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Endosonographic diagnosis of choledochocele

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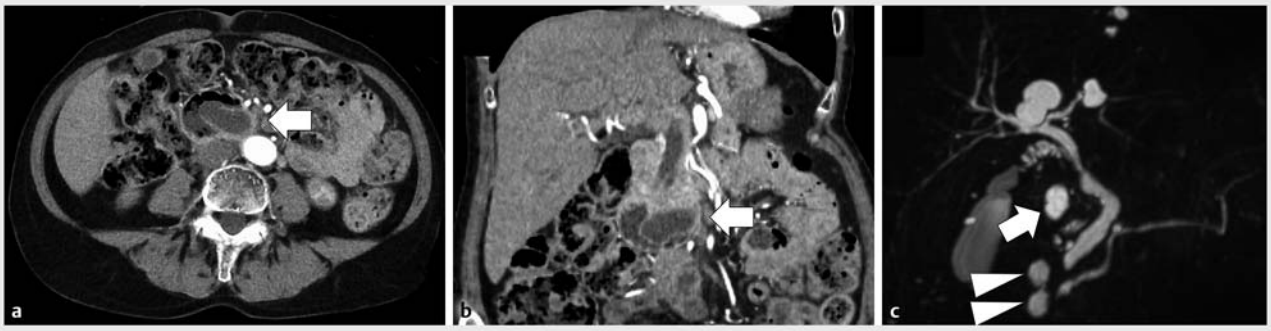
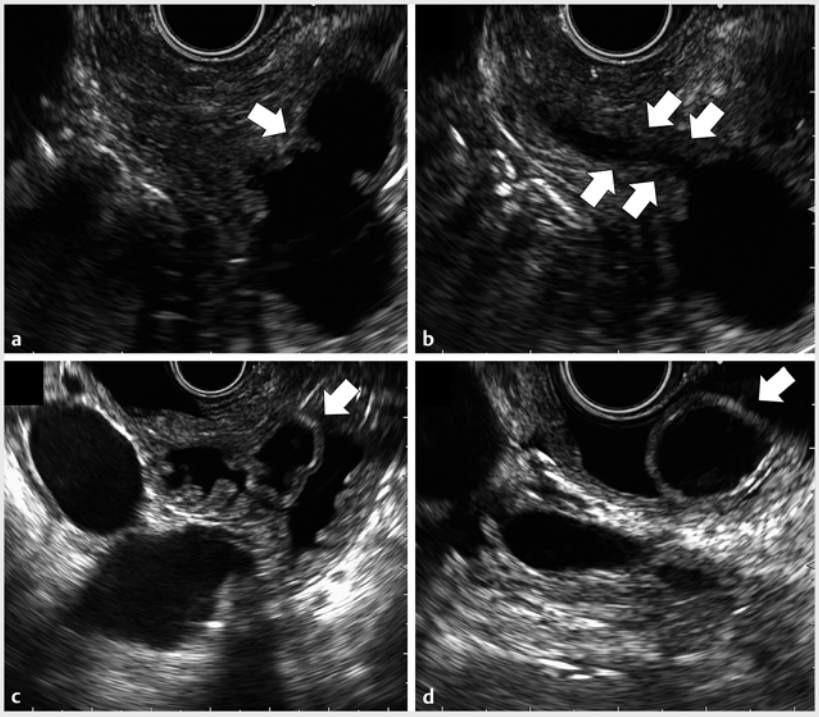


▶ **Fig. 1** **a** Axial and **b** coronal views of computed tomography with contrast revealed a cyst-like, fluid-filled structure at the inferior duodenal angle (white arrows). No communication between the structure and the bile or pancreatic ducts was noted. **c** Magnetic resonance cholangiopancreatography revealed one cystic lesion at the superior duodenal angle (white arrow) and two cystic lesions at the inferior duodenal angle (white arrowheads). There appeared to be no communication between the two inferior duodenal angle lesions and the bile or pancreatic ducts. No anomalous pancreaticobiliary duct union, choledocholithiasis, or malignancy were noted.

Choledochal cysts are rare congenital cystic dilatations of the biliary tree. Almost 80% are discovered during childhood and they are most common in Asian women [1]. They are generally associated with anomalous pancreaticobiliary duct union and treated surgically because of the high risk of biliary malignancy.

