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Case Report

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Duodenal ulcer complicated with choledochoduodenal fistula and pneumobilia in a young child: A very rare case report

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Abstract

Spontaneous pneumobilia is the disease of elderly, usually results from abnormal biliary-enteric communication mostly as a consequence of cholelithiasis related gall bladder perforation in to the normal duodenum. Pneumobilia due to choledochoduodenal fistula (CDF) from duodenal ulcer is quite rare nowadays due to the low prevalence of peptic ulcer disease and has not been reported in children. We reported a case of duodenal ulcer related CDF with pneumobilia in a young child. Medical management is effective in such cases and surgery is indicated in cases of poorly controlled symptoms or complications.

Keywords: Duodenal ulcer, CDF, Pneumobilia, Children.

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INTRODUCTION

Spontaneous pneumobilia without previous surgery or interventional procedure is an indication of serious disease and should be evaluated. Mostly it is seen in elderly patients as a result of bilioenteric fistula. pneumobilia from choledochoduodenal fistula due to the duodenal ulcer is unusual nowadays due to the low prevalence of peptic disease. It is the disease of elderly; in children it has not been reported. We report a case of duodenal ulcer complicated by choledochoduodenal fistula and pneumobilia in a young Child [1].

CASE REPORT

Ten year old male child was admitted in our department with history of pain abdomen and non bilious vomiting since three months with mild tenderness in epigastrium. There was no history of trauma and jaundice. Base line investigations were normal including serum amylase. Ultrasonography of abdomen was showing air in the biliary tract with normal gall bladder. X–ray abdomen revealed pneumobilia [figure-1]. Upper gastrointestinal tract endoscopy shows an ulcer in D1, scarring and obstruction in the first part of the duodenum [figure-2]. The endoscopist was not able to see the papilla because the scope was not negotiable beyond the first part of the duodenum. Ulcer base or bile was not visible during endoscopy. Abdominal computed tomography (CT) with oral contrast revealed pneumobilia, normal gallbladder, contrast in biliary tract and duodenum adherent to pancreas [figure-3]. Patient was explored and operative findings were distended stomach containing large gastric acid pool, normal gallbladder and scarred duodenum adherent to pancreas.

In view of scarred doudenum and patient belong farflung area and his father was non complaint to medical therapy, gastrojejunostomy with truncal vagotomy was done and scarred duodenum and fistula are left intact. Patient did well postoperatively and was discharged on fifth postoperative day.

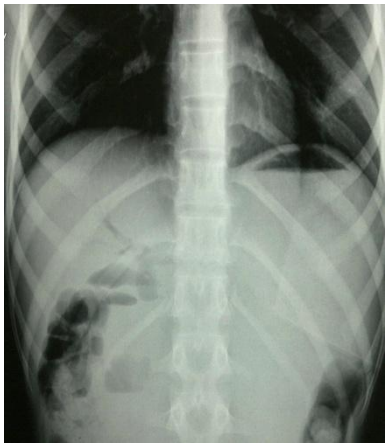

Figure 1: X–ray abdomen showing pneumobilia

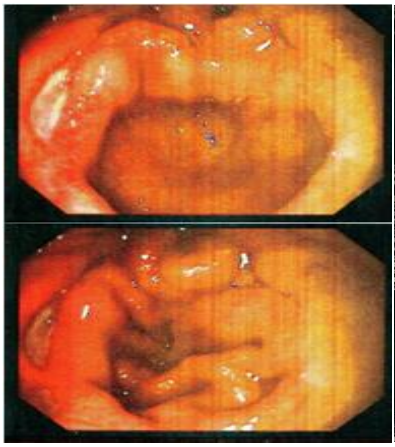

Figure 2: EGD showing an ulcer in D1

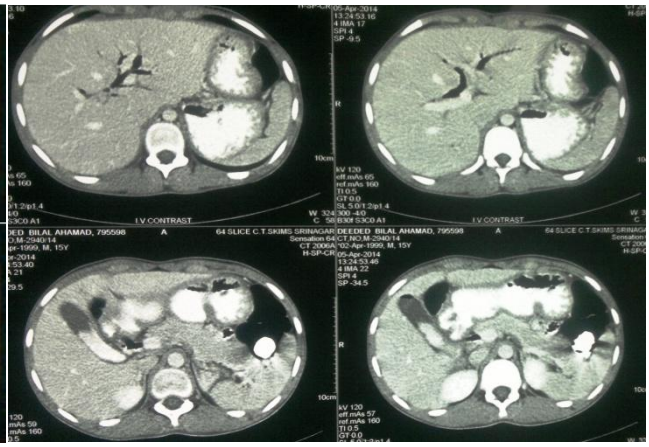

Figure 3: CT showing pneumobilia, normal gallbladder, contrast in biliary tract

DISCUSSION

CDF is a rare complication secondary to some biliary diseases like cholelithiasis, cholidocholithiasis, recurrent cholangitis, previous biliary surgery, sphincterotomy, perforated duodenal ulcer, periampullar tumor invasion, and trauma [1-3]. Pneumobilia usually suggest bilioenteric communication, mostly cholelithiasis-related gallbladder perforation into duodenum in more than 90% of cases. The uncommon (3.5-10% of cases) CDF results from bulb ulcer penetrating the choledochus. It results from penetrating duodenal ulcer in to the head of pancreas resulting in release of destructive pancreatic enzymes which predispose to fistula formation [4,5].

Choledochoduodenal fistula has been classified into distal (peripapillar) and proximal types. In distal CDF, duodenum connects to the distal CBD within 2 cm and proximal CDF drains 2 cm or more above the junction of the CBD to the papilla. The distal type is more common than proximal type with length less than 1.5 cm, orifice around or on the papillary fold and pneumobilia is prominent. Distal CDFs can be multiple while as proximal CDFs are single in number. According to this classification, the present case was classified as the proximal type.

The clinical presentation of CDF is usually non-specific. Patients usually present with nausea, vomiting, pain abdomen and jaundice. In 80 to 90% of patients with choledochoduodenal fistula, the aetiology of fistula is peptic ulcer disease [6,7].

Abdominal X-ray may show air in the biliary tract and barium study may show duodenal deformity, biliary opacification and may identified CDF. Abdominal computed tomography (CT) with oral contrast has definitive role in the diagnosis of CDF and differentiates it from the portal venous gas. CT findings include the pneumobilia , normal gallbladder, duodenal bulb adherent to ventral pancreas with contrast in the biliary tract. Endoscopy and ERCP may show CDF but usually it is difficult due to duodenal narrowing [8,9].

Increased detection of choledochoduodenal fistula has been made with advancement in imaging and endoscopic techniques. Biliary enteric fistula indicates pneumobilia, which is suggestive of CDF. However, in our case CT revealed findings which were suspicious of CDF and requires further evaluation by endoscopy and ERCP. ERCP can demonstrate the orifice and fistulous tract by retrograde cannulation of the CBD. We could not see the papilla to cannulate it because the scope was not negotiable beyond the first part of the duodenum.

There is controversy in the management of CDF. With medical management, fistula closes usually on its own with clinical improvement. In patients with poorly controlled symptoms or associated complications, surgery is indicated. Distal CDF can be treated with endoscopic approaches, but proximal CDF cannot be endoscopically corrected and early surgery is indicated and effective treatment is biliary enteric anastomosis [10].

CONCLUSION

Choledochalduodenal fistula is a rare complication of chronic duodenal ulcer. Fistula usually closes with medical management and surgery is indicated for refractory cases. In patients with proximal CDF, early surgery is indicated and effective treatment is biliary enteric anastomosis.

Conflict of interest – All authors have none to declare.

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