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Case Report

Obstructive jaundice due to forgotten biliary stent- a rare case report

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ABSTRACT

There are many studies about the biliary stents, however there is a little information about the long-term complications of forgotten biliary stents except a few case reports. We present a 68-years-old female patient who presented with abdominal pain, vomiting and jaundice. The patient had had a biliary prosthesis inserted 114 months (9.5 years) earlier for treatment of multiple common bile duct calculi, post cholecystectomy done in 1993. Imaging investigations evidenced the presence of obstructive jaundice and the biliary stent with gall stones adherent on its surface. After the failure of an endoscopic extraction attempt, surgical intervention ensured the removal of the stent and the gallstones formed on its surface. This case represents the rarity of such a complication after biliary stenting. At the same time, it emphasizes the need for postoperative follow-up, to avoid this kind of complication.

Keywords: Biliary stents, Obstructive jaundice, Retained

INTRODUCTION

One of the most commonly done procedures for obstructive jaundice to achieve preoperative biliary decompression is endoscopic retrograde cholangio pancreatography (ERCP) with biliary stenting. This prevents stone impaction at the ampulla and a subsequent life-threatening complication, cholangitis.[1]

After bile duct clearance is achieved, a cholecystectomy is performed to decrease the risk of future cholecystitis and recurrent biliary colic and most such stents are removed 6-8 weeks later to avoid complications such as occlusion, migration of the stent or cholangitis. However, in malignant disease the duration of stenting would be dictated by considerations related to the specific treatment modality used.[1,2] Due to immediate symptomatic relief that some patients get after biliary stenting, they are lost to follow up for stent removal, unware of the complications associated with it. These retained stents may remain asymptomatic for years, or more commonly, present with blockage and delayed complications requiring a more difficult intervention.[2]

When there is an obstruction of the main bile duct by a foreign body (plastic biliary stent), the stent acts as the nidus for lithogenesis (stent -stone complex) at that level, which is rarely encountered in the literature, resulting in obstructive jaundice. Hence, we report a case of obstructive jaundice due to de novo choledocholithiasis secondary to forgotten common bile duct (CBD) stent.

CASE REPORT

A 68-years-old female presented with complaints of chronic upper abdominal pain associated with vomiting on and off and progressive jaundice. The patient′s history confirmed that she had undergone open cholecystectomy

in 1993 and ERCP done in 2007 for obstructive jaundice due to multiple CBD calculi. According to reports submitted to the hospital, the two impacted stones were not removed but a 10 F stent was kept in the CBD for free biliary drainage. After which the patient was to follow up. On examination patient was deeply icteric with tenderness present in the epigastric region.

Figure 1: Large calcification noted in the CBD on MRCP.

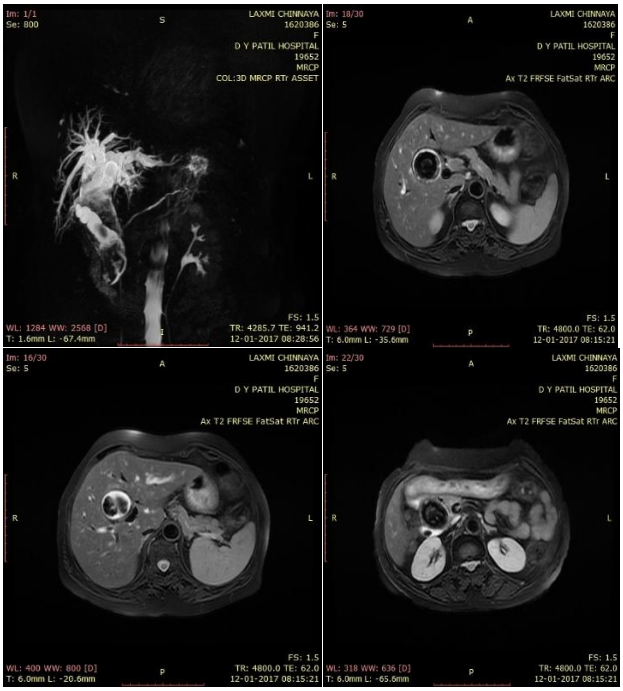

Figure 2: Calcification was noted involving the entire CBD extending to the common hepatic duct (CHD), surrounding the CBD stent and measuring approximately 9*3.3 cms, resulting in intra hepatic biliary radical dilatation.

Laboratory tests revealed a raised total leucocyte count of 12600/mm^3, alkaline phosphatase 850.1U/L, SGOT/SGPT 49.2/38.8 U/bilirubin total 2.2 mg/dl- direct 1.4 mg/dl. Rest of the reports were within normal limits. Ultrasonography was suggestive of choledocholithiasis measuring 2.6 cms with right intrahepatic duct dilatation with central and peripheral IHBR dilatation.

On MRCP, a large calcification was noted involving the entire CBD extending to the common hepatic duct (CHD), surrounding the CBD stent and measuring approximately 9*3.3 cms. Few calculi were also noted in the central right hepatic biliary radical measuring 1.2 cms, resulting in intra hepatic biliary radical dilatation.

Figure 3: Retained CBD stent along with the soft calculus in multiple fragments.

According to the patient's history, an endoscopic intervention was performed but the attempt to retrieve the biliary stent failed, because of the "cemented" new structure formed by the stent and the stones inside the biliary tree. Hence, a surgical procedure was necessary.

Patient was explored with a Bucket Handle Incision. Dense adhesions were found between the liver, stomach and duodenum. CBD and visible portions of hepatic ducts were found grossly dilated. Retained CBD stent along with the soft calculus in multiple fragments was removed through an incision taken over the CBD.A choledochoduodenostomy was done. The patient had an uneventful postoperative evolution with complete symptom resolution. The repeated laboratory analysis revealed liver function test within normal limits.

DISCUSSION

With the progress of the ERCP techniques, the treatment of CBD stones resulting in cholangitis, biliary pancreatitis has become safer and easier, it is highly sensitive and specific and can usually be therapeutic in clearing the duct of all stones. When endoscopic removal of CBD duct stone fails, insertion of stent is indicated, to facilitate bile drainage and to prevent stone impaction or cholangitis, before a subsequent surgical intervention or a second attempt for stone extraction.[3]

The sphincter of Oddi acts as a mechanical barrier, preventing the regression of the duodenal contents. The breakdown of this barrier with sphincterotomy or

transpapillary insertion of an endoprosthesis results in microbial infection of the bile by ascending infection.[4]

Additionally, the presence of a foreign body in the biliary system has been proven to facilitate bacterial adhesion and biofilm formation. But if forgotten one of the major complication is its clogging and obstruction.[4] In study patient, the forgotten biliary stent migrated totally into right hepatic duct, acted as the nidus and with superadded infection and lead to stone formation and cholangitis.

The forgotten biliary stent is an entirely avoidable situation, it can be associated with severe complications often requiring another surgical or endoscopic intervention. Apart from the additional cost and hospital stay that this entails, it is also important to remember that removing such a stent may not be easy especially in a migrated stent or one with a large concretion around it. The key therefore lies in prevention of the "forgotten stent".[5]

CONCLUSION

All patients post ERCP with biliary stents must be informed about it and the complications of long term endoprosthesis in situ must be explained clearly. Proper computerized documentation or 'Stent Registry System' must be implemented with a deadline for the inserted biliary stent in each patient, so that the stents placed for various therapeutic procedures are not forgotten. Patient education for timely follow-up and removal of the stents is the key to avoid potentially lethal complications.

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