An Unusual Common Bile Duct Foreign Body

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Abstract:
A 35-year-old man developed obstructive jaundice ten months after laparoscopic cholecystectomy. Endoscopic retrograde cholangiography extracted a foreign body from the common bile duct. Histopathological examination revealed that the extracted foreign body was the remnant of vicryl endoloop with calcification around. Since laparoscopic surgery has become a very common procedure, endoclips and endoloops are used more frequently. It is emphasized that careful surveillance and strict follow-up are necessary to avoid similar complications.

Key words: Laparoscopic cholecystectomy, Foreign body-Endoloop

Introduction:
Some cases of foreign bodies acting as a nidus for stones in the common bile duct (CBD) have been reported (1). The most frequently encountered foreign bodies are postsurgical residuals such as suture materials and endoclips. Stone formation around a silk suture was well known at the era of open cholecystectomy but a computer search of the literature has found no reports of calcification around an absorbable endoloop.

Case Report:
A 34-year-old man with no previous history of gallbladder stones presented to our unit with signs of acute cholecystitis. He underwent a laparoscopic cholecystectomy on July 25, 2002, when the cystic artery was divided after double endoclipping. The cystic duct was exposed and an intraoperative cholangiogram (IOC) through the duct showed three small stones inside the common bile duct. Attempts to extract the stones by Dormia basket failed because of the long tortuous duct. To guard against bile leak from the stump, a vicryl endoloop was applied to the cystic duct before dividing it. A post-operative endoscopic retrograde cholangiography (ERCP) enabled the stones in the common bile duct to be extracted. He was discharged in good general condition on the eighth post-operative day. Two weeks later when examined in the outpatient clinic he was not jaundiced, was in good condition with no complaints, his wounds had healed by primary intention and laboratory investigations were within normal ranges.

Ten months later he was readmitted through the Emergency Department because of right upper abdominal pain, fever and jaundice. Physical examination was unremarkable except for icteric sclera. Abdominal ultrasound revealed a normal caliber common bile duct (5 mm) and no intraperitoneal collections. Computed tomography showed a radio-opaque oblong shadow in the duct and no signs of pancreatitis. Endoscopic retrograde cholangiography (ERCP) showed a filling defect in the duct, which was suspected to be a worm. Upon removal the foreign body was found to contain an incrusted endoloop. He was discharged one day after ERCP and was followed in the outpatient clinic. The jaundice subsided rapidly and the patient was discharged from the outpatient clinic two weeks later.

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Discussion:

Residual or recurrent stones in the common bile duct can pose a difficult diagnostic problem in the symptomatic postcholecystectomy patient. Although incrustation of unabsorbed suture material is the most important cause of stone recurrence in the common bile duct after surgery and stone formation around a silk suture is well known, haemostatic clips may also (though rarely) provide a nucleus for stone formation. Warker first reported hemoclips acting as a nidus for stones in 1978(2).

It is speculated that the pathophysiologic sequence of stone formation begins when a hemoclip erodes through the cystic or common bile duct wall into the lumen of the bile duct, thus providing a nidus for nucleation and stone growth. Inflammation around or within the biliary tract is suspected to induce hemoclip migration into the biliary tract, congestion of bile juice, and stone formation. Shibata et al(4), suspected that the inflammation was caused mainly by biloma due to injury of the CBD or gallbladder and incomplete closure of the cystic duct. In the present case the migrating endoloop was absorbable (vicryl endoloop) and the postoperative course of the patient does not suggest the occurrence of biloma. Furthermore, postoperative ERCP excluded the possibility of CBD injury. We suspect that excessive use of diathermy in the area of Callot's triangle may weaken the wall of the cystic duct and predispose to endoloop migration.

Conclusion:

Based on a computer-assisted search, this appears to be the first reported case of CBD obstruction due to endoloop migration after laparoscopic cholecystectomy. We recommend the wise use of diathermy during laparoscopic cholecystectomy particularly during dissection of Callot's triangle. The use of vicryl endoloop instead of chromic catgut should be further evaluated.

References:

2. Warker. First reported hemoclips acting as a nidus for stones in 1978.