Various Presentations Of Gangrenous Cholecystitis And Review Of Literature

A Narang, P Garg, S Bhoriwal, V Rathi, S Aggarwal, S Mittal, S Verma

Citation

A Narang, P Garg, S Bhoriwal, V Rathi, S Aggarwal, S Mittal, S Verma. *Various Presentations Of Gangrenous Cholecystitis And Review Of Literature*. The Internet Journal of Surgery. 2012 Volume 28 Number 3.

Abstract

Gangrenous cholecystitis (GC) is a complicated variant of acute cholecystitis. It can present with varied signs and symptoms, from biliary colic to gallbladder perforation. A high index of suspicion is required to diagnose this condition in the high-risk group to avoid morbidity. Herein we report two cases of gangrenous cholecystitis with unusual presentations: A 56-year-old male had a history of a single episode of right upper abdominal pain one month back, suggestive of GSD, and elective cholecystectomy was done. Histopathology revealed gangrenous cholecystitis. A 58-year-old female presented with signs and symptoms suggestive of perforation peritonitis for one day. Emergency laparotomy showed gangrenous patches on the gallbladder wall, cholecystectomy was done and histopathology revealed gangrenous cholecystitis. So, in case of acute cholecystitis and in the presence of risk factors, gangrenous cholecystitis should be one of the differential diagnoses in order to avoid serious complications.

INTRODUCTION

Gangrenous cholecystitis (GC) represents a severe complicated variant of acute gallbladder disease with a high morbidity and significant risk for increased mortality; however, it has also been reported as silent finding during the course of elective cholecystectomy[1]. There are various risk factors defined which increase the probability of GC. There are no specific criteria which make diagnosis of gangrenous cholecystitis easy, hence the purpose of presenting these case reports is to keep gangrenous cholecystitis (a complicated form of cholecystitis) in mind as one of the differential diagnoses, while dealing with cases of gallbladder perforation, acute cholecystitis or previous cholecystitis for elective cholecystectomy, with various risk factors involved.

CASE REPORTS

A 56-year-old male, known case of hypertension taking antihypertensives for 2 years, presented with history of one episode of pain in the right upper abdomen one month back. His pulse rate was 90/min, his blood pressure 142/92mmHg. Liver function tests were within normal range, the total leukocyte count was 6500/mm^3. Ultrasonography showed a gallbladder containing multiple calculi with suspicious sludge or growth, on contrast-enhanced computed tomography of the abdomen no mass was seen in the gallbladder; however, mild stranding was seen the region of fundus and inferior wall. The patient was managed symptomatically; he was asymptomatic for one month and was worked up for elective cholecystectomy. Intra-operatively, the entire fundus of the gallbladder was wrapped with omentum, Calot's triangle was frozen, the gallbladder wall was inflamed and friable, and Mirizzi's syndrome type 1 was delineated after meticulous dissection. A drain was put in the gallbladder fossa. Postoperatively the patient was kept on intravenous antibiotics and analgesics. The histopathological report of the gallbladder showed gangrenous cholecystitis. The hospital stay was uneventful and the patient was discharged on the 7 th postoperative day after removal of the drain.

A 60-year-old female presented with pain all over the abdomen and no passage of flatus and stool for one day. On examination, the pulse rate was 120/min, blood pressure 90/60mmHg and the abdomen was tender and rigid. Leucocyte count was 12,000/mm^3 and there was no finding suggestive of pneumoperitoneum on the abdominal x-ray. Ultrasonography showed free fluid (+++) in the abdomen. The gallbladder showed a calculus of 6mm and a doubtful perforation in the fundus (fig. 1). Diagnosis of biliary peritonitis was made. The patient was urgently operated; intra-operatively, 2.5 liters of bilious fluid were aspirated from peritoneal cavity. The gallbladder was having few

gangrenous patches in the fundal area (fig. 2). We were not able to find any perforation in the gallbladder; stomach and small intestine were healthy. We presumed that there was some small rent in the gangrenous area of the gallbladder which sealed off by itself. Cholecystectomy was done. On cutting the gallbladder, there was no calculus in the lumen and the wall showed multiple gangrenous patches. The histopathological report showed gangrenous cholecystitis. The patient developed burst abdomen on the 4 th postoperative day. The wound was allowed to heal by secondary intention and the patient was discharged on request on the 14 th day. Now the patient is on regular follow-up in the outpatient department.

