

Synchronous Emphysematous Cholecystitis and Acute Pancreatitis : A Case Report

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Abstract

Emphysematous cholecystitis is a comparatively rare but life-threatening disease, most frequently seen in elderly, debilitated, or diabetic patients. Simultaneous existence of emphysematous cholecystitis and acute pancreatitis is even rare from previous report. We described an elderly woman of emphysematous cholecystitis associated with cholelithiasis and acute pancreatitis presenting with a 3 days' duration of epigastric and right upper quadrant pain. Ultrasound and computed tomographic scans of the abdomen showed multiple stones and gas in the gallbladder and mild swelling of the pancreas with ascites. Antibiotics were given and percutaneous drainage of the gallbladder was performed. Subsequently, cholangiography via cholecystostomy was done and revealed no evidence of filling defect in the common bile duct. The patient was discharged on the 9th hospital day and the cholecystostomy tube was removed on the 7th day after discharge. Elective cholecystectomy was advised, but refused. There was no recurrence of abdominal pain after 6 months' follow-up. (J Intern Med Taiwan 2008; 19: 428-431)

Key Words : Emphysematous cholecystitis, Pancreatitis, Gallbladder

Introduction

Emphysematous cholecystitis defined clinically by the presence of air in the gallbladder lumen, in the wall, or in the tissues adjacent to the wall of the gall-

bladder, in the absence of an abnormal communication with the gastrointestinal tract, is a rare but life-threatening complication of acute cholecystitis. But coexistence of emphysematous cholecystitis and acute pancreatitis was rarely reported¹. We described

a case of simultaneous occurrence of both conditions with successful management of antibiotics and percutaneous drainage of the gallbladder.

Case Report

An 81-year-old female was admitted to our hospital presenting with a 3-day history of epigastric and right upper quadrant pain. The patient had a history of hypertension for 5 years and underwent subtotal gastrectomy with Billroth II anastomosis for gastric ulcer bleeding 30 years previously. Physical examination showed icteric sclera and tenderness in the epigastric area and right upper quadrant. Laboratory data showed a white cell count $13000/\text{mm}^3$ (normal range: $4000\text{--}10000/\text{mm}^3$), amylase 931 IU/L ($48\text{--}158\text{ IU/L}$), lipase 6261 IU/L ($13\text{--}60\text{ IU/L}$), AST 82 IU/L ($5\text{--}40\text{ IU/L}$), ALT 43 IU/L ($5\text{--}40\text{ IU/L}$), total bilirubin 4.3 mg/dl ($0.2\text{--}1.0\text{ mg/dl}$), r-glutamyl transpeptidase 131 IU/L ($4\text{--}73\text{ IU/L}$), triglyceride 44 mg/dl ($40\text{--}150\text{ mg/dl}$), carcinoembryonic antigen 3.7 ng/ml ($<3.0\text{ ng/ml}$). Abdominal sonography showed multiple gall bladder stones and reverberation shadow consistent of gas in the gallbladder (Fig. 1), but with no



Fig.1. Abdominal sonography showing multiple stones (arrowhead) and reverberation shadow in the gallbladder (arrow)

evidence of biliary tree dilatation. Computed tomographic (CT) scans of the abdomen showed the presence of stones and gas within the gallbladder (Fig. 2), mild swelling of the pancreas and ascites (Fig. 3). Broad-spectrum antibiotics were given initially and percutaneous drainage of the gallbladder was done on the 3rd hospital day. Enterobacter species were later cultured from the bile. Cholangiography via cholecystostomy done on the 9th day of admission showed neither evidence of filling defects in the common bile duct nor a fistulous communication between the biliary tract and the gastrointestinal tract. The patient re-

