



Case Report

# Acute cholecystitis after cardiovascular surgery (CABG)

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## Abstract

Acute calculous cholecystitis following Coronary Artery Bypass Graft (CABG) surgery is a rare but potentially serious complication. While uncommon, it can occur due to factors like prolonged cardiopulmonary bypass (CPB) time, perioperative inotropic support, low cardiac output, or underlying cholelithiasis.

This condition typically presents with right upper quadrant pain and fever, and is often managed with antibiotics and surgical intervention like cholecystectomy.

Acute cholecystitis following coronary artery bypass grafting (CABG), although rare, is a potentially life-threatening consequence of prolonged cardiopulmonary bypass (CPB) procedures. Minimally invasive direct coronary artery bypass (MIDCAB), performed without sternotomy and without CPB, is perhaps the least traumatic type of CABG procedure. Nevertheless, we present 2 cases of acute cholecystitis following MIDCAB, demonstrating that a MIDCAB does not eliminate the risk of gastrointestinal complications. Our experience with these cases points to the benefits of early and aggressive management in the treatment of acute cholecystitis after MIDCAB

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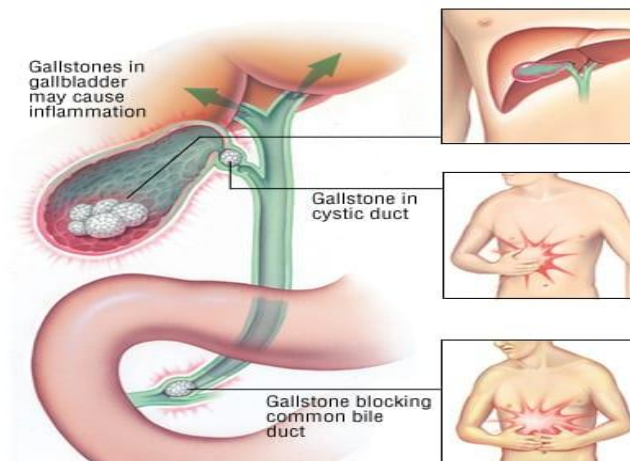
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## 1. Introduction

Gastrointestinal (GI) complications following open heart surgery, although infrequent, can be lethal. The reported incidence of GI complications following cardiopulmonary bypass (CPB) ranges from 0.58% to 3.7% with a disproportionately high mortality rate of 15% to 67% [Mc Sweeney 2004]. Alone, acute cholecystitis (AC) following open heart surgery has a reported incidence of only 0.3% [Rady 1998]. However, due to difficulty with early diagnosis, sepsis often ensues, and AC is associated with a notoriously high mortality rate approaching 75% [Kouchoukos 2003]. Many studies have attributed GI complications to the adverse effects of prolonged CPB procedures.



## 2. Case presentation

A 36 years aged male presented with complaints of right hypochondrial pain and right hypochondrial tenderness present for 3 days. USG abdomen identified Acute Calculous Cholecystitis This report emphasizes the importance of educating patients about Percutaneous cholecystostomy.

### On Assessment

BP: 110/70 mm/hg,

HR: 76b/mts,

Resp: 16/bpm,

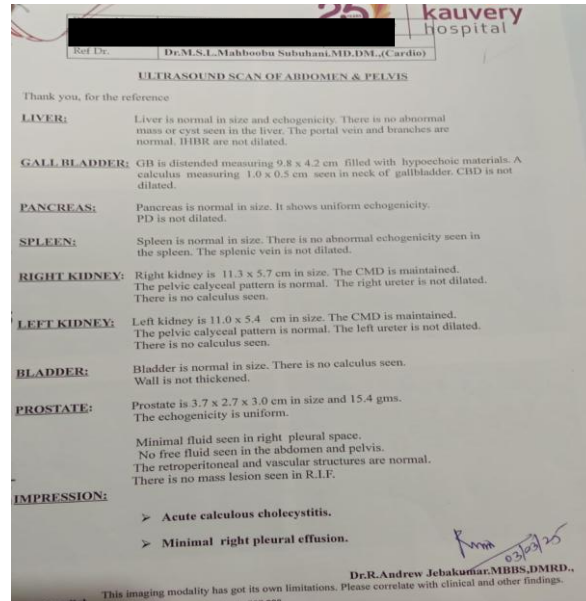
Temp: 98.6°F,

SpO<sub>2</sub>: 99%

### 3. Investigations

- Hb – 10.6 g/dL
- PCV –34 %
- WBC – 11650 cells/ $\mu$ L
- Platelet – 487000 platelets / $\mu$ L
- PT – 16.8
- APT – 33.9
- Sodium – 135.9 mmol/L
- Potassium – 3.94 mmol/L
- Urea – 35.44 mg/dL
- Creatinine – 1 mg/dL
- Triple H – Negative

