

ERCP complicated by pseudoaneurysm of right hepatic artery: A rare case report

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ABSTRACT

Endoscopic Retrograde Cholangio-Pancreatography (ERCP) has advantage of having both diagnostic and therapeutic utility and most common indication for endoscopic sphincterotomy is choledocholithiasis. Therapeutic ERCP is quite often associated with complications, most common being acute pancreatitis followed by bleeding. Most common source of bleeding is small branches of pancreaticoduodenal artery (PDA) which lie close to papilla. We report a rare case of leaking right hepatic artery pseudoaneurysm following clearance of common bile duct (CBD) stones by ERCP presenting with shock and upper GI bleed.

Key words: ERCP, pseudoaneurysm, endoscopic sphincterotomy, hepatic artery

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INTRODUCTION

Hepatic artery aneurysms (HAA) are a rare but a clinically important phenomenon. A review of the literature between 1985 and 1995 showed that the HAA had surpassed splenic artery aneurysm (SAA) as the most frequently reported visceral artery aneurysm.¹ however it is the true hepatic artery aneurysm which constitutes major chunk of these cases. Pseudoaneurysms of the hepatic artery and its branches are rare. Recognized causes include trauma or iatrogenesis following surgery, biliary procedures. Rarely aneurysms can develop in transplant patients or following chronic pancreatitis.² The major complication of hepatic artery aneurysms is rupture, usually causing massive hemobilia with an associated high mortality. Irrespective of etiology, coil embolisation is the procedure of choice.

CASE REPORT

Patient was a 55 year old male with postcholecystectomy status (open Cholecystectomy done 5 years back) and multiple CBD calculi documented on USG and MRCP. He underwent ERCP and endoscopic sphincterotomy with CBD clearance in the department of Gastroenterology of our institute. Patient initially developed severe abdominal pain followed by massive hematemesis and subsequently

developed shock. Patient was given blood transfusion and put on inotropic support. Repeat endoscopy was done on next day and it revealed blood filled stomach and duodenum with blood coming from CBD. Urgent CT angiography was done in our department and we came across a large pseudoaneurysm of right hepatic artery (Figure 1). CBD was filled with clots and revealed active contrast extravasation in the CBD (Figure 2). Few hepatic hematomas with subcapsular extension of bleeding were also noted (Figure 3). Moreover there was progressive increase in the contrast within small gut loops (Figure 4). The patient was operated immediately and ligation of right hepatic artery was done. However patient succumbed to refractory shock and died on the same day.

DISCUSSION

Choledocholithiasis is the commonest indication for endoscopic sphincterotomy.³ Pancreatitis is the main complication, occurring in up to 5% of sphincterotomies.³ Clinically significant hemorrhage occurred in 2.0 percent patients in a study by Freeman et al.³ The reason for the low rate of bleeding is probably because the vessels in the arterial plexus around the papilla are small. However, in 4% of autopsy specimens, the pancreaticoduodenal artery was within range of the sphincterotomy and it is probably this

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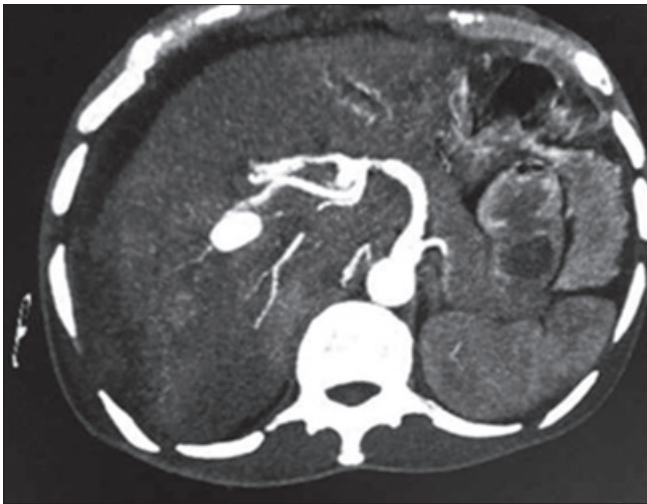


Figure 1: Axial CT MIP Image revealing a large pseudoaneurysm of right hepatic artery

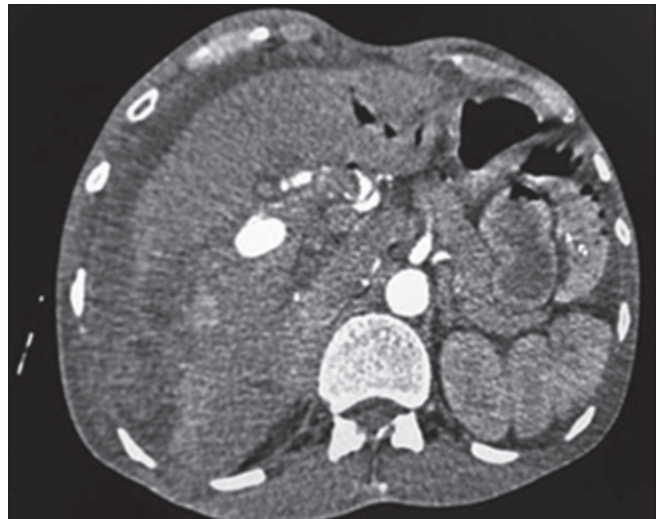


Figure 3: Axial CT showing large pseudoaneurysm of right hepatic artery with parenchymal hematoma in right lobe of liver with subcapsular extension. Air is also noted in left IHBR (PostERCP)

