IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 16, Issue 6 Ver. XIV (June. 2017), PP 26-27
www.iosrjournals.org

Choledocholithiasis And Acute Cholangitis Following Post-Cholecystectomy Clip Migration

*Dr. Agraja Tripathi[1], Dr. Rakesh Rai [2]
[1](Departmentv of Surgery , Fortis Hospital/ India)
[2](Department of Surgery, Fortis Hospital/ India)
*Corresponding author: *Dr. Agraja Tripathi*

Abstract : *Laparoscopic cholecystectomy is the standard of care in symptomatic cholelithiasis and it has been associated with complications such as bile duct injury, bleeding, bile leak and residual stones. Post-cholecystectomy clip migration is an uncommon complication of laparoscopic cholecystectomy . It was first reported in 1992. We present a case report of a 48 years old lady presenting with right upper abdominal pain fever and vomiting. Patient had undergone an uncomplicated laparoscopic cholecystectomy 13 years earlier. Magnetic resconance cholangiopancreatography revealed non-visualization of lower common bile duct, thick bile and proximal dilatation. Patient was successfully managed with Endoscopic retrograde cholangiopancreatography to remove the stone with along with clip. Long-term follow-up should be done in post-cholecystectomy patients and cystic duct clip migration with eventual biliary complications should be considered as a differential diagnosis in symptomatic post-cholecystectomy patients.*

Keywords: *Acute cholangitis, clip migration, complications, laparoscopic cholecystectomy*

I. Introduction

Clip migration is an uncommon, however, a well known phenomenon in laparoscopic cholecystectomy. It has been recognized since 1979 and was first reported in 1992.[1] Though pathophysiology of this phenomenon is not fully understood, it is known that migrated clip acts as a focus for stone formation. Until now, under 100 cases of clip migration has been reported.

II. Case report

We present a case study of a 48 years old lady with severe pain in right upper quadrant associated with high grade fever, jaundice, backache, nausea and vomiting diagnosed as acute cholangitis. She underwent an uncomplicated laparoscopic cholecystectomy (LC) 13 years earlier. Since, few months after the surgery she had intermittent right upper abdominal pain and had underwent multiple sonographies which where normal.
Blood investigations indicated leucocytosis (WBC 29 x 10^3), elevated liver enzymes (AST-193 IU/L , ALT-303 IU/L, ALP-174) and serum bilirubin (Total bilirubin -3.67, Direct bilirubin-2.50). Magnetic resonance cholangiopancreatography (MRCP) demonstrated non visualization of ampullary portion of common bile duct (CBD) with smooth tapering. Proximal CBD and Intra-hepatic biliary radicals (IHBR) dilated. Debris with thick bile seen. Patient was given intravenous antibiotics and fluid resuscitation. She underwent an Endoscopic retrograde cholangiopancreatography (ERCP) which revealed dilated CBD and IHBR, narrowing of distal end of CBD with filling defects s/o sludge. One large and multiple small stones with sludge and one metallic clip extracted. Frank pus was drained. Patient improved after the procedure and liver enzymes came down to normal. Patient was discharged 2 days after the procedure.

