

Successful Removal of Proximally Migrated Biliary Stent in a Liver Transplant Patient by Single-Operator Digital Cholangioscopy

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CASE REPORT

A 61-year-old woman underwent orthotopic liver transplant, with intraoperative plastic biliary stent placement, for nonalcoholic steatohepatitis-related cirrhosis. When she presented a month later for the stent removal, the stent was noted to have migrated proximally into the donor bile duct on x-ray and computed tomography imaging (Figure 1). Endoscopic retrograde cholangiopancreatography with multiple extraction techniques failed to retrieve the stent. A single-operator digital cholangioscope (SpyGlass, Boston Scientific, Marlborough, Massachusetts) was used to identify the stent in the donor bile duct (Figure 2), which was then successfully extracted with the help of mini biopsy forceps (SpyBite, Boston Scientific, Marlborough, Massachusetts; Figure 3 and Video 1).

Liver transplantation can be life-saving for patients with a variety of conditions, including but not limited to cirrhosis and hepatocellular carcinoma. Intraoperative biliary stent placement decreases the risk of anastomotic biliary strictures.¹ These stents are usually taken out within a month after the transplant. Stent migration occurs in 5% of cases, with distal migration more commonly reported.² Proximal migration into the donor biliary duct is relatively rare.

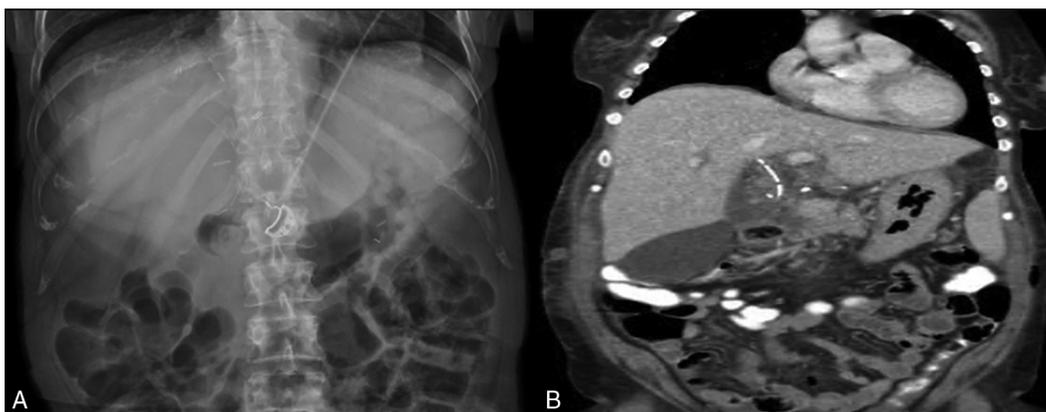


Figure 1. (A) Abdominal x-ray revealing biliary stent in situ with no free air noted. (B) Computed tomography showing proximal migration of biliary stent into donor bile duct with no upstream ductal dilation.

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Figure 2. Cholangiogram revealed tortuosity of the bile duct.

Video 1. Removal of proximally migrated biliary stent. Watch the video: http://s3.gi.org/media/links/ajg/Banerjee_Video.mp4.

In this case, we demonstrate that a cholangioscope can be successfully used for difficult cases of proximally migrated biliary stents in transplant patients. The SpyBite forceps that was used to retrieve the stent is 270 cm long with an outer diameter of 1 mm, designed to easily fit the working channel of the cholangioscope. This also allows for a 4.1-mm jaw



Figure 3. Intact extracted biliary stent.

opening at 55° for tissue acquisition. The use of cholangioscopy to retrieve a foreign body is not novel, and it has been used previously to remove challenging impacted/migrated foreign bodies in the pancreaticobiliary system.³⁻⁵ This case describes the retrieval of a migrated surgical biliary stent using a cholangioscope and mini biopsy forceps.

DISCLOSURES

Author contributions: All authors contributed equally to the manuscript. S. Raghavapuram is the article guarantor.

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