



CASE REPORT

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## HEPATOBIILIARY SURGERY IN LIBERIA: A CASE REPORT OF A 49-YEAR FEMALE WITH ACUTE CHOLECYSTITIS

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### ABSTRACT

Acute cholecystitis refers to a syndrome of right upper quadrant pain, fever, and leukocytosis associated with gallbladder inflammation, which is usually related to gallstone disease. More than 90% of cases of acute cholecystitis are associated with cholelithiasis. Cholelithiasis is said to be an uncommon disease in tropical Africa. This contrasts with the high incidence of gallstones in western Europe and the United States. In review of the literature, there has been no documented or published data on the management of Acute Calculous Cholecystitis in Liberia. As such we present a 49-year-old Liberian female who underwent an open cholecystectomy for an acute calculous cholecystitis.

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### INTRODUCTION

Acute calculous cholecystitis is a complication of cholelithiasis, a condition that afflicts more than 20 million Americans annually (Everhart, 1999). Most patients with gallstones are asymptomatic (Gracie, 1982). Of such patients, biliary colic develops in 1 to 4% annually (Friedman 1989), and acute cholecystitis eventually develops in about 20% of these symptomatic patients if they are left untreated (Carter, 1987). Such patients tend to be somewhat older than those with uncomplicated symptomatic cholelithiasis. Most patients with acute cholecystitis have had attacks of biliary colic, but some have had no previous biliary symptoms (Friedman, 1989 and Gracie, 1982). Cholelithiasis is said to be an uncommon disease in tropical Africa (Biss, 1971). This contrasts with the high incidence of gallstones in western Europe and the United

States (Ganiyu, 2005). In a five-year review from Ibadan in 1964, 835 patients—an average of seven per year—were operated on for inflammatory disease of the gallbladder (Ganiyu, 2005). About a decade later, during a three-year period (1974-1977) in the same institution, Ajao found 19 cases, suggesting no appreciable difference (Ajao, 1982). Mortality associated with a single episode of acute cholecystitis depends upon the patient's health and surgical risk (Ito, 2004). Overall mortality is approximately 3 percent, but is less than 1 percent in young, otherwise healthy patients, and approaches 10 percent in high-risk patients, or in those with complications (<http://www.uptodate.com/contents/treatment-of-acute-cholecystitis>). In review of the literature, there has been no documented or published data on the management of Acute Calculous Cholecystitis in Liberia. As such we present a 49-year-old

Liberian female who underwent an open cholecystectomy for an acute calculous cholecystitis.

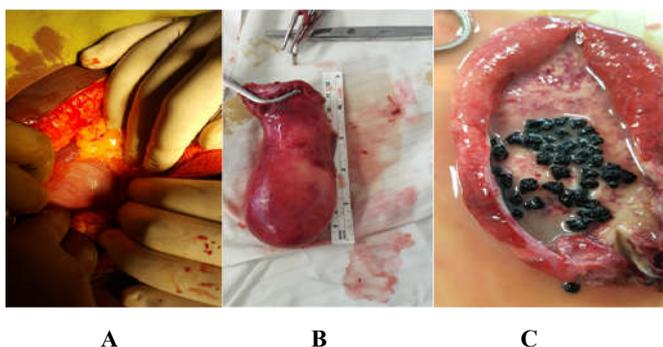
### A Case Report

A 49-year-old 85-kilogram female presented through the Emergency Room at the ELWA Hospital with complaints of severe constant right hypochondrial pain for 2 days before presentation. The pain lasted for several hours following the onset and worsened with respiration sometime radiating to her left shoulder. He experienced two subsequent bouts of nonbilious postprandial vomitus fever 24 hours later. She complained intermittent fever as well as profound anorexia. She denies history of jaundice, weight loss or change in stool color. She has been treated during the previous six month for symptoms of gallstone. She denied history of Hemoglobinopathies and Diabetes. She is a grand multipara who had reached her menopause a year before presentation. She is a housewife and denied the use of alcohol, illicit drug or smoking. Physical exam revealed a moderately obese female with pyrexia of 38.1 Celsius but no jaundice or pallor. She was hemodynamically stable on admission. Abdominal exam displayed a positive murphy's sign with palpable tender gallbladder. Other findings were unremarkable. She was diagnosed of Acute Calculous Cholecystitis.



**Figure 1. Panel A shows multiple gallstones with dilated gallbladder. Panel B shows pericholecystic fluid**

The Complete Blood Count revealed moderate leukocytosis with increase in neutrophil (85%). The Liver enzyme, liver function (bilirubin) and Kidney function test were normal. There was no electrolyte abnormality on biochemistry. Sonographic findings were consistent with a positive sonographic murphy sign, mild pericholecystic fluid, multiple stones in the gall bladder, dilated gallbladder 5cm/10cm with a wall thickness of 0.4cm which confirmed an Acute Calculous Cholecystitis (Figure 1.). No common bile duct stone was visualized. No further imaging was available.



