Intrahepatic migration of pancreatic stent after pancreaticoduodenectomy: percutaneous cholangioscopic retrieval is feasible

Su Kah Goh ^{1,2}, Hong Kuan Kok,^{3,4} Nezor Houli¹

¹Hepatopancreaticobiliary Unit, Northern Hospital Epping, Epping, Victoria, Australia

²Hepatopancreaticobiliary and Transplant Unit, Austin Health, Heidelberg, Victoria, Australia

³Interventional Radiology Service, Northern Hospital Epping, Epping, Victoria, Australia

⁴School of Medicine, Faculty of Health, Deakin University, Waurn Ponds, Victoria, Australia

Correspondence to

Su Kah Goh;
sukah.goh@austin.org.au

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DESCRIPTION

Transanastomotic stents are often used in pancreaticoduodenectomy to maintain ductal patency and support the healing of anastomoses. This is widely performed, with a view of minimising postoperative pancreatic fistulas.^{1,2} The use of transanastomotic stents is associated with sepsis, bleeding, pancreatitis and migration. Rarely, such stents have been reported to migrate into the biliary tree.^{3,4} Retention may lead to inflammation and cholangitis.^{5,6}

Herein, we describe a case where a pancreatic stent had migrated into a segment VI intrahepatic duct following a pancreaticoduodenectomy.

A patient underwent a pancreaticoduodenectomy for a pancreatic neoplasm. Gastrointestinal continuity was accordingly restored. The pancreaticojejunostomy was reconstructed in an end-to-side and duct-to-mucosa fashion. A transanastomotic pancreatic stent (Cook Medical) was placed. This was followed by an end-to-side hepaticojejunostomy, loop gastrojejunostomy and a Braun enteroenterostomy.

Twelve months later, the patient developed episodic cholangitis. Cross-sectional imaging demonstrated a migrated pancreatic stent in a segment VI duct. Two attempts at percutaneous transhepatic retrieval were unsuccessful, owing to sharp acute angulation of the segment VI duct origin and distal stent impaction.

Subsequently, an interventional radiology (IR)-assisted percutaneous cholangioscopic stent retrieval was performed. An existing 8-French internal-external biliary drain (Cook Medical) was upsized and a safety guidewire was positioned across the hepaticojejunostomy to secure the access.

The segment VI duct was cannulated using a reverse curve catheter under fluoroscopic guidance to facilitate placement of a guidewire. Initial attempts at trawling the duct was unsuccessful. A CHF-V choledochoscope (Olympus) with a 2.8 mm working channel was subsequently advanced over the wire into the segment VI duct. The guidewire facilitated the passage of the choledochoscope across an acute angle between the established tract and the opening of the segment VI duct. The stent was visualised and the tip of the stent was secured using a ZeroTip Nitinol Retrieval Basket (Boston Scientific). Under direct cholangioscopic vision and fluoroscopic control ([figure 1](#)), the stent was removed.

The management of perioperative complications after pancreatic surgery is challenging. The need for retrieving retained stents is dependent on the patient's clinical status. Ongoing sepsis prompted the need for stent retrieval in this case.

Techniques such as IR-assisted percutaneous snaring, endoscopic retrograde cholangiopancreatography (ERCP), ERCP with SpyGlass (Boston Scientific) or balloon-assisted enteroscopy have been described for retrieving retained biliary foreign bodies, however, these techniques can be challenging.⁷⁻⁹

IR-assisted percutaneous cholangioscopy using choledochoscopes to manage biliary stones is well described.^{10,11} This technique is also used at our institution to manage complex intrahepatic biliary stones. Adopting a similar approach, we used this technique to remove a migrated pancreatic stent. Recently, the use of IR-assisted percutaneous cholangioscopy with Spyglass have also been described for successful treatment of biliary stones, removal of foreign body and biopsy of suspicious strictures.^{12,13}

As highlighted by this case, the use of an IR-assisted percutaneous cholangioscopic approach to salvage the retrieval of retained intrahepatic foreign bodies is feasible, particularly when faced with challenging or unfavourable ductal anatomy. Broadening the armamentarium of such minimally

Figure 1 Interval images showing the successful retrieval of a pancreatic stent that migrated into a segment VI intrahepatic duct using an interventional radiology assisted percutaneous cholangioscopic approach. *Tip of faintly radio-opaque stent, #safety wire traversing the hepaticojejunostomy with the tip situated in the jejunum, arrow: tip of the choledochoscope.

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Images in...

invasive rescue therapies is useful and may reduce the need of invasive open procedures.

Learning points

- Migration of transanastomotic stents after pancreaticoduodenectomy is an uncommon but recognised postoperative complication.
- The management of stents that have migrated into the intrahepatic biliary system can be challenging.
- Interventional radiology assisted percutaneous cholangioscopy is a feasible approach for the retrieval of intrahepatic foreign bodies.

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ORCID iD

Su Kah Goh <http://orcid.org/0000-0002-6684-2521>

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