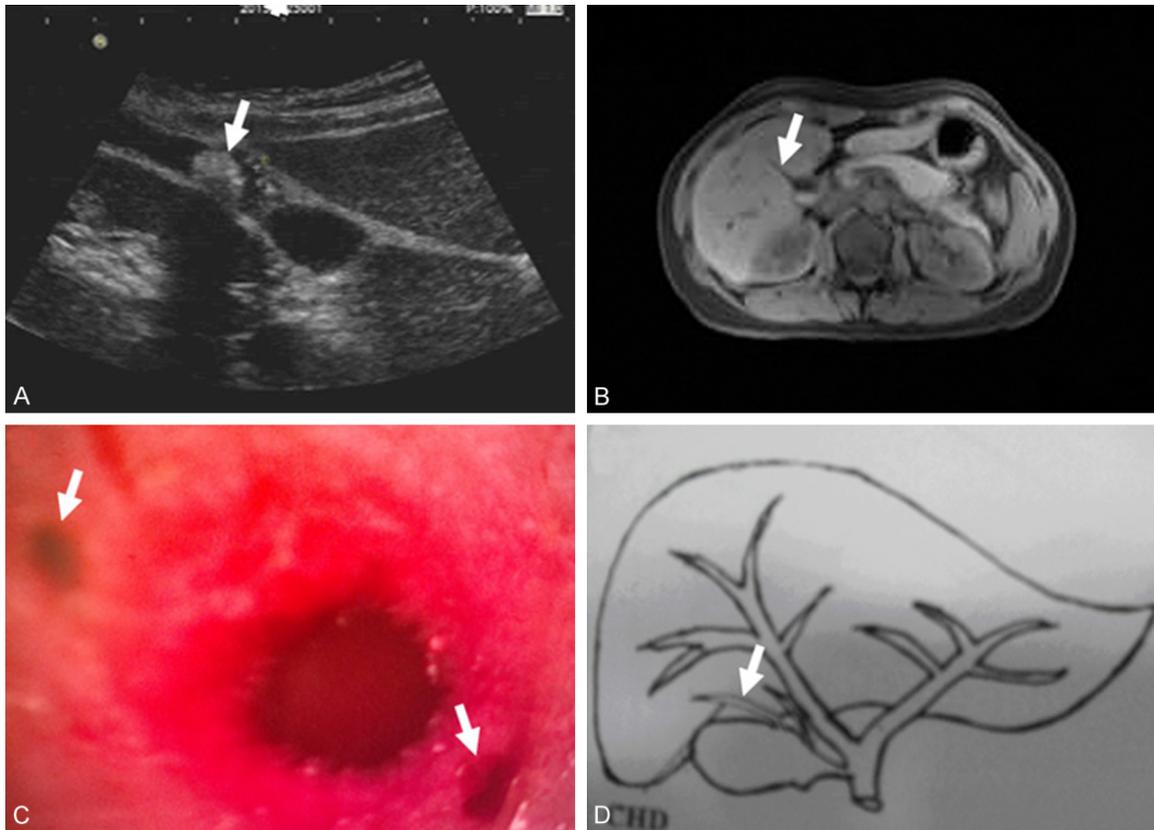




## Aberrant openings in gallbladder



**Figure 1.** A. Abdominal ultrasonography scan of gallbladder, arrow: gallstone; B. MRI scan of cystohepatic duct, arrow: cystohepatic duct; C. Laparoscope image during operation, arrow: cystohepatic ducts; D. Diagrammatic sketch of cystohepatic ducts, arrow: cystohepatic ducts.

for them too. Cystohepatic ducts were true bile ducts that drain a portion of liver parenchyma and open into the right or left hepatic ducts, cystic duct, or very rarely the gallbladder. A large series based on operative and cholangiographic findings has demonstrated cystohepatic ducts in 12 of 1410 cases (0.85%), however, only one of them communicated with the gallbladder (at its neck) [5]. Because of its small size, short course and low incidence, cystohepatic ducts communicate with the gallbladder are always ignored in imaging examination before cholecystectomy. We also had not found the variations of anatomy by abdominal ultrasonography. Fortunately, the anatomical pitfall was found by MRI and bile leakage was avoided because of gallbladder-preserving cholelithotomy. We got the direct observation of cystohepatic ducts communicate with the gallbladder for the first time. Because this extremely rare variations of biliary anatomy leads to bile leak after cholecystectomy, sufficient and carefully imaging examination around gallbladder should

be performed before surgery. For the patients who suffer from gallstone and have the rare variations of biliary anatomy, surgeons must avoid bile duct injury and bile leak as much as possible. For some young patients with active request, gallbladder-preserving cholelithotomy also can be considered to perform.

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### Disclosure of conflict of interest

None.

## Aberrant openings in gallbladder

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