CASE REPORT

Surgical Needle in the Common Bile Duct – Management by combined Endoscopic-Laparoscopic Approach

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ABSTRACT

Foreign bodies in the common bile duct (CBD) are either iatrogenic or accidental. Increasing number of biliary interventional procedures both surgical and endoscopic are responsible for iatrogenic foreign bodies in the CBD. Other than iatrogenic causes accidental foreign bodies due to bullet fragments are also reported. Here we report a case of iatrogenic foreign body that is a surgical needle misplaced in the CBD which was successfully removed through laparoscopic approach. (J Dig Endosc 2012;3(2):39-41)

Key Words: Foreign body in the common bile duct - Needle in the common bile duct - Laparoscopic common bile duct exploration

Introduction

Foreign bodies in the Common bile duct (CBD) reported in the literature includes metal clips [1-3], metal coils [4], fishbone [5], bullet fragment [6], sutures and surgical gauze [7] and fragmented stents etc. Some unusual causes are retrograde migration through Ampulla of Vater of worms and migration from nearby structures like metal coils from arterial coil embolisation used for pseudo aneurysm treatment. We report a unique case of a surgical needle as a foreign body in the common bile duct. We believe that this is the first report of a surgical needle in the CBD which was laparoscopically removed.

Case Report

Our patient is a 55 years old male with complaints of recurrent pain abdomen, fever and jaundice since 2007. He was evaluated at a hospital and was diagnosed as chronic calculus cholecystitis with common bile duct stone and polycystic kidney disease. He underwent laparoscopic cholecystectomy and common bile duct exploration with T-tube drainage at the same hospital. Postoperatively patient developed fever, pain abdomen and distention of abdomen on day 4. Post operative CECT abdomen showed large anterior hepatic collection and a surgical needle in the common bile duct. Relook laparoscopy was done on 8th post-operative day at the same hospital where he underwent peritoneal lavage and drainage. Patient required artificial ventilation and received broad spectrum antibiotics and he recovered and was discharged on 16th postoperative day. Patient had recurrent episodes of cholangitis since then. Patient came to our hospital after 2 years since the first surgery. We evaluated the patient by CECT scan (Figure 1) which showed metal foreign body in the CBD with a large 4cm size stone with narrowing of distal CBD. So we planned...
for removal of needle and stone by laparoscopic method. Before that a sphincterotomy at ERCP was performed (Figure 2) to dilate the lower end of CBD stricture and placement of plastic stent to avoid intra operative placement of T – tube. Subsequently laparoscopic redo CBD exploration and removal of stone and needle with primary closure of CBD with a drain was performed (Figure 3). Intraoperatively we found difficulty in approaching the CBD because of dense adhesions. After releasing the adhesions the CBD was opened and with great difficulty the needle was removed because the sharp end of the needle was stuck into the wall of CBD in the retro duodenal portion. The stone was removed by piecemeal because it was friable. Patient was discharged on day 2. The stent was removed after 2 months. The patient is doing well at present.

Discussion

Obstructive jaundice is infrequently caused by a foreign body in the common bile duct. Foreign bodies may be parasitic and non parasitic such as metal clips [1-3], metal coils [4], fishbone [5], bullet fragments [6], sutures and surgical gauze [7], and fragmented stents. Non parasitic foreign bodies are mainly iatrogenic and accidental in nature. These foreign bodies act as a nidus for stone formation in the common bile duct and may cause recurrent cholangitis. Surgical clip migration and subsequent stone formation in the common bile duct is a rare but well-established complication after laparoscopic cholecystectomy. Since the introduction of laparoscopic cholecystectomy for gall stone disease metal clip migration into the CBD are increasing in numbers[3]. Dropped clips during laparoscopic cholecystectomy are not uncommon and although most surgeons would make attempts to retrieve them, this is not always straightforward and therefore such objects are on occasion left in the peritoneal cavity. Cystic duct clips or haemostatic clips migrating into the common bile duct after biliary surgery, although rare are well recognized and assumed to relate to improper clip application, bile leak (usually subclinical), inflammation, and subsequent necrosis, allowing the clips to erode directly into the common bile duct.

To our knowledge, our case report is first of its kind where a surgical needle misplaced in the common bile duct was successfully removed by a combined endoscopic-laparoscopic approach.
References


Acknowledgments
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Source of support: Nil; Conflict of interest: none declared