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

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

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 iatrogenic intramural dissection of the gallbladder wall.

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

Figure 2 Ultrasound 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.

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.
of an iatrogenic injury with the attendant risk of perforation.

Endoscopy_UCTN_Code_CPL_1AK_2AB
Endoscopy_UCTN_Code_CPL_1AK_2AC

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Endoscopy 2007; 39: E205 – E206
© Georg Thieme Verlag KG Stuttgart - New York - ISSN 0013-726X

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Girotti ME et al. Iatrogenic intramural dissection of the gallbladder wall can mimic post-ERCP cholecystitis... Endoscopy 2007; 39: E205 – E206