The Usefulness of EUS in Acute Cholecystitis without Choledocholithiasis on MDCT

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Background/Aims: Choledocholithiasis commonly occurs in patients with symptomatic cholelithiasis. Although recent technical innovation of multidetector computed tomography (MDCT) scan enhances diagnostic yield of choledocholithiasis, it is considered to have some limitation in evaluation of common bile duct (CBD). The purpose of this study was to evaluate the usefulness of endoscopic ultrasonography (EUS) in detection of choledocholithiasis who was diagnosed as acute cholecystitis without choledocholithiasis on MDCT.

Methods: 334 patients with acute cholecystitis and no evidence of CBD stone on MDCT underwent EUS between January 2006 and May 2011. If CBD stone was suspected on the basis of EUS results or clinical symptoms, final diagnosis was obtained by endoscopic retrograde cholangiopancreatography (ERCP). Patients’ medical records were retrospectively analyzed for clinical symptoms, biochemical data, and results of imaging studies.

Results: MDCT did not detect CBD stone in 42 patients (12.6%) among 334 patients with acute cholecystitis. The reasons for these discrepancies could be contemplated as their small size (n=20), isodensity (n=18), misdiagnosis (n=3), and impacted stone (n=1). 37 patients (10.8%) were detected CBD stones by EUS while MDCT failed to notice the existence. With EUS used as a triage tool, unnecessary diagnostic ERCP and its complications could be spared in 255 patients (76.3%). Intraoperative cholangiography (IOC) was performed in 157 patients. However, IOC did not detect any CBD stone.

Conclusions: It seemed that MDCT might not take a major role in detecting CBD stone and EUS should be performed as an add-on test in patients with acute cholecystitis for CBD evaluation. Especially, EUS is routinely recommended in patients with abnormal liver enzymes, pancreatitis, and dilated CBD. IOC is not necessary if CBD evaluation was performed by EUS preoperatively.

Key Words: Endoscopic ultrasonography; Multidetector computed tomography; Acute cholecystitis; Choledocholithiasis