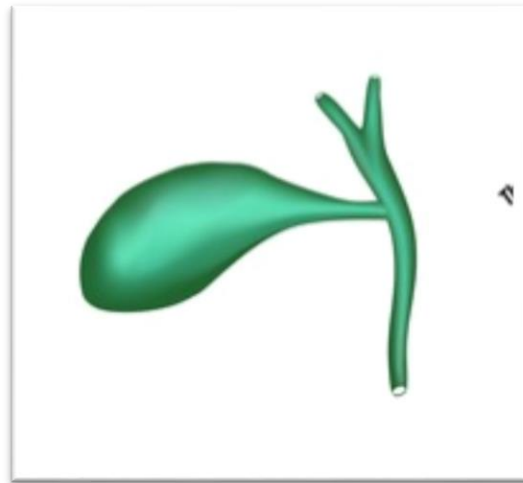


Acute Cholecystitis



ACUTE CHOLECYSTITIS



Acute calculous
cholecystitis- 95%



Acute acalculous
cholecystitis- 5%



ACUTE CALCULOUS CHOLECYSTITIS

- Initiated by obstruction of the cystic duct by an impacted gall stones
- Inflammation of the gall bladder
- More common in females



Differential diagnosis of acute cholecystitis

Common

- Appendicitis
- Perforated peptic ulcer
- Acute pancreatitis

Rare

Acute pyelonephritis
Myocardial infarction
Pneumonia – right lower lobe



Causative bacteria

- E.coli
- Klebsiella
- Streptococcus faecalis
- Salmonella
- Clostridium welchi



Clinical features

- Right hypochondrial pain
- Tenderness
- Guarding
- Rigidity
- Anorexia
- Nausea
- Vomiting
- Fever



Clinical Features

- Murphy's sign
- Mild jaundice (severe jaundice is rare)
- Boas's sign- area of hyperesthesia between 9th and 11th ribs on right posterior



Murphy's sign

In the acute phase the patient may have right upper quadrant tenderness that is exacerbated during inspiration by the examiner's right subcostal palpation



Complications

- Empyema gall bladder
- Gangrene
- Perforation- Cause cholecystoduodenal, cholecystointestinal or cholecystobiliary fistula
- Abscess formation
- Peritonitis



Empyema gall bladder

An empyema of the gallbladder may result. The wall may become necrotic and perforate, with development of localised peritonitis. The abscess may then perforate into the peritoneal cavity with a septic peritonitis.



Investigations

- Blood- Leukocytosis
- Imaging
 - USS
 - HIDA scan
 - CT scan



Tokyo Consensus Guidelines for severity grading of acute cholecystitis

Grade III (severe) acute cholecystitis

Associated with dysfunction of any one of the following organs/ systems:

1 Cardiovascular dysfunction	Hypertension requiring treatment with dopamine $\leq 5 \mu\text{g/kg/min}$, or any dose of norepinephrine (noradrenaline)
2 Neurological dysfunction	Decreased level of consciousness
3 Respiratory dysfunction	$P_a\text{O}_2/\text{FiO}_2$ ratio <300
4 Renal dysfunction	Oliguria; creatinine $>2.0 \text{ mg/dL}$
5 Hepatic dysfunction	Prothrombin time (PT-INR) >1.5
6 Haematological dysfunction	Platelet count $<100\,000/\text{mm}^3$

Grade II (moderate) acute cholecystitis

Associated with any one of the following conditions:

- 1 Elevated white cell count ($>18\,000/\text{mm}^3$)
- 2 Palpable tender mass in the right upper abdominal quadrant
- 3 Duration of complaints >72 hours
- 4 Marked local inflammation (gangrenous cholecystitis, pericholecystic abscess, hepatic abscess, biliary peritonitis, emphysematous cholecystitis)

Grade I (mild) acute cholecystitis

Does not meet the criteria of grade II or grade III acute cholecystitis. Grade I can also be defined as acute cholecystitis in a healthy person with no organ dysfunction and mild inflammatory changes in the gallbladder, making cholecystectomy a safe and low-risk operative procedure



Treatment

Initial management

- Nil per mouth (NPO)
- intravenous fluid administration until the pain resolves.
- Administration of analgesics
- Parenteral antibiotics



Subsequent management

- oral fluids are reinstated
- Start regular diet.
Cholecystectomy may be performed on the next available list
- Cholecystectomy- Immediate (hot) or interval-Laparoscopic or open
- Cholecystostomy- Percutaneous or open.



ACALCULOUS CHOLECYSTITIS

- Acute and chronic inflammation of the gallbladder can occur in the absence of stones and give rise to a clinical picture similar to that of calculous cholecystitis
- Typically occurs in severely ill, hospitalized patients.(E.g.- ICU patients)
- Male predominance
- Related to major surgery, trauma, burns
- Also associated with nil by mouth status



Clinical features

- Right hypochondrial pain
- Diffuse upper abdominal pain
- Tenderness are absent in up to 75% of patients



Investigations

- USS- Investigation of choice
- HIDA
- CT scan



Treatment

- Systemic antibiotic
- IV fluid resuscitation
- Decompression of the gall bladder-
Percutaneous cholecystostomy
- Interval cholecystectomy



CONTRAINDICATIONS FOR LAPAROSCOPIC CHOLECYSTECTOMY

Absolute contraindications

- Unfit for General anesthesia
- Pregnancy
- Acute cholangitis
- Septic peritonitis or septic shock
- Severe bleeding disorder
- Pancreatitis
- Cholecystoenteric fistula
- Doubt of malignancy



Relative contraindications

- Prior upper abdominal surgery
- Inflammatory bowel disease
- Abdominal malignancy
- Advanced liver disease
- Minor bleeding disorder



Complications of cholecystectomy

- Bile duct injury
- Jaundice
- Duct resection
- Benign strictures
- Post cholecystectomy syndrome
- Wound hematoma
- Complications of anesthesia
- Incisional hernia

Laparoscopic cholecystectomy

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graph TD; A[Laparoscopic cholecystectomy] --> B[Advantages]; A --> C[Disadvantages];
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Advantages

- Easy for the patient and reduce hospital stay
- Reduce hospital cost for management of a patient
- Less pain and recovery is fast

Disadvantages

Absent tactile sensation
If not visualize the structures properly need open surgery