

## Iatrogenic intramural dissection of the gallbladder wall can mimic post-ERCP cholecystitis



Figure 1 Ultrasonography performed 1 day after the endoscopic retrograde cholangiopancreatography (ERCP) revealed a gallbladder wall thickness greater than 15 mm with no pericholecystic fluid.



Figure 2 Ultrasonography performed 4 days before ERCP demonstrated a normal gallbladder wall thickness of 2.8 mm.



Figure 3 Magnetic resonance cholangiopancreatography performed 3 days before ERCP demonstrated a patent cystic duct and good visualization of the gallbladder.

A 28-year-old female was referred for surgical management of acute cholecystitis 1 day after endoscopic retrograde cholangiopancreatography (ERCP) and biliary

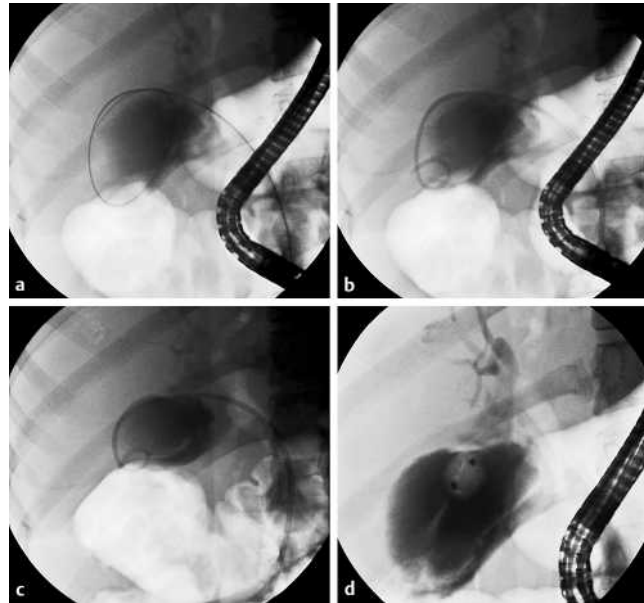


Figure 4 The initial fluoroscopic image obtained after the guide wire was placed into the gallbladder does not reveal the injury. Infiltration of contrast material into the gallbladder wall with lifting of the mucosa off the muscularis demonstrated that the guide wire and catheter caused an intramural dissection during the ERCP.

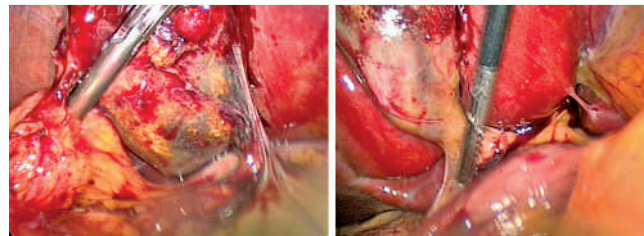


Figure 5 Laparoscopy demonstrated a grayish-blue discoloration of the gallbladder consistent with an intramural hematoma.

sphincterotomy, because of the finding of a 15-mm-thick gallbladder wall on right upper quadrant ultrasonography (● Figure 1). Pre-ERCP ultrasonography (● Figure 2) and magnetic resonance cholangiopancreatography (● Figure 3) demonstrated a 2.8-mm gallbladder wall and a patent cystic duct. The fluoroscopic images of the ERCP were reexamined and it was apparent that introduction of the guide wire had caused a dissection of the gallbladder wall which was visualized only after the injury had been exacerbated by injection of contrast intramurally (● Figure 4). In the absence of fever, leukocytosis, a positive Murphy's sign, or pericholecystic fluid on ultrasound images, the gallbladder wall thickening was concluded to represent an iatrogenic injury. We monitored the patient with serial abdominal exams to rule out a perforation and were able to discharge her with conservative management alone. Two months later she underwent an elective

laparoscopic cholecystectomy for symptoms attributed to cholecystitis. A mural hematoma was seen upon initial visualization of the gallbladder (● Figure 5) and confirmed by histopathology. The incidence of post-ERCP acute cholecystitis is less than 1% [1,2]. The etiology has been postulated to be the presence of nonsterile contrast medium exacerbated by cystic duct obstruction and mechanical irritation [3–5]. This case represents the first reported occurrence of an intramural dissection of the gallbladder wall during ERCP. The subsequent intramural hematoma caused gallbladder wall thickening that mimicked post-ERCP cholecystitis on ultrasonography. While concurrent development of localized tenderness, fever, leukocytosis, and pericholecystic fluid on ultrasonography would strongly suggest post-ERCP cholecystitis, an isolated and sudden increase in gallbladder wall thickness after ERCP must be evaluated carefully for the possibility

of an iatrogenic injury with the attendant risk of perforation.

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## Bibliography

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