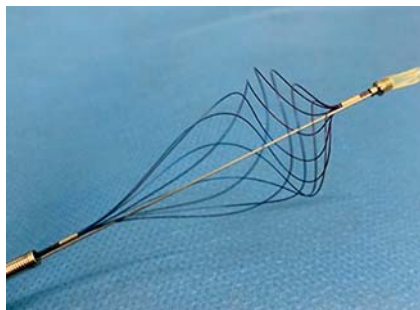


## Removal of a huge biliary stone using a novel spiral basket via the endoscopic ultrasound-guided hepaticojejunostomy route



► **Fig. 1** The novel spiral basket catheter (VorticCatch V; Olympus Medical Systems, Tokyo, Japan).

Antegrade bile duct stone removal is an option for the treatment of bile duct stones with inaccessible papillae, for example due to surgically altered anatomy [1–3]. Acute pancreatitis can develop as a complication of this procedure because it requires endoscopic papillary balloon dilation. Alternatively, transluminal stone removal can be performed without the risk of acute pancreatitis [4]. However, during transluminal stone removal, stones can migrate into the right bile duct system or B2. Therefore, transluminal stone removal should be attempted

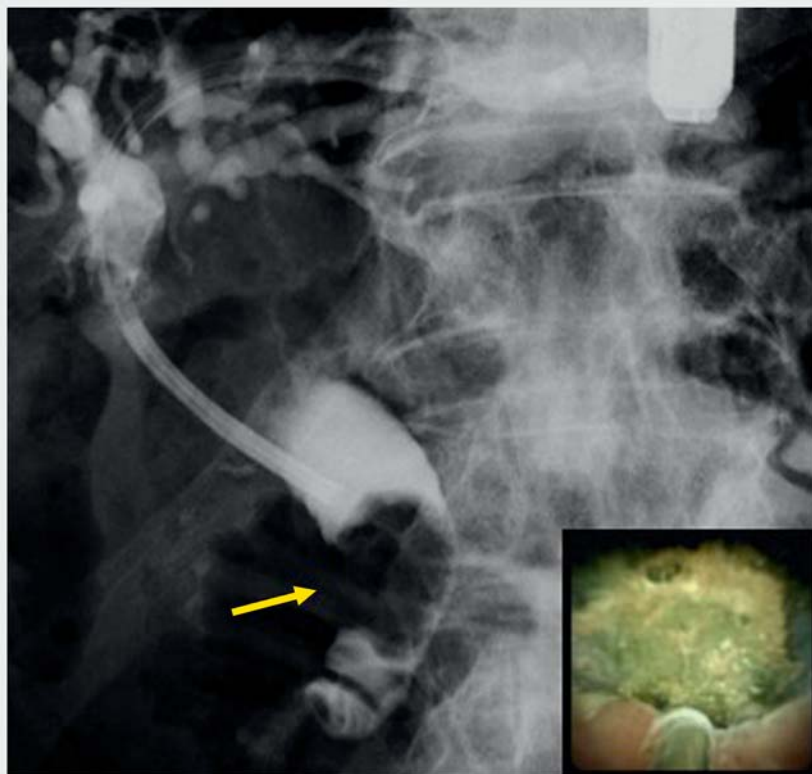
using special stone-catching devices. Recently, a novel spiral basket catheter (VorticCatch V; Olympus Medical Systems, Tokyo, Japan) has become available in Japan (► **Fig. 1**). The spiral shape of this device, along with the presence of a guidewire, enhances its ability to catch stones. We herein describe the technical procedure for removal of a huge common bile duct (CBD) stone via the endoscopic ultrasound (EUS)-guided hepaticojejunostomy (HJS) route using this novel spiral basket catheter.

A 77-year-old man who underwent total gastrectomy was hospitalized because of obstructive jaundice due to a huge CBD stone. EUS-HJS was performed using a metal stent, and stone removal was attempted after 1 week. First, the EUS-HJS stent was removed. Then, a cholangioscope was inserted and the huge CBD stone was identified (► **Fig. 2**). Endoscopic hydraulic lithotripsy was attempted and stone fragmentation was performed (► **Fig. 3**). Next, the novel spiral basket was inserted into the CBD and the fragments were grasped. Owing to its superior ability to catch stones, transluminal stone removal was successfully performed without stone migration into other bile duct branches (► **Fig. 4**, ► **Video 1**). Finally, to maintain patency of the fistula, a plastic stent was deployed (► **Fig. 5**). In conclusion, this novel spiral basket might be clinically useful for transluminal stone removal.

