

Biliary Stent Causing Colovaginal Fistula: Case Report

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ABSTRACT

Objectives: Perforation of the bowel during placement of a biliary stent is a known complication of this procedure. We report the endoluminal loss of a biliary stent during routine stent extraction that ultimately led to a chronic colovaginal fistula. This case emphasizes the need for evaluation of fecal passage of stents in patients with a known dislodged prosthesis.

Case Report: A 65-year-old white female underwent biliary stent placement for an episode of choledocholithiasis. The stent was lost in the duodenum during routine extraction. The patient was managed expectantly. She denied ever passing this stent via the rectum and began to develop symptoms of colovaginal fistula. Evaluation found a retained biliary stent in the sigmoid colon and a fistula into the vagina. The patient underwent elective low anterior resection and colovaginal fistula repair.

Discussion: Reports exist of migration of stents that lead to acute colonic perforation and the need for emergent surgery. For this reason, it has been suggested that dropped or migrated stents be purposefully retrieved. However, if the option of expectant observation is used, it is important to clearly document the fecal passage of these stents and be prepared to retrieve these objects if they have a prolonged bowel transit time.

Key Words: Biliary stent, Colovaginal fistula, Diverticulitis.

INTRODUCTION

Endoscopic placement of biliary stents has become a mainstay of treatment for both benign and malignant biliary disease. Perforation of the duodenum during placement of a biliary stent is a known complication of this procedure.¹ A less frequently reported complication is the perforation of the small bowel or colon as a result of migration of a stent.¹⁻⁵ To date, reports describing this situation involve free perforation of a viscus, with or without abscess formation, and the need for emergent operation. We report the endoluminal loss of a biliary stent during routine stent extraction that ultimately led to a chronic colovaginal fistula. This diagnosis was confirmed with both endoscopic and pelvic examinations and was repaired with a standard, low anterior resection of the sigmoid colon and rectum with repair of the vaginal fistula. This case emphasizes the need for evaluation of fecal passage of stents in patients with a known dislodged prosthesis.

CASE REPORTS

A 65-year-old white female presented to her primary care physician with complaints of passing air and stool per vagina. She had a significant past surgical history of cholecystectomy and postoperative endoscopic retrograde cholangiopancreatography (ERCP) with biliary stent placement. At the time of reevaluation of the biliary stent, the endoscopist reportedly had difficulty removing the stent and dropped it in the duodenum. The patient was managed expectantly. Several months after this procedure, she began to notice the passage of air via the vagina, which had recently progressed to fecal drainage. A plain film of the abdomen revealed a retained biliary stent in the pelvis (**Figure 1**). On vaginal examination, the patient was found to have a colovaginal fistula at the fornix. Colonoscopy showed extensive diverticular disease as well as a biliary stent in the sigmoid colon leading into a fistula tract (**Figure 2**). The location of this fistula in relationship to the rectum is further demonstrated with a barium enema examination (**Figure 3**). The patient underwent preoperative bowel preparation and elective, low anterior resection. The colovaginal fistula was repaired at that time. Intraoperative findings included the presence of

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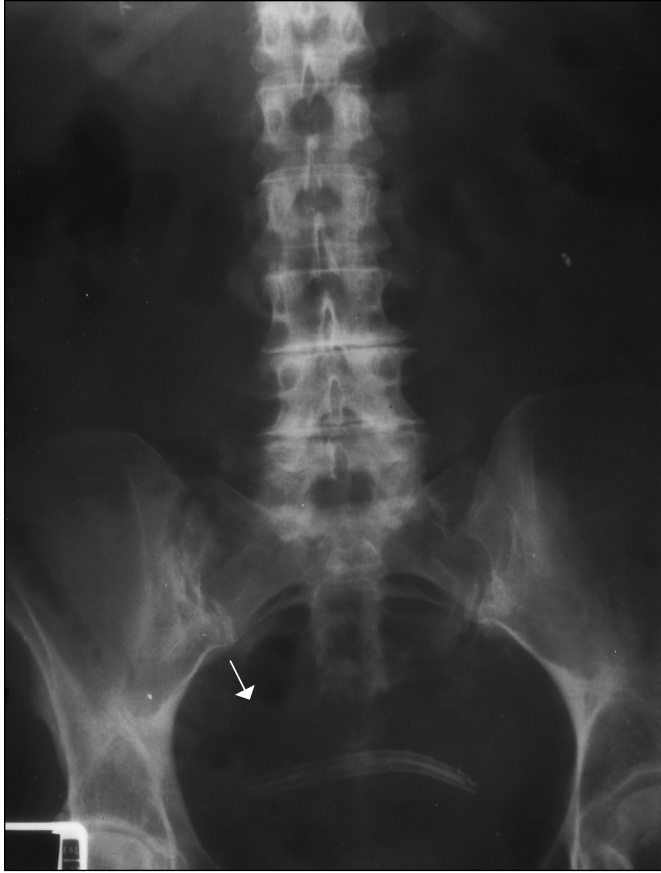


Figure 1. Plain KUB film revealing biliary stent prosthesis lodged in the pelvis.

