

Inflammatory colonic obstruction developed as a complication of acute gangrenous cholecystitis

Shuang-Shuang Cao¹, An-Ping Su², Lan Fu³,
Yi Zhang⁴, Shah Ram Babu⁵, Bo-Le Tian⁶

ABSTRACT

Inflammatory colonic obstruction has rarely been reported as a complication of acute gangrenous cholecystitis. In this paper, we report a male presenting with inflammatory colonic obstruction, secondary to acute gangrenous cholecystitis. He was successfully treated with a laparotomy, adhesiolysis and cholecystectomy and went on to make a good recovery. The case highlights the importance of having a high index of suspicion for acute gangrenous cholecystitis accompanied by inflammatory colonic obstruction when reviewing patients presenting with cholecystolithiasis and colonic obstruction in the presence of raised inflammatory markers, as well as having an early surgery.

KEY WORDS: Inflammatory colonic obstruction, Gallstone, Acute gangrenous cholecystitis.

Pak J Med Sci January - March 2012 Vol. 28 No. 1 203-205

How to cite this article:

Cao SS, Su AP, Fu L, Zhang Y, Babu SR, Tian BL. Inflammatory colonic obstruction developed as a complication of acute gangrenous cholecystitis. Pak J Med Sci 2012;28(1):203-205

INTRODUCTION

Inflammatory colonic obstruction (ICO) has rarely been reported as a complication of acute gangrenous cholecystitis (AGC). The incidence of ICO in cases of gangrenous gallbladders is lower than 4%.¹ The clinical features of ICO may dominate the clinical picture and mask cholecystitis, which can pose a considerable diagnostic dilemma. In this paper, we report a case presenting with ICO secondary to AGC.

1. Shuang-Shuang Cao, MD,
2. An-Ping Su, MD,
3. Lan Fu, MD,
4. Department of Oncology,
5. Yi Zhang, MD,
6. Shah Ram Babu, MD,
- Bo-Le Tian, MD,
- 1,2,4-6: Department of Hepatobiliopancreatic Surgery,
- 1-6: West China Hospital, Sichuan University, Chengdu, Sichuan Province 610041, China.

Correspondence:

Bo-Le Tian,
Department of Hepatobiliopancreatic Surgery,
West China Hospital,
Sichuan University,
Chengdu, Sichuan Province 610041,
E-mail: bo-le@medmail.com.cn

- * Received for Publication: July 27, 2011
- * Accepted: November 9, 2011

CASE REPORT

A 38-year-old male presented with a 16-hour history of right upper quadrant abdominal pain, abdominal distension, vomiting and without exhaust and defecation. There was no history of prior abdominal surgery. Physical examination revealed right upper quadrant abdominal tenderness, Murphy sign (+) and abdominal distension with hyperactive bowel sounds. Routine blood investigations revealed a raised white cell count (WCC) and C-reactive protein (CRP) of $13.3 \times 10^9/L$ and 148 mg/L, respectively. The levels of serum amylase, total bilirubin and tumor markers were normal. B-ultrasound showed multiple stones in the normal gallbladder (Fig.1a). An abdominal film showed multiple mild dilated loops with gas-fluid levels (Fig.1b) prompting a computerised tomography (CT) scan of his abdomen which revealed normal gallbladder and the presence of partial obstruction of the proximal transverse colon (Fig.1c). Nothing was found with colonoscope.

Based on the symptoms and assistant examinations, the diagnosis was inclined to cholecystolithiasis and partial colonic obstruction with unclear causes. Gastrointestinal

decompression was performed and broad-spectrum antibiotics were used because of persistent fever and raised WCC. However, on the 3th day post-presentation, his symptoms deteriorated and routine blood investigations revealed a raised WCC of $18.72 \times 10^9/L$. Re-examination of B-ultrasound showed the same result except perihepatic fluid collections. An abdominal film and CT scan showed the more serious colonic obstruction.

Acute cholecystitis associated with ICO was highly suspected and subsequently the patient underwent emergency laparotomy. Intraoperatively, the mucosa and serosa of gallbladder were separated by effusion without perforation (Fig.2a). What's more, there was severe adhesion among gallbladder, omentum and oedematous transverse colon which formed a inflammatory mass with severe dilated ascending colon (Fig.2b). Multiple stones were also found in gallbladder and a small one was incarcerated in the neck of gallbladder. Then an cholecystotomy and adhesiolysis was performed. Postoperative recovery was unremarkable and the diagnosis of AGC and ICO was confirmed at laparotomy and subsequently on histological examination of the removed gallbladder.

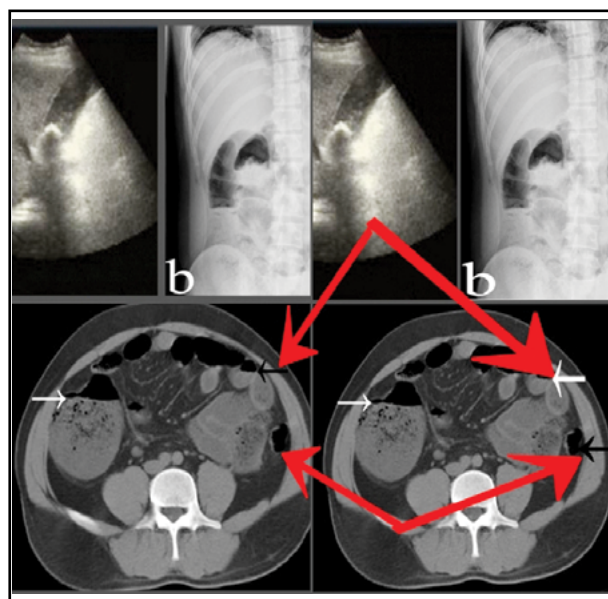


Fig.1:

- B-ultrasound showing multiple stones in the normal gallbladder, without a stone incarcerated in the neck of gallbladder.
- Abdominal film showing multiple mild dilated loops with gas-fluid levels.
- Abdominal CT scan showing small intestine with gas-fluid levels (thick and white arrow), severe dilated ascending colon (thin and white arrow) and normal descending colon (black arrow).

