

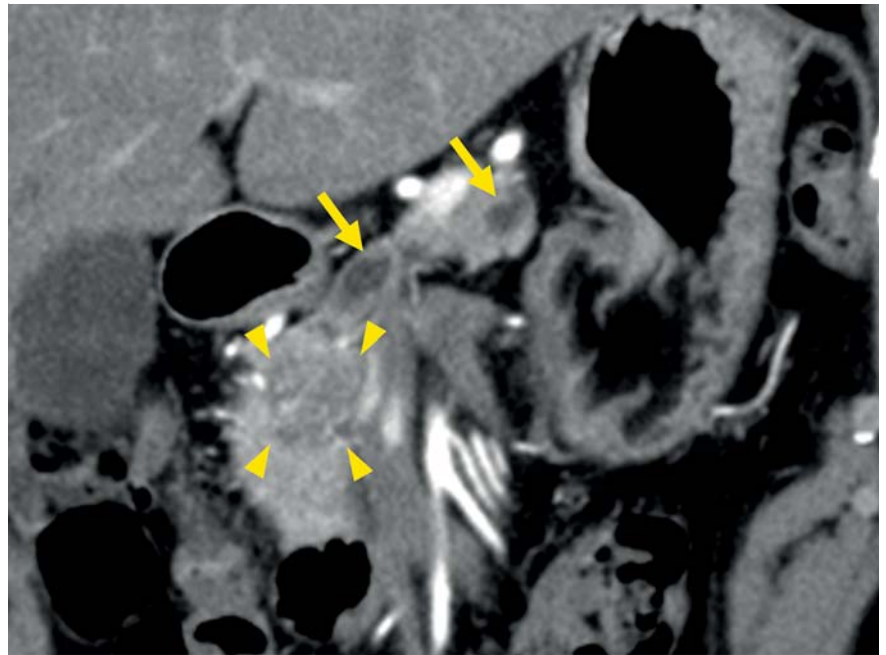
## Endoscopic ultrasonography-guided pancreaticoduodenostomy with a lumen-apposing metal stent to treat main pancreatic duct dilatation

A 60-year-old woman was referred to our hospital for work-up of a mass in the pancreas with main pancreatic duct (MPD) dilatation. She had no symptoms, but had a history of abnormal glucose tolerance for 2 years. A contrast-enhanced computed tomography (CT) scan showed a low density mass with scattered contrast enhancement in the pancreatic head and dilatation of the distal MPD (► Fig. 1). Endoscopic ultrasonography (EUS) revealed a multilocular cyst with microcysts in the area, which was compressing the MPD and causing the MPD dilatation (► Fig. 2). The lesion was eventually diagnosed as a serous cystadenoma and was observed with regular imaging tests.

Over a period of 4 years, the MPD dilatation and atrophy of the pancreatic body and tail gradually progressed (► Fig. 3) and her glucose tolerance tests worsened. Because pancreaticoduodenectomy was judged to be too invasive, endoscopic ultrasonography-guided pancreaticoduodenostomy (EUS-PDS) using a lumen-apposing metal stent (LAMS) was scheduled, with her written informed consent, as a minimally invasive alternative.

After inserting an echoendoscope to the bulb of the duodenum, we saw remarkable MPD dilatation, with the appearance of a cyst measuring 4.2×4.8 cm at the pancreatic head, adjacent to the duodenum; a safe puncture route was confirmed. Thereafter, a skilled endoscopist punctured the MPD with cautery assistance and a LAMS was placed within 80 seconds and without adverse events (► Video 1). CT images 2 months after the procedure confirmed decompression of the MPD had been achieved (► Fig. 4) and this was sustained without adverse events 3 months after endoscopic removal of the LAMS (► Fig. 5).

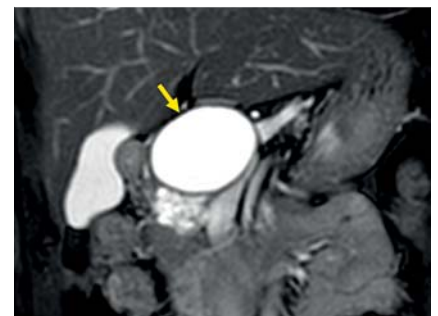
EUS-guided pancreatic duct drainage, including by EUS-PDS, is one of the methods of endoscopic pancreatic duct drain-



► Fig. 1 Contrast-enhanced computed tomography image showing a low density mass with scattered contrast enhancement in the pancreatic head (arrowhead) and dilatation of the distal main pancreatic duct (arrows).



► Fig. 2 Endoscopic ultrasonography image showing a multilocular cyst with microcysts in the pancreatic head (arrowhead) and dilatation of the distal main pancreatic duct (arrows).

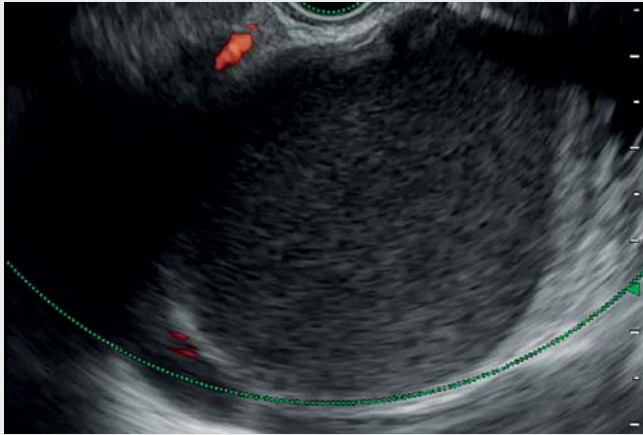


► Fig. 3 Magnetic resonance image showing cystic main pancreatic duct dilatation (arrow) and atrophy of the pancreatic body and tail 4 years after the initial diagnosis.

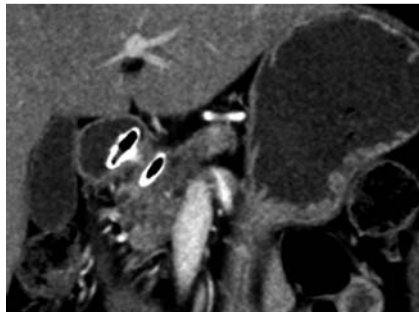
age and has been used for MPD dilatation due to pancreatitis, pancreatic fistulas, or postoperative anastomotic strictures [1–4]. This is the first case reported with a serous cystadenoma and cystic MPD dilatation for which EUS-PDS was feasible and available. This therapy is minimally

invasive and could provide a new option for patients with MPD dilatation before pancreatic resection.

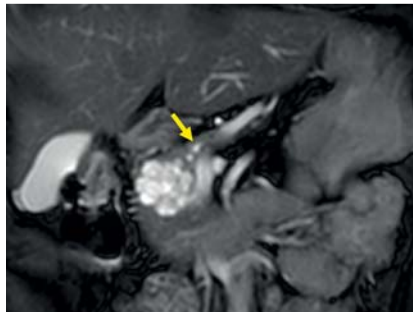
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**▶ Video 1** Endoscopic ultrasonography-guided pancreaticoduodenostomy using a lumen-apposing metal stent for the treatment of cystic main pancreatic duct dilatation.



**▶ Fig. 4** Contrast-enhanced computed tomography image 2 months after the procedure showing decompression of the main pancreatic duct.



**▶ Fig. 5** Magnetic resonance image 3 months after endoscopic removal of the lumen-apposing metal stent showing the sustained decompression of the main pancreatic duct (arrow).

## Competing interests

The authors declare that they have no conflict of interest.

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## Bibliography

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