

Choledochoduodenal fistula caused by cholangiocarcinoma of the distal common bile duct



Fig. 1 Computed tomography (CT) of the abdomen showed (a) pneumobilia (black arrow) in both the common hepatic duct and the common bile duct (CBD) and (b) a possible choledochoduodenal fistula (white arrow).

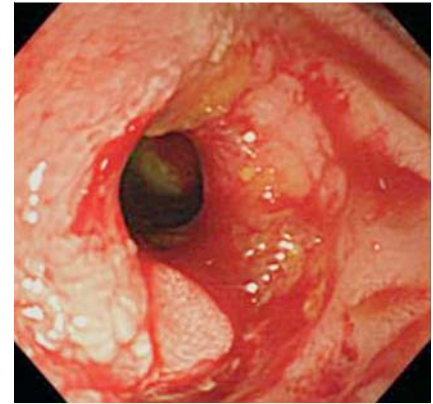


Fig. 2 Upper gastrointestinal panendoscopy revealed the orifice of a choledochoduodenal fistula.

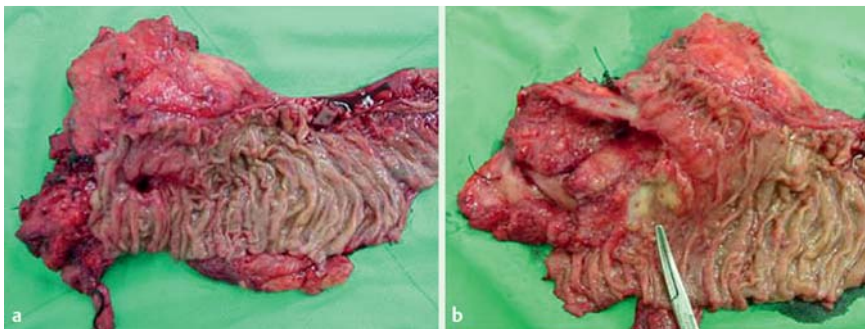


Fig. 3 a Compatible with the endoscopic findings, the surgical specimen showed the orifices of the fistula and the papilla of Vater. b A papillary tumor was found in the distal CBD, obstructing the duct.

Biliary-enteric fistula is a relatively rare condition involving a communication between the biliary tree and the gastrointestinal tract [1, 2]. Parapapillary choledochoduodenal fistula is usually asymptomatic and therefore this disorder has usually been diagnosed incidentally [3]. We report a rare case of choledochoduodenal fistula caused by adenocarcinoma of the distal common bile duct (CBD), which was suspected on computed tomography (CT) of the abdomen and confirmed by esophago-gastroduodenoscopy (EGD).

A 48-year-old woman presented to the emergency department with a 1-day history of epigastric pain. For the previous 2 months she had suffered intermittent epigastric pain with radiation to the back. She had no history of gallstone or gastroduodenal ulcer. She was afebrile on admission, and physical examination demonstrated epigastric tenderness. Laboratory data showed a white blood cell count

of 8400/ μ L, an alkaline phosphatase level of 77 U/L, and normal levels of tumor markers such as carcinoembryonic antigen and cancer antigen 19–9. CT of the abdomen showed pneumobilia in both the common hepatic duct and the CBD (Fig. 1 a) and a probable choledochoduodenal fistula (Fig. 1 b). EGD revealed the orifice of a choledochoduodenal fistula 3.0 cm proximal to the papilla of Vater (Fig. 2) and a tumor in the distal CBD. Biopsy was performed and pathological examination showed moderately differentiated adenocarcinoma of the CBD. On the basis of these images, the patient was diagnosed as having advanced cholangiocarcinoma associated with a parapapillary choledochoduodenal fistula. She underwent pylorus-preserving pancreaticoduodenectomy. Compatible with the endoscopic findings, the surgical specimen showed the orifices of the fistula and the papilla of Vater (Fig. 3 a).

A papillary tumor was found in the distal CBD, where it was causing obstruction of the CBD (Fig. 3 b). Pathological examination showed cholangiocarcinoma of the CBD, American Joint Committee on Cancer stage T4N0M0 (stage III). The post-operative course was uneventful.