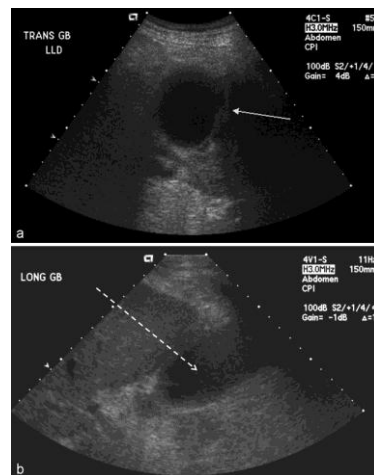
### 3.1 USG Report



### Findings

Gallstones were present in the gall bladder and diagnosed as acute cholecystitis. Markable investigations

### Procedure Notes



- The procedure is performed with the patient in a supine position.
- Regular monitoring of the vital signs.
- Clean skin with an antiseptic solution and sterile drape to maintain sterility for the procedure.

**Percutaneous cholecystectomy** is the image-guided placement of a drainage catheter into the gallbladder lumen. The gallbladder is punctured with a 10 G needle under ultrasound guidance. Bile can then be aspirated for microbiological studies. Advance the catheter assembly into the gallbladder lumen under ultrasound guidance; it is usually possible to visualize tip of the gallbladder lumen. Aspiration of bile/pus from the drain confirms a satisfactory position. Unscrew trocar from catheter; advance catheter over trocar into

gallbladder, then remove trocar and lock pigtail. The catheters were managed jointly by the Interventional Radiology Service and the ICU team. Each nursing shift, flushes catheter with 0.9% saline to maintain catheter patency. Continue monitor the drain level. Treatment

#### **4. Post Procedure Care**

Bed rest (typically 2-4 hours) with regular monitoring of vital signs and provision of adequate analgesia are routinely indicated in the first few hours following the procedure. Catheter is flushed and aspirated regularly with saline (6 to 8 hourly). A cholecystogram (injection of contrast into the indwelling catheter under fluoroscopy), performed when the patient is stable, helps establish satisfactory catheter position and the state of the gallbladder. It also allows for assessment of any residual calculi in the biliary tree.

The catheter can be removed once the tract is mature. When PC placement is done via the trans-hepatic route, most patients typically need two weeks for tract maturation, and when it is done via the trans-peritoneal route, it usually takes at least three weeks. A trial of clamping the catheter for 24 hours is usually done prior to removing the catheter.

Considering age and comorbidities, cholecystectomy after the resolution of cholecystitis is normally performed in order to prevent recurrent cholecystitis. The postoperative course was uneventful. To avoid complications, careful monitoring of the drain, bile leakage and aseptic technique while dressing help prevent infection. Patient was stable during and after procedure.

#### **Dietary Advice**

Start with clear liquids and gradually introduce soft, low-fat foods. Avoid high-fat foods, fried foods, and foods that cause gas or discomfort, and focus on small, frequent meals.

#### **4.1 Outcomes**

On discharge, patient was hemodynamically stable.

#### **5. Discharge Advice**

- Medications: Continue taking all prescribed medications unless your doctor tells you otherwise.
- Diet: Follow your doctor's instructions regarding diet, including which foods to avoid.
- Activity: Avoid activities that cause a pulling sensation or pain around the catheter.
- Rest: Get plenty of rest, as fatigue is common after surgery.
- Driving: Do not drive until you have stopped taking pain medication and are able to safely operate a vehicle.
- Pain Management: Follow your doctor's instructions for pain management.
- Follow-up: Attend all scheduled follow-up appointments.

#### **5.1 Summary**

Acute calculous cholecystitis after CABG is a potentially life-threatening complication, although rare. It's crucial to be aware of the risk factors, recognize the symptoms, and manage the condition promptly with appropriate treatment, which may include surgery, to minimize complications and mortality.

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