A 52-year-old man presented with abdominal pain and jaundice for 2 months. Computed tomography (CT) revealed a huge mass at the pancreatic head causing distal common bile duct (CBD) obstruction with superior mesenteric vein and superior mesenteric artery encasement (Fig. 1).

The man underwent endoscopic retrograde cholangiopancreatography (ERCP), but we could not pass the duodenoscope through the duodenum because of tumor invasion. Therefore, a self-expandable metallic stent (SEMS) (Wallstent TM; Boston Scientific, Maryland, USA) was inserted. He underwent ERCP 2 weeks later but the ampulla was obscured. Therefore, endoscopic ultrasound (EUS) was considered for internal biliary drainage. The EUS showed a complex mass, 5.2 × 3.3 cm, at the pancreatic head, and the CBD was 2.05 cm (Fig. 2).

After EUS-guided cholangiography, tailor-made Teflon dilators – 7 and 8.5 Fr – were used for dilation over the wire (Figs. 3 and 4).

Then an 8.5 Fr × 6.5 cm tailor-made tapered-tip plastic stent, with multiple fangs but without a side hole, was inserted, and gave satisfactory drainage (Figs. 5 and 6).

The patient was discharged without any complications. He was scheduled for SEMS insertion 4 months later.

In advanced pancreatic cancer, such as this case, percutaneous transhepatic biliary drainage (PTBD) and surgical drainage are the alternative options. PTBD is reported to have a higher complication rate of 10%–30%, while surgery is associated with a 2%–5% mortality and 17%–37% morbidity [1]. Even though EUS-guided biliary drainage was reported to be the safe and feasible procedure [2, 3], it is not widely used because it requires more-advanced endoscopic skills. Possible complications of the EUS-guided biliary drainage, for example bile leakage and pneumoperitoneum, have also been reported. We minimized the leakage in this case by using a dilator instead of a needle knife or balloon dilation. We made the plastic stent ourselves instead of using a commercial one to make stent insertion easier.

EUS-guided choledochoduodenostomy for biliary drainage using tapered-tip plastic stent with multiple fangs
er, prevent bile leakage, and prevent CBD injury during stent insertion. Our idea of multiple fangs without a side-hole was to prevent stent migration and early clogging.

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Competing interests: None

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Fig. 4 Cholangiogram.

Fig. 5 Our tailormade tapered-tip plastic stent with multiple fangs and no side hole.

Fig. 6 After stent insertion.