Figures

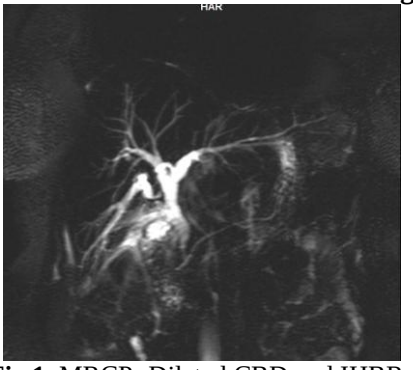

Fig 1. MRCP- Dilated CBD and IHBR

Fig 2. ERCP- Clip extracted from CBD

III. Discussion

Cholelithiasis is a common entity and cholecystectomy is the treatment of choice for the symptomatic disease. Since the advent of laparoscopic technique, LC has become the standard procedure for the management of symptomatic gallstones disease.[2] Complications associated with LC have been accounted for to be <5%. Late complications include biliary strictures and postcholecystectomy clip migration (PCCM). Mechanism of clip migration is largely unknown. One of the proposed mechanisms for PCCM is erosion of the bile duct because of the pressure exerted by the clip. The movement of the clip within the abdominal cavity leads to the erosion of the bile duct and migration of the clip along the path of least resistance.[4] Another hypothesis is involution or inversion of the cystic duct stump with the attached clip into the lumen of the CBD as a result of compression by local structures, like the liver.[7] The migrated clip acts as focus for the eventual stone formation.[5] Factors implicated in PCCM are short cystic duct stump, weakened cystic duct stump due to ischaemic necrosis and infective necrosis. 29% of the reported cases were associated with bile duct injuries implicating its association with such cases. Median time for recognisation is 26 months after surgery,[6] though, the time interval between initial cholecsytectomy and presentation may be variable with case reports describing clip migration as late as 14 years after LC.[3] The mechanism by which surgical clip migration takes place is unclear but is thought to be partly affected by technical factors such as correct placement and numbers of clips used.(8) Common presentations are obstructive jaundice (37.7 %), cholangitis (27.5%), biliary colic (18.8%) and acute pancreatitis (8.7%).[6] The management of PCCM with biliary complications are similar to that of non-iatrogenic choledocholithiasis. As per n current recommendations, ERCP is the modality of choice with surgery and percutaneous transhepatic cholangiography is the procedure reserved for difficult biliray strictures and large stones .[9]

IV. Conclusion

Complete skeletonisation of cystic duct is recommended and minimum usage of clips may reduce the likelihood of clip migration. Use of absorbable clips have been recommended by few, but, PCCM have also been reported where absorbable clips had been used.[10] Our case highlights that, in case of, recurrence of symptoms following laparoscopic cholecystectomy, there should be suspicion towards clip migration and patient should be evaluated for the same. Also, clip related complications can develop late, hence, long-term follow-up is necessary.

References

[1]. W. E. Walker, G. R. Avant, and V. H. Reynolds, "Cholangitis with a silver lining," Archives of Surgery, vol. 114, no. 2, pp. 214–215, 1979.

[2]. Mastery of Surgery. 4th ed.(Philadelphia: Lippincott Williams & Wilkins, 2001). Lee VS, Chari RS, Am J Surg 1993;**165**:527–32.

[3]. Brandt LJ. Surgical clip migration and stone formation in a gallbladder remnant after laparoscopic cholecystectomy, Gastrointes Endosc, 2009, vol. 70 pg. 781

[4]. Lombardo F, Cetta F, Cappelli A. The long-term fate of metallic clips used for cystic duct and artery ligation during laparoscopic cholecystectomy. Gastroenterology 1994; 17: 542-4.

[5]. Chong VH, Yim HB, Lim CC. Clip-induced biliary stone. Singapore Med J 2004; 45: 533-5.

[6]. Chong VH, Chong CF. Biliary complications secondary to post-cholecystectomy clip migration: a review of 69 cases, J Gastrointest Surg, 2010, vol. 14,pp. 688-96

[7]. K. Kitamura, T. Yamaguchi, H. Nakatani et al., "Why do cystic duct clips migrate into the common bile duct?" The Lancet, vol. 346, no. 8980, pp. 965–966, 1995.

[8]. Cetta F, Baldi C, Lombardo F, Monti L, Stefani P, Nuzzo G. Migration of metallic clips used during laparoscopic cholecystectomy and formation of gallstones around them: surgical implications from a prospective study, J Laparoendosc Adv, 1997, vol. 7,pp. 37-46

[9]. Sato T, Denno R, Surg Today 1994;**24**:360–2. Youssef AI, Chang AC Am J Gastroenterol 1994;**89**:2280–1.

[10]. Rizzo J, Tripodi J, Gold B, Opper F. Surgical clips as a nidus for stone formation in the common bile duct. J Clin Gastroenterol. 1995;21:169–71.