A Unique Case of Metallic Biliary Stent Migration into the Cystic Duct

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Background

* Endoscopic biliary stent insertion is a well-established treatment for hepatic, biliary or pancreatic disorders.

* Stent migration may occur as an early or late complication.

* We report a rare case of biliary stent migration into the cystic duct.

Case Report

A 68-year-old female with a history of metastatic non-small cell lung cancer and invasive ductal carcinoma of the left breast presents with a 3-week history of intermittent diarrhea and jaundice. Physical examination revealed epigastric tenderness. Admission labs revealed a total bilirubin 11.6, alkaline phosphatase 767, AST 201, ALT 356, amylase 27, and lipase 20. CBC was unremarkable.

A CT-abdomen showed a pancreatic head mass. Subsequently, EUS was performed which revealed common bile duct dilatation measuring up to 14 mm, a dilated pancreatic duct and a pancreatic head mass. FNA of the mass, confirmed invasive adenocarcinoma. An ERCP was performed which revealed a localized 4-cm malignant appearing biliary stricture in the distal CBD (Figure 1a). A sphincterotomy was performed and the stricture was dilated. A 10 mm x 6 cm covered metal stent was placed across the stricture. Bile flow through the stent and stent position was confirmed fluoroscopically (Figure 1b).

Following a period of initial improvement, worsening of liver function tests was noted, with a total bilirubin 12, alkaline phosphatase 756, AST 207, and ALT 309 by day 6 post-procedure. An abdominal x-ray was performed which revealed the CBD stent in place. Patency of the CBD stent could not be evaluated by abdominal ultrasound, however, CBD and intrahepatic duct dilatation was noted.

A repeat ERCP revealed migration of the previously placed metallic biliary stent into the cystic duct (Figure 2a). It was successfully retrieved by a forceps. The distal CBD stricture was again treated with dilation and placement of a longer 10 mm x 8 cm uncovered metal stent (Figure 2b). Patient was later discharged home, with resolution of jaundice and no further complications.

Discussion

Endoscopic placement of a biliary stent is a well-established procedure for treatment of biliary outflow obstruction. The most frequent complication associated with bile duct stents is occlusion. Stent dislocation and proximal or distal migration are uncommon, with an overall incidence of up to 6%(1).

The complications of metallic biliary stents are less frequent than plastic stents. Limited studies of covered metallic stents have raised concerns for higher rates of stent migration and related complications, including cystic duct obstruction, cholangitis, and pancreatitis.

A migrated biliary stent, symptomatic or not, should be removed immediately(2). In cases of intestinal perforation, immediate surgical therapy is required. In cases of benign lesions of the bile duct, the stent should be either removed early to decrease the risk of secondary complications, or replaced regularly to prevent stent obstruction, infection or migration.

Conclusion

* A close follow-up after biliary stent placement is mandatory. Early recognition of stent-related complications is of the utmost importance for successful patient management.

* Spontaneous migration of a metallic biliary stent into the cystic duct is an uncommon entity which advanced endoscopists need to be aware of.

References