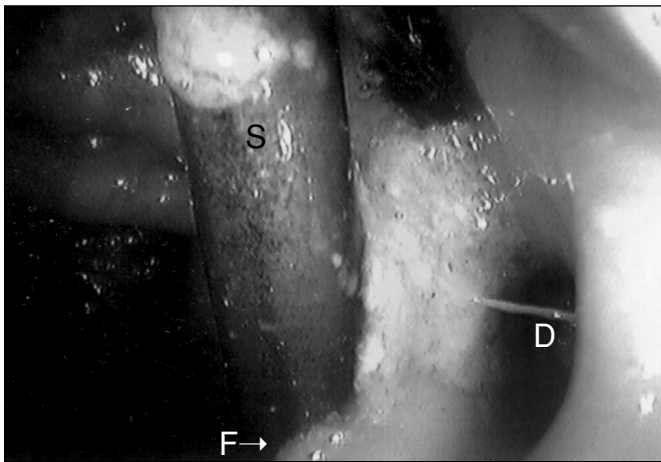


Figure 2. Colonoscopic view of sigmoid colon with diverticuli (D) and a stent (S) perforating a diverticulum leading to a fistula tract (F).

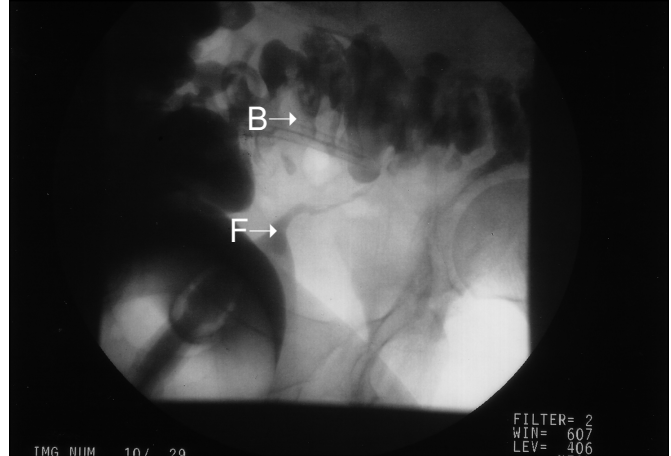


Figure 3. Barium enema demonstrating a low sigmoid colovaginal fistula (F) with the presence of a biliary stent (B).

a biliary stent lodged in the sigmoid colon directly leading into a colovaginal fistula. Postoperatively, the patient has done well with no evidence of recurrence of the fistula.

DISCUSSION

Endoscopic placement of biliary stents is an integral part of the treatment for biliary tract disease. The complication rate for biliary stents has been reported to range from 8% to 10%. The most common complications are clogging of the stent and cholangitis.^{2,3} Other serious complications, such as bowel perforations, particularly duodenal perforations, are known to occur.¹ These perforations usually happen either at the time of placement or extraction of the stent.

Migration of biliary stents occurs in up to 6% of patients.^{2,4} These patients are often managed conservatively with expectant passage of the stent in the stool.⁴ Serial x-ray examinations can be done to confirm the catheter passage or identify its location within the gastrointestinal tract.⁴ However, the treatment of a dislodged biliary stent is not well defined.⁴ Reports exist of migration of stents that lead to acute colonic perforation and need for emergent surgery.^{2,4,5} Unlike experiences discussed in these reports, the dislodged stent in our patient eroded through her colon to produce a chronic colovaginal fistula.

It has been suggested in prior publications^{2,4} that dropped or migrated stents be purposefully retrieved, especially in

patients with known intraluminal intestinal pathology such as strictures or diverticula. However, if the option of expectant observation is used, it is important to clearly document the fecal passage of these stents and be prepared to retrieve these objects electively if they have a prolonged bowel transit time. Surgeons should have a high index of suspicion for stent-related complications in these patients if they develop peritonitis or a fistula.

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