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### Competing interests

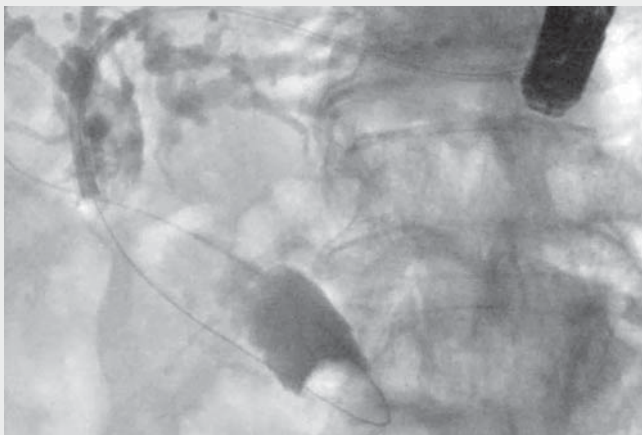
The authors declare that they have no conflict of interest.



► **Fig. 2** A huge common bile duct stone was observed (arrow).



► **Fig. 3** Stone fragmentation was successfully performed using endoscopic hydraulic lithotripsy under cholangioscopic guidance.



► **Video 1** The endoscopic ultrasound-guided hepaticojejunostomy stent was removed. The huge stone was fragmented using endoscopic hydraulic lithotripsy. The novel spiral basket was inserted, and transluminal stone removal was attempted several times.

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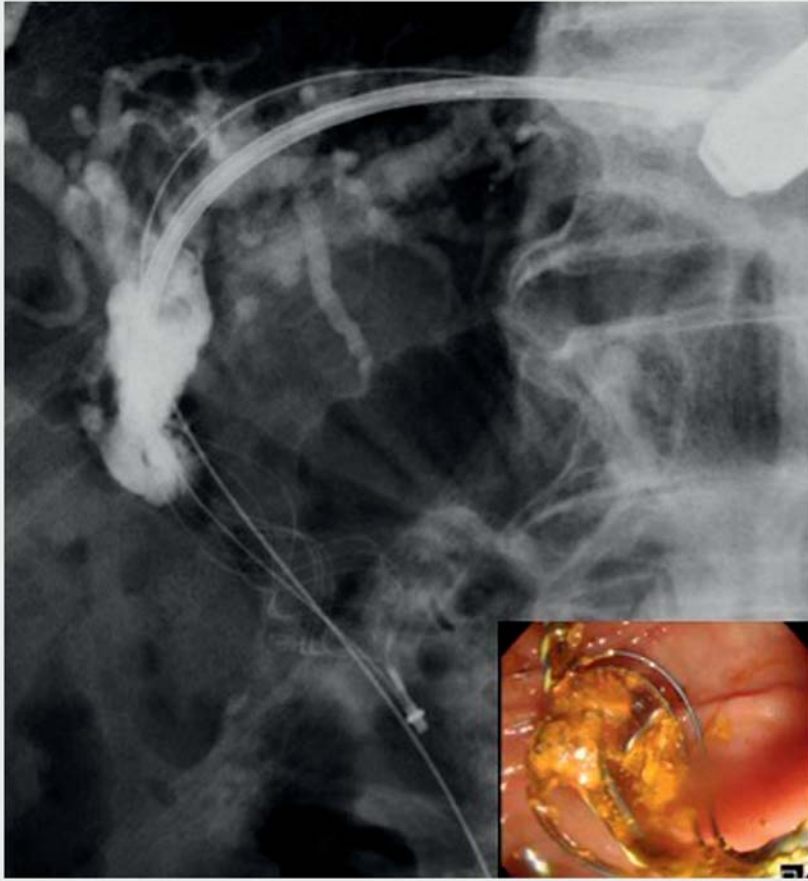
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► **Fig. 4** The novel spiral basket catheter was inserted into the common bile duct through the fistula, and the fragmented stone was successfully removed.



► **Fig. 5** A plastic stent was deployed.

## Bibliography

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