**Figure 2. Panel A shows a dilated edematous gallbladder. Panel B shows a 12-centimeter gallbladder specimen. Panel C shows about 75 black stones in the gallbladder**

Patient was admitted on Crystalloid fluid, Ceftriaxone and Metronidazole for anaerobic and gram negative bacteria coverage and opioids for pain control. She underwent an emergency open cholecystectomy (bottom-up approach) within 24 hours as our facility lacks a Laparoscopic Unit. Intraoperative findings revealed an inflamed and edematous gall bladder with few stones in the cystic duct that was milked back into the gallbladder. The gallbladder specimen revealed approximately 75 black stones (Figure 2.) She was discharged after 3 days of intravenous antibiotics for follow-up through the outpatient department.

### DISCUSSION

1. Acute cholecystitis refers to a syndrome of right upper quadrant pain, fever, and leukocytosis associated with gallbladder inflammation, which is usually related to gallstone disease (acute calculous cholecystitis) (<http://www.uptodate.com/contents/treatment-of-acute-cholecystitis>). The risk factors predisposing to gallstone formation include female sex, obesity, diabetes mellitus, estrogen and pregnancy, hemolytic diseases, and cirrhosis (Schirmer, 2005). More than 90% of cases of acute cholecystitis are associated with cholelithiasis (acute calculous cholecystitis) (Strasberg, 2008). The key elements in pathogenesis seem to be an obstruction of the cystic duct in the presence of bile supersaturated with cholesterol (Biss, 1971). Complications include the development of gangrene and gallbladder perforation, which can be life-threatening (<http://www.uptodate.com/contents/treatment-of-acute-cholecystitis>). Fever and an elevation in the white-cell count are classically described in patients with acute cholecystitis, but either or both may be absent (Gruber, 1996). The C-reactive protein level is frequently elevated (13) and the bilirubin level may rise to 4 mg per deciliter (68  $\mu$ mol per liter) in the absence of complications (Strasberg, 2008). Abdominal ultrasonography and hepatobiliary scintigraphy are the imaging studies most commonly used in diagnosis (Strasberg, 2008). Ultrasonography detects cholelithiasis in about 98% of patients (11). Acute calculous cholecystitis is diagnosed radiologically by the concomitant presence of thickening of the gallbladder wall (5 mm or greater), pericholecystic fluid, or direct tenderness when the probe is pushed against the gallbladder (ultrasonographic Murphy's sign). Patients with acute cholecystitis should be admitted to the hospital for supportive care, which includes intravenous fluid therapy, correction of electrolyte disorders, and control of pain. Antibiotics may also be indicated (<http://www.uptodate.com/contents/treatment-of-acute-cholecystitis>). Laparoscopic cholecystectomy is considered the standard approach for the surgical treatment of acute calculous cholecystitis (<http://www.uptodate.com/contents/treatment-of-acute-cholecystitis>). Compared with open cholecystectomy, laparoscopic cholecystectomy reduces postoperative pain and significantly shortens hospital length of stay and convalescence, and time away from work, and is preferred by many patients from a cosmetic viewpoint (Johansson, 2005; Yamashita, 2007). However, the overall serious complication rate in laparoscopic cholecystectomy remains higher than that seen with open cholecystectomy; thus, the threshold for conversion to an open procedure should be low (Vollmer, 2007). Early cholecystectomy, rather than delayed cholecystectomy (>7 days after admission), is preferable for patients who require hospitalization for acute cholecystitis and who are good candidates for cholecystectomy (<http://www.uptodate.com/contents/treatment-of-acute->

cholecystitis). Evidence from large database reviews and randomized trials show that cholecystectomy performed early during the initial hospitalization may be associated with reduced perioperative morbidity and mortality in some patients, and reduces the length of hospital stay and cost (Strasberg, 2008 and Gurusamy, 2006). Patients categorized as ASA classes III, IV, or V, have perioperative mortality rates ranging from 5 to 27 percent, and are considered high risk for cholecystectomy (Feigal, 1979). For these patients, the risk of cholecystectomy likely outweighs the potential benefits, and an initial nonoperative approach should be undertaken that includes antibiotic therapy and bowel rest (<http://www.uptodate.com/contents/treatment-of-acute-cholecystitis>). For those who fail to improve, gallbladder drainage should be implemented with the eventual goal of performing cholecystectomy (<http://www.uptodate.com/contents/treatment-of-acute-cholecystitis>). Failure to improve after cholecystostomy usually is due to gangrene of the gallbladder or perforation; as such, surgery is unavoidable (Chikamori, 2002).

