

The “zipline” technique for endoscopic removal of a migrated pancreatic stent

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► **Fig. 1** Fluoroscopy shows a pancreatic plastic stent totally migrated into the pancreatic duct.

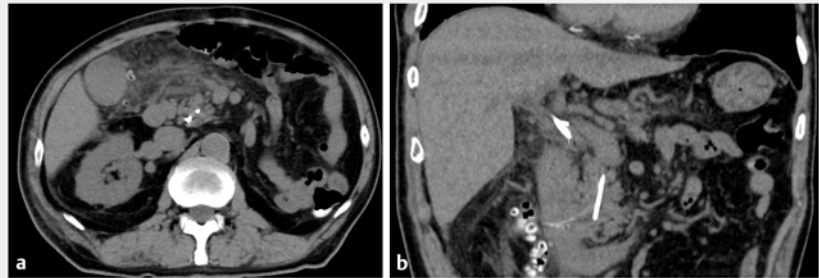


► **Fig. 3** Fluoroscopic image shows the biopsy forceps grasping the migrated stent using the “zipline” technique.



► **Fig. 4** Biopsy forceps with looped nylon thread over the guidewire.

Prophylactic placement of a pancreatic stent can reduce post-endoscopic retrograde cholangiopancreatography (ERCP) pancreatitis (PEP), but it entails the risk



► **Fig. 2** Computed tomography indicates **a** severe acute pancreatitis; **b** pancreatic stent migration.



► **Video 1** A pancreatic stent that had totally migrated into the pancreatic duct was successfully removed using the “zipline” technique.

of several adverse events including stent migration [1]. Endoscopic removal of a migrated stent is technically challenging because limited devices are available for use in the small and tortuous pancreatic duct [2]. Here, we present a case in which the “zipline” technique enabled successful removal of a pancreatic stent that had totally migrated into the pancreatic duct.

An 82-year-old man with a history of distal pancreatectomy underwent biliary stent placement for a biliary stricture due to eosinophilic cholangitis. During

the initial ERCP session, a 5-Fr straight-type pancreatic stent was placed prophylactically. However, severe PEP occurred when the stent migrated into the pancreatic duct (► **Fig. 1**, ► **Fig. 2**). After the patient was referred to our department, we first attempted to remove the migrated stent with biopsy forceps 2 alongside the guidewire, but this failed. Additional attempts with over-the-wire devices such as a snare and a tapered balloon catheter were unsuccessful even though the guidewire was inserted through the migrated stent. Finally, the “zipline”

technique using a hand-made wire-guided biopsy forceps (Radial Jaw 4 pediatric; Boston Scientific) provided success in removing the stent (► **Fig. 3**, ► **Video 1**), and the PEP subsided thereafter.

Since the Radial Jaw forceps has two small holes on both jaw cups, it can be used as a wire-guided forceps when a looped nylon thread is attached to a cup (► **Fig. 4**). With this wire-guided forceps, the “zip-line” technique has enabled targeted biliary biopsy and removal of a migrated biliary stent [3,4]. Among the various techniques for endoscopic removal of migrated stents [5], the “zip-line” technique is an inexpensive, easy-to-use method which can be widely utilized since it requires no special device other than one nylon thread. Thus, it can be an option for endoscopic removal of a migrated pancreatic duct stent once the guidewire has been successfully inserted into the migrated stent.

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Competing interests

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