Endoscopic retrieval of a proximally migrated biliary plastic stent using a guidewire loop technique

Endoscopic biliary stent placement is a well-established technique for various indications including biliary drainage. However, it has been shown that approximately 5% of plastic stents placed in the biliary tract migrate proximally [1]. Endoscopic retrieval of proximally migrated biliary stents is technically challenging and occasionally unsuccessful. Several techniques for retrieving proximally migrated plastic stent have been reported [2, 3]. We report a novel technique of retrieving a proximally migrated biliary stent using a guidewire loop technique.

A 65-year-old woman visited our institution because of acute cholangitis. She had undergone cholecystectomy 2 years before this admission. Physical examination revealed fever, jaundice, and mild tenderness over the right upper quadrant. Murphy’s sign was negative. Laboratory studies demonstrated a white blood cell count of 23000/µL (normal, 4500 – 10000/µL), and a total bilirubin concentration of 2.7 mg/dL (normal, 0.2 – 1.2 mg/dL). The patient underwent emergent endoscopic retrograde cholangiopancreatography (ERCP) for biliary decompression. The ERCP image revealed common bile duct (CBD) dilatation with small filling defects in the distal CBD. A 7-cm, 7-Fr biliary stent was inserted. However, 2 months after the initial ERCP, the patient presented at the emergency department with fever and abdominal pain. Contrast-enhanced computed tomography of the abdomen revealed that the biliary stent had migrated proximally into the CBD (Fig. 1). A second ERCP was undertaken to retrieve the migrated stent. A retrieval basket (FG-23Q-1; Olympus Medical Systems Corporation, Tokyo, Japan) grasping the distal end of a 0.035-inch straight guidewire (Jagwire; Boston Scientific Corporation, Natick, MA, USA) was used to retrieve the migrated stent (Fig. 2). After successful biliary cannulation, the guidewire was slightly pushed forward to form a loop within the CBD (Fig. 3). By simultaneously pulling the retrieval basket and the guidewire backward, the distal side flap of the biliary stent was caught by the guidewire loop and the stent was successfully retrieved.

Competing interests: None

Jyong-Hong Lee¹, Sheng-Lei Yan², Chien-Hua Chen¹, Yung-Hsiang Yeh², Shing-Kao Yueh¹

¹ Division of Gastroenterology, Department of Internal Medicine, Show-Chwan Memorial Hospital, Changhua City, Taiwan
² Division of Gastroenterology, Department of Internal Medicine, Chang Bing Show-Chwan Memorial Hospital, Taiwan
References

Bibliography
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Corresponding author
Sheng Lei Yan, MD, PhD
Division of Gastroenterology
Department of Internal Medicine
Chang Bing Show-Chwan Memorial Hospital
No. 6, Lugong Rd.
Lugang Township
Changhua County 505
Taiwan
Fax: +886-4-7073226
yslcsmc@yahoo.com