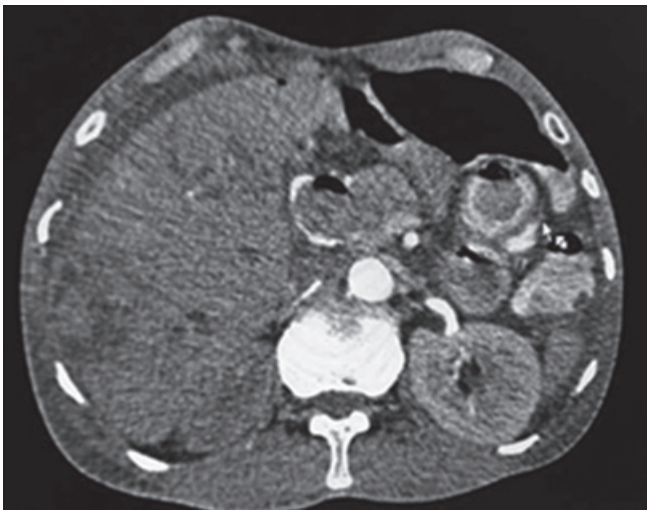


Figure 2: Axial CT revealing dilated CBD filled with blood clots with active contrast extravasation. Air is also noted within CBD (post ERCP pnbilia)

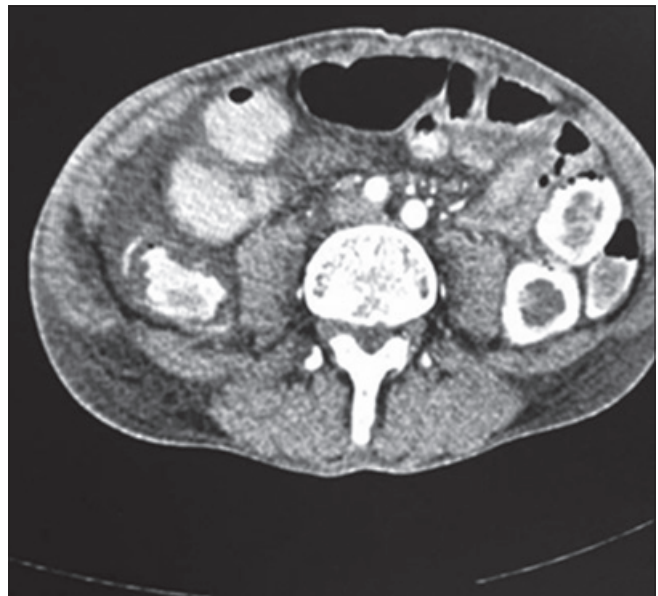


Figure 4: Axial postcontrast CT on Delayed sequences showing progressive filling of the intestines by extravasated contrast

small group of patients who are at risk of haemorrhage.⁴ Cholangitis may occur after diagnostic or therapeutic ERCP and is mainly due to failure to achieve adequate drainage in an obstructed system. Perforation (<1%) is also seen in small group of patients

False aneurysms occur as a result of damage to the wall of an artery. Hepatic artery aneurysms have been frequently reported following laparoscopic cholecystectomy with more than 50 cases reported till date with more than 60% involving right hepatic artery. Hemobilia as presenting symptom has been reported in two-third of cases.⁵ Very few case reports of ERCP directly leading to formation of aneurysms are reported involving gastroduodenal, PDA and hepatic artery. Only two cases to our knowledge have been documented of hepatic artery aneurysm with left hepatic artery and common hepatic artery being the

involved artery.^{6,7} Our case is probably the first to report pseudoaneurysm of right hepatic artery following ERCP.

CONCLUSION

This case emphasizes the fact that learning curve for therapeutic ERCP unlike diagnostic ERCP is not steep and proper expertise is needed to prevent such complications. Proper patient selection should be done and aborting the procedure in case of a difficult clearance should be considered as an option. Moreover it draws attention to a rare but possible life-threatening complication of a very common procedure. High index of suspicion is necessary

and angiography is needed to diagnose pseudoaneurysm after ERCP. Urgent management by coil embolisation or open surgery is warranted as the mortality is quite high.

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Authors Contribution:

All the authors have contributed in the conception and design of the case report. **MIW** - Did most of the drafting; **NAC** - Was instrumental in supervising the work

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