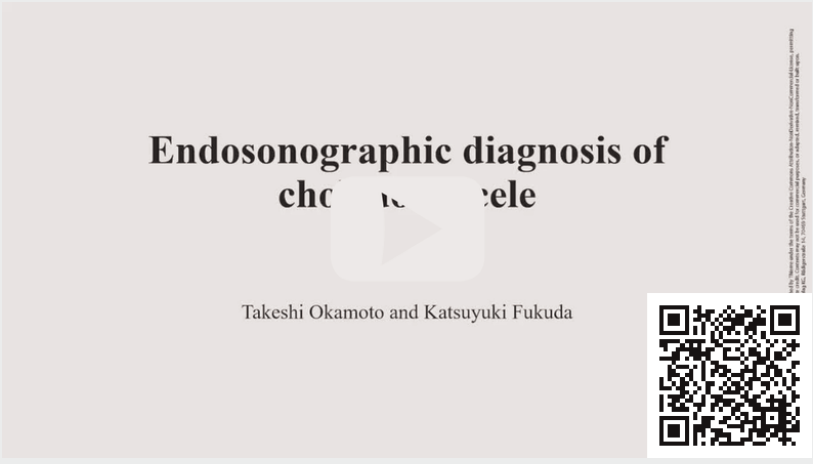
Choledochoceles (Todani type III choledochal cysts) are intraduodenal cystic dilatations of the distal bile duct which make up 0.5% to 4% of choledochal cysts [1, 2]. They are unique in that they exhibit even gender distribution and are only rarely associated with anomalous pancreaticobiliary duct union or malignancy. Endoscopic sphincterotomy, unroofing, or cyst resection, therefore, can be considered in lieu of surgery [3, 4].

A 69-year-old woman recovering from endovascular therapy for aortic dissection was referred for evaluation of suspected duodenal cysts. She had no abdominal symptoms or history of biliary stones, pancreatitis, or malignancy. Computed tomography (CT) with contrast revealed a fluid-filled cystic structure at the inferior duodenal angle and a mildly dilated bile duct with no visible obstructive lesions (▶ **Fig. 1a**, ▶ **Fig. 1b**).



▶ **Fig. 2** Endoscopic ultrasound (EUS) findings. **a** Communication between two cystic structures in the duodenum was observed (white arrow). **b** Communication between the two cystic structures and the distal bile duct was confirmed (white arrows). **c** When immersed in water, the cysts (white arrow) were soft and located in the duodenum, completely outside the pancreas. **d** A duodenal cyst at the superior duodenal angle (white arrow) was indistinguishable from the choledochocele on EUS, except for the communication with the bile duct.

VIDEO



▶ **Video 1** EUS revealed two cystic structures communicating with each other and the distal bile duct, leading to the diagnosis of choledochocele.

Magnetic resonance cholangiopancreatography (MRCP) revealed one cystic lesion at the superior duodenal angle and two cystic lesions at the inferior duodenal angle with no communication with the bile or pancreatic ducts (▶ **Fig. 1c**). Endoscopic ultrasound (EUS) revealed two cystic dilatations in the duodenum which communicated with the bile duct and with each other (▶ **Fig. 2a**, ▶ **Fig. 2b**, ▶ **Fig. 2c**, ▶ **Video 1**). The choledochocele could only be distinguished from a duodenal cyst (▶ **Fig. 2d**) by the communication with the bile duct. The patient declined endoscopic treatment because she was asymptomatic and was recovering from aortic dissection.

Choledochal cysts are most often discovered on abdominal ultrasound and diagnosed with MRCP [1]. While CT and MRCP both have sensitivities and specificities of about 90%, neither could demonstrate communication between the intraduodenal cysts and bile duct in this case [1, 4, 5].

Competing interests

The authors declare that they have no conflict of interest.

The authors

Takeshi Okamoto[1,2], Katsuyuki Fukuda[2]

1 Department of Hepato-Biliary-Pancreatic Medicine, Cancer Institute Hospital of Japanese Foundation for Cancer Research, Tokyo, Japan

2 Department of Gastroenterology, St. Luke's International Hospital, Tokyo, Japan

Corresponding author

Takeshi Okamoto, MD
Department of Hepato-Biliary-Pancreatic Medicine, Cancer Institute Hospital of Japanese Foundation for Cancer Research, 3-8-31, Ariake, Koto, Tokyo, 135-8550, Japan
Fax: +81-3-3520-0141
tak@afia.jp

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