A choledochoduodenal fistula is an abnormal passage between the CBD and the duodenum. Common etiologies include instrumentation (iatrogenic), choledocholithiasis, and duodenal ulcer. Choledochoduodenal fistulas associated with cancers are extremely rare, with nine cases reported in the literature; the cancers involved included ampullary cancer, duodenal cancer, gallbladder cancer, pancreatic cancer, and cholangiocarcinoma [2, 4–8]. These patients presented with epigastralgia and anorexia. CT of the abdomen often showed pneumobilia. EGD or endoscopic retrograde cholangiopancreatography (ERCP) is employed to diagnose choledochoduodenal fistulas, and associated cancers are confirmed by biopsy.

In rare cases, the fistula is a complication secondary to an occult malignancy such as biliary adenocarcinoma. For clinical evaluation of choledochoduodenal fistula of unknown etiology, and if occult malignancy is suspected, EGD or ERCP should be performed. The case we have reported of a patient with adenocarcinoma of the CBD causing a choledochoduodenal fistula highlights the importance of endoscopy to diagnose choledochoduodenal fistula and occult carcinoma of the biliary tract.

Endoscopy_UCTN_Code_CCL_1AZ_2AC

C.-T. Lin^{1*}, K.-F. Hsu^{1*}, J.-C. Yu¹,
H.-C. Chu², C.-B. Hsieh¹, C.-Y. Fu¹,
Z.-J. Hong¹, D.-C. Chan¹

¹ Division of General Surgery, Department of Surgery, Tri-Service General Hospital, National Defense Medical Center, Taipei, Taiwan, Republic of China

² Division of Hepatogastroenterology, Department of Medicine, Tri-Service General Hospital, National Defense Medical Center, Taipei, Taiwan, Republic of China

* C. T. Lin and K. F. Hsu contributed equally to this work as first author.

References

- 1 Jorge A, Diaz M, Lorenzo J *et al*. Choledochoduodenal fistulas. *Endoscopy* 1991; 23: 76–78
- 2 Kuroki T, Fukuda K, Tajima Y *et al*. Parapapillary choledochoduodenal fistula associated with cholangiocarcinoma. *J Hepatobiliary Pancreat Surg* 2005; 12: 143–146
- 3 Tanaka M, Ikeda S. Parapapillary choledochoduodenal fistula: an analysis of 83 consecutive patients diagnosed at ERCP. *Gastrointest Endosc* 1983; 29: 89–93
- 4 Chen SY, Lin CH, Yu JC *et al*. Adenosquamous carcinoma of the common bile duct with choledochoduodenal fistula. *Chir Gastroenterol* 2006; 22: 88–91
- 5 Ji JS, Kim HK, Kim SS *et al*. Periapillary choledochoduodenal fistula associated with ampulla of Vater carcinoma. *Dig Dis Sci* 2007; 52: 1592–1593
- 6 Okabe T, Ohwada S, Ogawa T *et al*. Gallbladder carcinoma with choledochoduodenal fistula: a case report with surgical treatment. *Hepatogastroenterology* 1999; 46: 1660–1663

- 7 Imaeda K, Katagiri K, Ando T *et al*. Multiple parapapillary choledochoduodenal fistulas with ampullary carcinoma. *Hepatogastroenterology* 1998; 45: 2097–2100
- 8 Tsai CJ. Primary adenocarcinoma of the duodenum with choledochoduodenal fistula. *Scand J Gastroenterol* 1994; 29: 930–933

Bibliography

DOI 10.1055/s-0029-1215325

Endoscopy 2009; 41: E319–E320

© Georg Thieme Verlag KG Stuttgart · New York · ISSN 0013-726X

Corresponding author

D.-C. Chan, MD

Division of General Surgery
Department of Surgery
Tri-Service General Hospital
No. 325, Cheng-Kung Road
Sec 2, Neihu 114
Taipei
Taiwan
Fax: +886-2-87927372
chris790826@yahoo.com.tw