruction due to tumor ingrowth using this diathermic dilator.

A 63-year-old man was admitted to our hospital because of obstructive jaundice. He had 8 months previously undergone placement of uncovered metallic stents (from the right to the common bile duct, and from the left to the lower bile duct) because of obstructive jaundice caused by bile duct cancer. We decided to perform a re-intervention. We inserted an endoscopic retrograde cholangiopancreatography (ERCP) cannula (MTW Endoskopie, Wesel, Germany) into the previously placed metallic stent, injected contrast medium, and visualized the stent obstruction (Fig. 2). We advanced a 0.025-inch guidewire (VisiGlide; Olympus Medical Systems, Tokyo, Japan) into the right intrahepatic bile duct, but could not then advance either the ERCP cannula or a balloon catheter past the obstruction (Fig. 3). Next, therefore, we advanced the diathermic dilator. Using an electrosurgical high-frequency generator (ESG-100; Olympus), diathermy was applied until the dilator passed through the stricture (in cut mode, 30W in endo-cut mode) [3]. Finally, we placed a 6-Fr endoscopic nasal biliary drainage tube (Fig. 4). After 4 days, the patient underwent a second session, when a metallic stent was placed.



**Fig. 1** The 6-Fr diathermic dilator (Cysto-Gastro-Set; Endo-Flex GmbH, Voerde, Germany) fit over the guidewire.



**Fig. 2** Cholangiography showed stent obstruction and a dilated biliary tree.

The diathermic dilator is clinically useful and, to our knowledge, the case we have presented may be the first reported case of successful recanalization of stent obstruction using the diathermic dilator.

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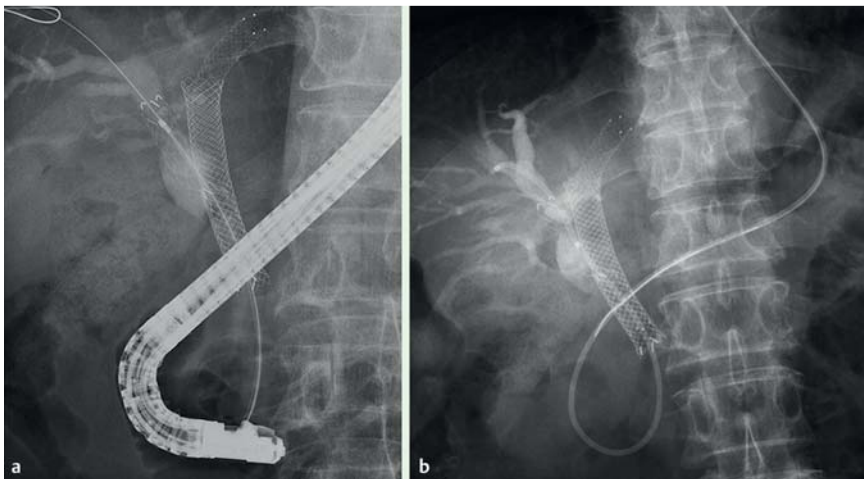
**Competing interests:** None

### Video 1

We inserted an endoscopic retrograde cholangiopancreatography (ERCP) cannula and injected contrast medium. First, we advanced a 0.025-inch guidewire into the right intrahepatic bile duct, but we could not then advance either the ERCP cannula or a balloon catheter past the obstruction. Next, therefore, we advanced the diathermic dilator, and with this we successfully advanced into the right intrahepatic bile duct. Finally, we placed a 6-Fr endoscopic nasal biliary drainage tube.



**Fig. 3** First, we inserted the guidewire and advanced first an endoscopic retrograde cholangiopancreatography cannula, then a balloon catheter, but severe stricture prevented further passage.



**Fig. 4 a,b** After dilation of the stricture using the diathermic dilator, we successfully advanced a 6-Fr endoscopic nasal biliary drainage tube.

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### Bibliography

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