

Cecal Perforation Secondary to Migrated Stent Mimicking Perforated Appendicitis

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Abstract

Case Report

Bowel perforation secondary to migrated biliary stent is a rare complication. We report a case of biliary stent migration causing perforation of the cecum presenting with symptoms mimicking that of an perforated appendicitis.

Keywords: Migrated biliary stent, cecal perforation, Choledocholithiasis.

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INTRODUCTION

Cholelithiasis is a common medical illness leading to choledocholithiasis which requires surgical intervention. Endoscopic retrograde cholangiopancreatography (ERCP) has replaced open bile duct exploration as the mainstay of modern medicine. However, ERCP has its complications especially when a stent is placed in the common bile duct. Biliary stent migration occurs in up to 17% of cases depending on the type of stent used [1].

CASE REPORT

A 57-year-old Malay gentleman with underlying hypertension, dyslipidemia and chronic obstructive airway disease was presented with abdominal pain for 4 days associated with fever. The abdominal pain was localized to the right iliac fossa. There was no vomiting or loose stool. He also had an acute exacerbation of his obstructive airway disease during the acute episode. Clinically, he is of heavy built with a thick abdomen. A well healed Kocher's incision scar was seen over the right hypochondrium. His tenderness was localized over the right iliac fossa with positive rebound tenderness and Rovsing's sign.

He had history of endoscopic retrograde cholangiopancreatography (ERCP) done 8 years prior for choledocholithiasis and was complicated with bleeding from the sphincterotomy site. Due to his unstable condition, he required open surgery to secure the bleeding. He subsequently underwent laparotomy, sphincteroplasty, partial cholecystectomy and liver biopsy. Both the liver and gallbladder specimen showed no evidence of malignancy on histopathological

examination. His previous biliary stent was kept in the common bile duct post operatively. He subsequently defaulted his follow-up and the stent was neglected.

Computed tomography (CT) scan was not done for the patient prior to surgery. Then, he underwent diagnostic laparoscopy and was found to have a biliary stent perforated through the cecum with dense adhesion. The appendix was mildly inflamed.[Figure 1] The contamination was localized to the right iliac fossa and pelvis. Decision was made to convert to midline laparotomy due to difficulty in mobilization of the cecum. Cecum was mobilized and the stent was removed. The defect was about 0.5 cm over the lateral aspect of cecum and primary repair was done using absorbable polyglactin 3/0 suture.

Postoperatively, he recovered uneventfully and was discharged well. The histopathology examination of the appendix was benign.



Fig-1: Arrow: Appendix



Fig-2: Arrowhead: Perforated cecum with biliary stent

DISCUSSION

Cholelithiasis is a medical condition whereby a stone is lodged in the common biliary duct. The commonest cause for this condition is a secondary biliary stone originate from the gallbladder. The prevalence of cholelithiasis ranges from 3.2% to 15.6% in Asian population [2]. Among the various type of biliary stones, the most common is the cholesterol stone. The risk of developing this type of stone includes obesity, high cholesterol diet and a sedentary lifestyle. In the Malaysia National Health and Morbidity Survey (NHMS) 2019, the prevalence of obesity among Malaysian adults was 19.7% [3]. Following this, the prevalence of cholelithiasis will increase as well; increasing the number of patients requiring ERCP and biliary stenting.

Endoscopic placement of biliary stents carries a 5% risk of early complications which include infection, pancreatitis, and bleeding and stent migration. Stent migration is reported to occur in 17% of cases when a fully covered self-expandable metal stent (SEMS) is used, 7% with partially covered SEMS, 6% with plastic stents and 1% with uncovered SEMS [1]. Stent can migrate both proximally or distally. Majority of distally migrated plastic stents pass unnoticed through the digestive tract [4]. Over the past decade, many case reports of bowel perforation resulting from migrated biliary stents have been published. However, such incidence remains rare. There is no exact figure of such incidence due to its rarity but the overall risk of a migrated biliary stent causing perforation is estimated to be less than 1% [5].

With a rising population of obese and overweight patients, Malaysia will likely see an increase in cases of cholelithiasis requiring ERCP and stenting. With this, the incidence of stent migration will undoubtedly increase as well. Guidelines on management of migrated biliary stent remain scarce. The only hard recommendation is for the use of ERCP

to remove stents that are not spontaneously eliminated [6].

Treatment wise varies from case to case basis. There are reports of bowel perforation resulting from migrated biliary stent being treated using endoscopy or via laparoscopy [6-8].

CONCLUSION

Migrated biliary stent resulting in bowel perforation remains rare. A computed tomography imaging in patient presented with acute abdomen with history of previous abdominal surgery is useful to determine the pathology if feasible. Biliary stent should ideally be removed when not required to prevent complications.

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