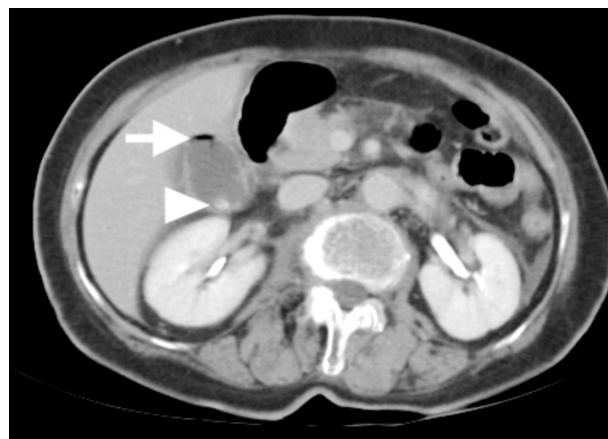


Fig.2. Computed tomographic scan of the abdomen after contrast enhancement showing intraluminal gas in the nondependent portion of the gallbladder (arrow) and stones in the dependent portion of the gallbladder (arrowhead)



Fig.3. Computed tomographic scan of the abdomen showing mild swelling of the pancreas and small amount of ascites

fused cholecystectomy and she was discharged on the 9th day of the hospitalization. The cholecystostomy tube was removed on the 7th day after discharge. There was no recurrence of abdominal pain after 6 months' follow-up.

Discussion

Emphysematous cholecystitis is an uncommon variant of acute cholecystitis produced by gas-forming bacteria associated with ischemic change. Two possible pathomechanisms of emphysematous cholecystitis were reported. One theory was occlusion of the cystic duct² and another was vascular occlusion of the cystic artery and its branches³, followed by proliferation of gas-forming organisms such as Clostridia species, Escherichia coli and anaerobic streptococci, resulting in formation of gas in the gallbladder and penetration of gas into the gallbladder wall. Emphysematous cholecystitis predominantly affects elderly men and occurs frequently in diabetic patients⁴. Emphysematous cholecystitis has a high risk for gallbladder necrosis and perforation, but a substantial number of patients do not have associated cholelithiasis⁴. The diagnosis of emphysematous cholecystitis was made on the basis of plain film of the abdomen, abdominal sonography and CT scans of the abdomen. Plain abdominal films occasionally show the presence of an air-fluid level in the gallbladder lumen, or air in the gallbladder wall⁵. Sonography is usually the initial diagnostic tool for observing the gallbladder. The ultrasound features of emphysematous cholecystitis depending on the amount and location of gas have been well described: highly echogenic collections with shadowing and reverberation emanating from the gallbladder wall or lumen^{6,7}. Another sonographic sign of emphysematous cholecystitis is the effervescent gallbladder which show tiny echogenic foci (gas bubbles) observed rising from the dependent portion of the gallbladder, reminiscent of rising champagne bubbles⁸. CT scans might be the best modality for diagnosing

emphysematous cholecystitis because it shows the exact location of air, whether in the gallbladder wall, in the lumen or throughout the bile duct⁹. The treatment of emphysematous cholecystitis is cholecystectomy, either conventional or laparoscopic. Percutaneous drainage of the gallbladder may be an alternative treatment when it is not safe to carry out a surgical procedure, especially in severely ill patients¹⁰.

Our case is unique because of coexistence of emphysematous cholecystitis and acute pancreatitis. The precise etiology for the simultaneous occurrence of both conditions in this patient was not clear. As there was no filling defect in the common bile duct, we thought that the most likely possibility was a stone impacted in the distal portion of the common bile duct causing gallstone pancreatitis with spontaneous stone passage.

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同時合併氣腫性膽囊炎及急性胰臟炎： 一病例報告

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摘 要

氣腫性膽囊炎是一種少見但致命性急性膽囊炎的併發症，特別是老年人、抵抗力差者、糖尿病患者。同時合併氣腫性膽囊炎及急性胰臟炎則更少被報告。我們報告一例81歲女性病患有氣腫性膽囊炎伴隨有膽囊結石及急性胰臟炎，因3天之上腹及右上腹痛表現。入院後腹部超音波及電腦斷層發現有結石及氣體在膽囊內，胰臟輕微腫大及腹水。之後使用抗生素和經皮膽囊引流術治療。病情穩定後，經由膽囊引流管進行膽管攝影術，但在總膽管中並無異常。病患在住院第9天出院，且於出院7天後拔除膽囊引流管，病人因症狀改善而不願開刀。之後的6個月無腹痛之發生。