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ERCP STENT INDUCED DUODENAL PERFORTION: A CASE REPORT

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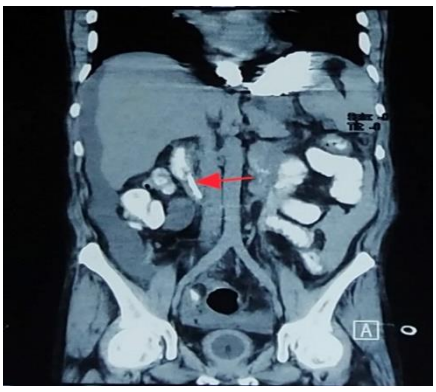
INTRODUCTION

ERCP plays a key role in biliary and pancreatic diseases diagnosis and treatment since its advent in 1979 and become an accepted modality in both benign and malignant biliary obstruction. ERCP is difficult and invasive endoscopic procedure with steep learning curve and continues to have high rates of complications[1]. Multiple complications have been mentioned in the literature like perforation, migration of stent, pancreatitis and cholangitis[2]. Migration of stent is most common complication with incidence of 5–10% in patients with biliary stents [3]. Perforation of Duodenum due to stent migration is a dangerous complication with a low incidence rate and high mortality rate of 4.2%–29.6% [1]. Less than 1% of patients have perforation of any part of git tract from duodenum to sigmoid colon due to stent migration. [4–6]. Early diagnosis and appropriate modalities of management are main concerns. Best treatment methods for duodenal perforation in this scenario have not been established. Nonsurgical treatment methods can have serious and life threatening complications so decision of treatment modality should be made carefully .

CASE PRESENTATION

A 64 year old male presented to emergency of our institute with pain right upper abdomen , fever and obstipation for 3 days. Patient had a history of ERCP stenting , Lap cholecystectomy followed again by ERCP stenting for CBD injury. Last ERCP and stenting was done 10 days earlier. Abdominal examination showed generalized peritonitis. Chest X-ray and Abdominal Xray were within normal limits. Abdominal Computed Tomography (CT) showed CBD stent in situ with pneumobilia and moderate ascites(Fig 1) .



Patient was resuscitated and taken up for exploratory laparotomy . Intraoperative findings : gross contamination with 3 litres of bilious ascites, stent induced Duodenal perforation of D2 through which tip of stent was protruding out with free flow of bile into peritoneal cavity. Entire gut was inflamed and friable. Triple tube decompression (Gastrostomy, duodenostomy, feeding jejunostomy) with primary repair of duodenum done. Patient had

uneventful recovery and triple tubes were removed on 28th postoperative day. Patient advised to follow up in gastroenterology centre for removal of CBD stent through endoscopy.

Fig-2. Shows intraoperative finding of stent induced duodenal perforation

DISCUSSION

Endoscopically placed plastic biliary stents were earliest used in 1979 and thereafter became an accepted modality for both benign and malignant biliary obstruction. The complication rate for biliary stents can range from 8 to 10%, and the most serious complication is migration of stent . In the literature, less than 1% patients have Duodenal perforation secondary to stent migration has been well documented but best treatment modality have not been established. Arhan et al. reported that biliary stent migration is more likely to occur in cases of benign cases than in cases of malignant biliary obstruction[3]. Kawaguchi et al. demonstrated that the risk factors for biliary stent migration include straight-type stents, stent duration > 1 month. and large diameter stent[7]. Patient presented with typical symptoms of peritonitis. Raised serum amylase are observed in post ERCP perforation and post ERCP pancreatitis. If a perforation is suspected, an abdominal CT is the preferred imaging modality. Immediate recognition of perforation is important for the selection of intervention and achieving a more favourable patient outcomes. The duodenal content at the distal side of ampulla of vater is rich in digestive enzymes, hence the perforation cause extensive inflammation and may lead to severe complications like abscess in retroperitoneum, peritonitis and sepsis [8]. Immediate surgery after diagnosis is the current standard treatment for duodenal perforations. Different surgical techniques discussed in literature are : simple closure of perforation site , serosa patch, duo-ileal anastomosis, diverticulization , and pyloric exclusion, controlled-tube duodenostomy [9-11]. In comparison with other procedures, the simplicity of retrograde duodenostomy, gastrostomy and feeding jejunostomy as emergency procedures cannot be overemphasized.

Our patient managed using triple-tube-ostomy had an uneventful postoperative course. We believe that the good postoperative outcome is due to simple principles of the damage control surgery. The procedure relies mainly on keeping the duodenum empty and tension-free by decompressing all of the fluids that either enter in, or are secreted from that region.

CONCLUSION

ERCP is commonly performed procedure and despite the recent advances in skill and equipment, complications do happen. Key is to identify early and intervene appropriately to have an optimum outcome.

Disclosure Statement:
none

Conflict of Interest:
The authors have no conflict of interest

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