DISCUSSION

ICO which is combination of adynamic obstruction and mechanical obstruction is a rare complication of AGC. It always results from local muscularis inflammatory events and formation of an inflammatory mass secondary to severe inflammation.²

Despite previous reports, prompt diagnosis remain a challenge. The presentation of AGC accompanied by ICO is not widely recognized and can result in a delayed diagnosis with potential for increased morbidity and mortality. Right upper quadrant abdominal pain and abdominal distension have been found the most common symptoms, followed by vomiting and non-exhaust. What's more, there is no single laboratory finding, apart from a high WCC and CRP, predictive of severe inflammation. B-Ultrasound is purported to have greater than 95% specificity and sensitivity in detecting acute calculous cholecystitis.³ However, in our case repeat examination with B-ultrasound showed the multiple stones in the normal gallbladder, without the presentation of acute cholecystitis, which ascribed to the separation of

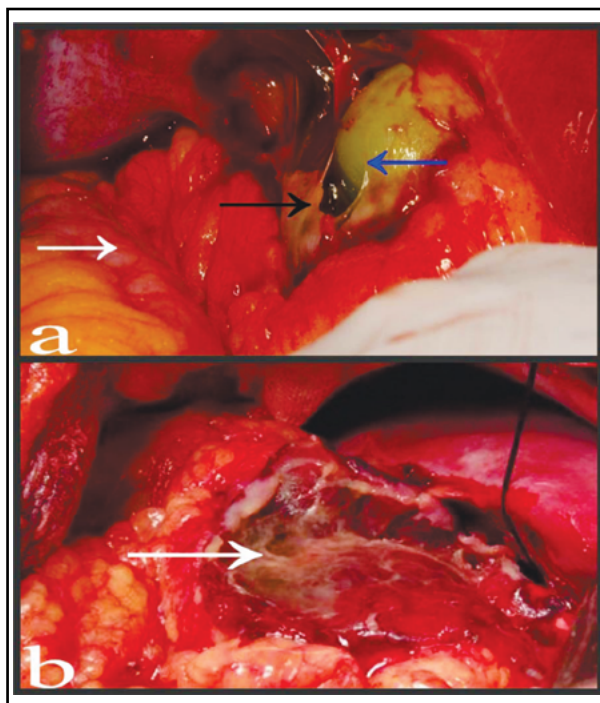


Fig.2

- The intraoperative picture showing the mucosa (blue arrow) and serosa (black arrow) of gallbladder separated by effusion and the oedematous transverse colon (white arrow).
- The intraoperative picture showing an inflammatory mass (arrow) which was formed by the serosa of gallbladder, omentum and transverse colon.

mucosa and serosa of the gallbladder. Abdominal film can reveal the colonic obstruction, as well as CT scan and barium meal examination which can also exclude some causes of colonic obstruction, such as tumors and stones.

When other causes of colonic obstruction are excluded, ICO should be highly suspected. Despite antibiotics sometimes can be used to control inflammation, locating and removing the inflammation is crucial. AGC is the last stage of acute cholecystitis with high morbidity. Contini et al⁴ showed that the time of hospitalization delay plays a key role in the formation of AGC and emphasized the need for an early surgical treatment in acute cholecystitis, even with mild symptoms.

With the above mentioned reports and our own experience, we would like to highlight the importance of having a high index of suspicion for AGC accompanied by ICO when reviewing patients presenting with cholecystolithiasis and colonic obstruction in the presence of raised inflammatory markers, as well as having an early surgery.

REFERENCES

1. Croley GG 2nd. Gangrenous cholecystitis: five patients with intestinal obstruction. *Am Surg* 1992;58(5):284-292.
2. Yu-Ling Wang. One Case: Colonic Incomplete Obstruction Caused by Inflammatory Mass of Cholecystitis Misdiagnosed as Colonic Carcinoma. *J Pract Radiol* 2003;19(10):958.
3. Portincasa P, Moschetta A, Petruzzelli M, Palasciano G, Di Ciaula A, Pezzolla A. Gallstone disease: Symptoms and diagnosis of gallbladder stones. *Best Pract Res Clin Gastroenterol* 2006;20(6):1017-1029.
4. Contini S, Corradi D, Busi N, Alessandri L, Pezzarossa A, Scarpignato C. Can gangrenous cholecystitis be prevented?: a plea against a "wait and see" attitude. *J Clin Gastroenterol* 2004;38(8):710-716.

Authors Contributors:

Shuang-Shuang Cao, An-Ping Su, Lan Fu and Yi Zhang collected the data. Shuang-Shuang Cao, An-Ping Su and Bo-Le Tian wrote the manuscript. Shah Ram Babu and Bo-Le Tian were involved in the final editing of the manuscript. Shuang-Shuang Cao and An-Ping Su share the co-first author.