### Conclusion

Acute calculous cholecystitis is uncommon in Liberia. However, from peer discussion there have been few unpublished cases in the capital Monrovia. Because of lifestyle changes, the incidence is expected to rise. Major Tertiary Centers are still lacking laparoscopic suites. Even with the advent of this technology, the learning curve remains steep. Thus, open cholecystectomy remains the procedure of choice for low risk patients.

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### Consent

A written informed consent was acquired from the patient and other relevant information were retrieved from the chart.

### Conflict of Interest

The authors declare that there is no conflict of interest regarding this publication.

### REFERENCE

Ajao, O.G. 1982. Cholecystitis and cholelithiasis in a tropical African population. *Trop Doct.*, 12:164-166  
 Biss, K., Ho, K.J., Mikkelsen, B., et al. 1971. Some unique biological characteristics of the Masai of East Africa. *N Engl J Med.* 284:694-699

Carter, H.R., Cox, R.L., Polk, H.C. Jr. 1987. Operative therapy for cholecystitis and cholelithiasis: trends over three decades. *Am Surg.*, 53:565-8.  
 Chikamori, F., Kuniyoshi, N., Shibuya, S., et al. 2002. Early scheduled laparoscopic cholecystectomy following percutaneous transhepatic gallbladder drainage for patients with acute cholecystitis. *Surg Endosc.* 2002;16:1704.  
 Everhart, J.E., Khare, M., Hill, M., Maurer, K.R. 1999. Prevalence and ethnic differences in gallbladder disease in the United States. *Gastroenterology*, 117:632-9.  
 Feigal, D.W., Blaisdell, F.W. 1979. The estimation of surgical risk. *Med Clin North Am.*, 63:1131.  
 Friedman, G.D., Raviola, C.A., Fireman, B. 1989. Prognosis of gallstones with mild or no symptoms: 25 years of follow-up in a health maintenance organization. *J Clin Epidemiol* 42:127-  
 Ganiyu, A. R. 2005. Cholelithiasis and Cholecystitis Journal of the National Medical Association. vol. 97, no. 11, Nov. 2005  
 Gracie, W.A., Ransohoff, D.F. 1982. The natural history of silent gallstones: the innocent gallstone is not a myth. *N Engl J Med*, 307:798-800.  
 Gruber, P.J., Silverman, R.A., Gottesfeld, S., Flaster, E. 1996. Presence of fever and leukocytosis in acute cholecystitis. *Ann Emerg Med.*, 28:273-7.  
 Gurusamy, K.S., Samraj, K. 2006. Early versus delayed laparoscopic cholecystectomy for acute cholecystitis. *Cochrane Database Syst Rev* :CD005440  
<http://www.uptodate.com/contents/treatment-of-acute-cholecystitis>  
 Ito, K., Fujita, N., Noda, Y., et al. 2004. Percutaneous cholecystostomy versus gallbladder aspiration for acute cholecystitis: a prospective randomized controlled trial. *AJR Am J Roentgenol.*, 183:193.  
 Johansson, M., Thune, A., Nelvin, L., et al. 2005. Randomized clinical trial of open versus laparoscopic cholecystectomy in the treatment of acute cholecystitis. *Br J Surg.*, 92:44.  
 Juvonen, T., Kiviniemi, H., Niemelä, O., Kairaluoma, M.I. 1992. Diagnostic accuracy of ultrasonography and C reactive protein concentration in acute cholecystitis: a prospective clinical study. *Eur J Surg.*, 158:365-9.  
 Roslyn, J.J., DenBesten, L., Thompson, J.E. Jr, Silverman, B.F. 1980. Roles of lithogenic bile and cystic duct occlusion in the pathogenesis of acute cholecystitis. *Am J Surg.*, 140:126-30.  
 Schirmer BD, Winters KL, Edlich RF. Cholelithiasis and cholecystitis. *J Long Term Eff Med Implants.* 2005;15(3):329-38  
 Strasberg, S.M. 2008. Clinical practice. Acute calculous cholecystitis. *N Engl J Med.*, 358:2804.  
 Vollmer, C.M. Jr, Callery, M.P. 2007. Biliary injury following laparoscopic cholecystectomy: why still a problem? *Gastroenterology.*, 133:1039.  
 Yamashita, Y., Takada, T., Kawarada, Y., et al. 2007. Surgical treatment of patients with acute cholecystitis: Tokyo Guidelines. *J Hepatobiliary Pancreat Surg.*, 14:91.

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