Figure 1

Fig. 1: Ultrasonographic picture showing site of perforation

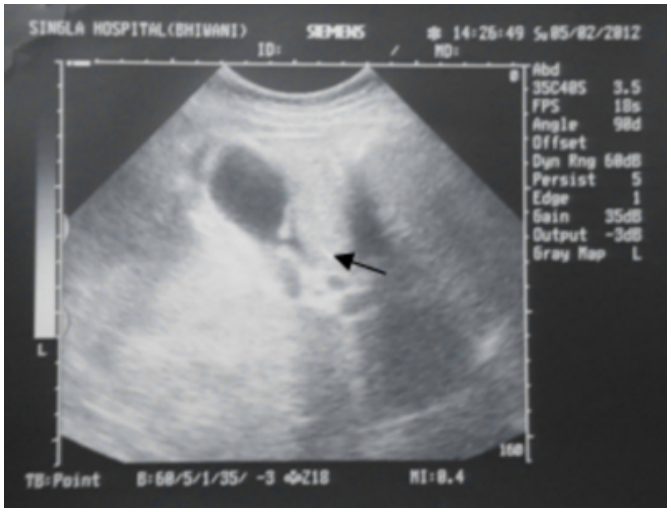

Figure 2

Fig. 2: Cut section of cholecystectomy specimen showing gangrenous patch

DISCUSSION

Gangrenous cholecystitis (GC) is the last stage of gallbladder inflammation, in which progressive vascular insufficiency causes ischemia, leading to necrosis and perforation of the gallbladder wall.[2] There are various factors defined which increase the probability of GC like male sex, diabetes mellitus and increased leucocyte count[3], advanced age, associated cardiovascular diseases[4], and increased CRP (C-reactive protein) level[5] .There are no specific criteria for definitive diagnosis of gangrenous cholecystitis. However, the following score has been proposed:

The score comprises[6]:

Figure 3

1. Age > 45 years	1 point
2. Male	2 points
3. Leucocytosis > 13,000/mm^3	1.5 points
4. Ultrasonographic gallbladder wall thickness > 4.5 mm	1 point
5. Heart rate > 90 beats/min	1 point

The prevalence of gangrenous cholecystitis was 13% in the low-probability (0-2 points), 33% in the intermediate-probability (2-4.5 points), and 87% in the high probability category (>4.5 points).[6] Our cases are unique as they represent two extreme forms of gangrenous cholecystitis that are asymptomatic gangrenous calculous cholecystitis and perforated gangrenous acalculous cholecystitis.

GC has a mortality rate of up to 22% and a complication rate of 16-25%.[1] Complications associated with GC include perforation, which has been reported to occur in as many as 10% of cases of acute cholecystitis[1]. Perforation of the gall bladder can then lead to abscess formation or peritonitis. Hence, in contrast to other gallbladder disease, it is important both to diagnose and surgically treat GC prior to complications and/or perforation to avoid its high morbidity and mortality rate.

CONCLUSION

There should be high index of suspicion for the diagnosis of gangrenous cholecystitis while dealing with patients of cholecystitis (calculous or acalculous, symptomatic or asymptomatic) with involved risk factors in order to manage the patients timely and to avoid potentially serious complications.

References

1. Chaudhry S, Hussain R, Rajasundaram R, Corless D: Gangrenous cholecystitis in an asymptomatic patient found during an elective laparoscopic cholecystectomy: a case

report. J Med Case Reports; 2011; 5: 199.
2. Girgin S, Gedik E, Taçyildiz IH, Akgün Y, Baç B, Uysal E: Factors affecting morbidity and mortality in gangrenous cholecystitis. Acta Chir Belg; 2006; 106: 545-9.
3. Fagan SP, Awad SS, Rahwan K, Hira K, Aoki N, Itani KM, Berger DH: Prognostic factors for the development of gangrenous cholecystitis. Am J Surg; 2003; 186: 481-5.
4. Bennett GL, Rusinek H, Lisi V, Israel GM, Krinsky GA, Slywotzky CM, Megibow A: CT findings in acute gangrenous cholecystitis. AJR Am J Roentgenol; 2002; 178: 275-81.
5. 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: 710-716.
6. Yacoub WN, Petrosyan M, Sehgal I, Ma Y, Chandrasoma P, Mason RJ: Prediction of patients with acute cholecystitis requiring emergent cholecystectomy: a simple score. Gastroenterol Res Pract; 2010: 901739. Epub 2010 Jun 8.

Author Information

Amit Narang, M.B.B.S, M.S(pursuing)
Department of Surgery, Pt. B. D. Sharma Post Graduate Institute of Medical Sciences

Pradeep Garg, M.S, D.N.B
Department of Surgery, Pt. B. D. Sharma Post Graduate Institute of Medical Sciences

Sandeep Bhoriwal, M.S
Department of Surgery, Pt. B. D. Sharma Post Graduate Institute of Medical Sciences

Vazir Singh Rathi, M.S
Department of Surgery, Pt. B. D. Sharma Post Graduate Institute of Medical Sciences

Sourabh Aggarwal, M.B.B.S, M.S(perusing)
Department of Surgery, Pt. B. D. Sharma Post Graduate Institute of Medical Sciences

Sachin Mittal, M.B.B.S, M.S(pursuing)
Department of Surgery, Pt. B. D. Sharma Post Graduate Institute of Medical Sciences

Surender Verma, M.S
Department of Surgery, Pt. B. D. Sharma Post Graduate Institute of Medical Sciences