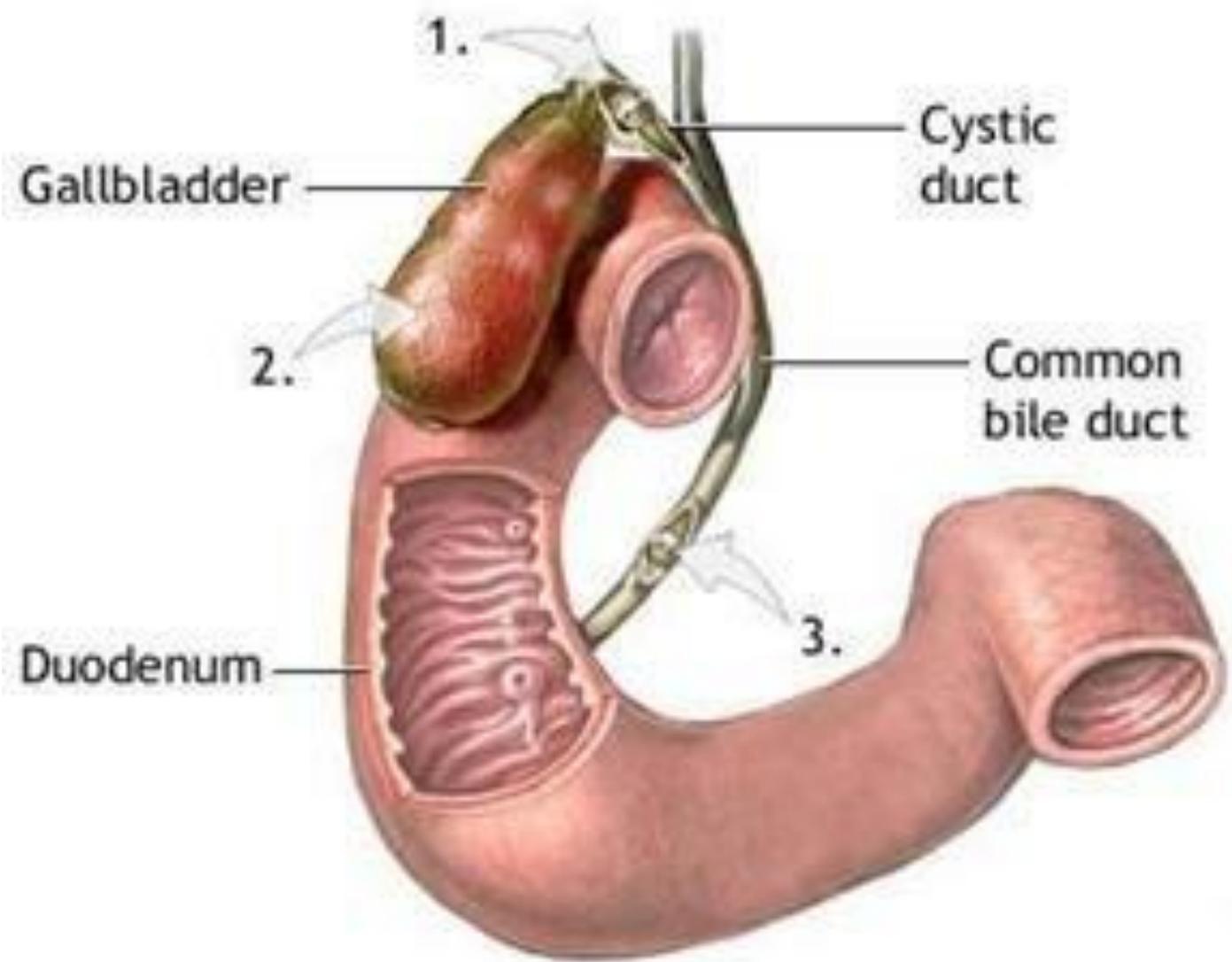


Acute and Chronic Cholecystitis with Cholelithiasis



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Acute Cholecystitis

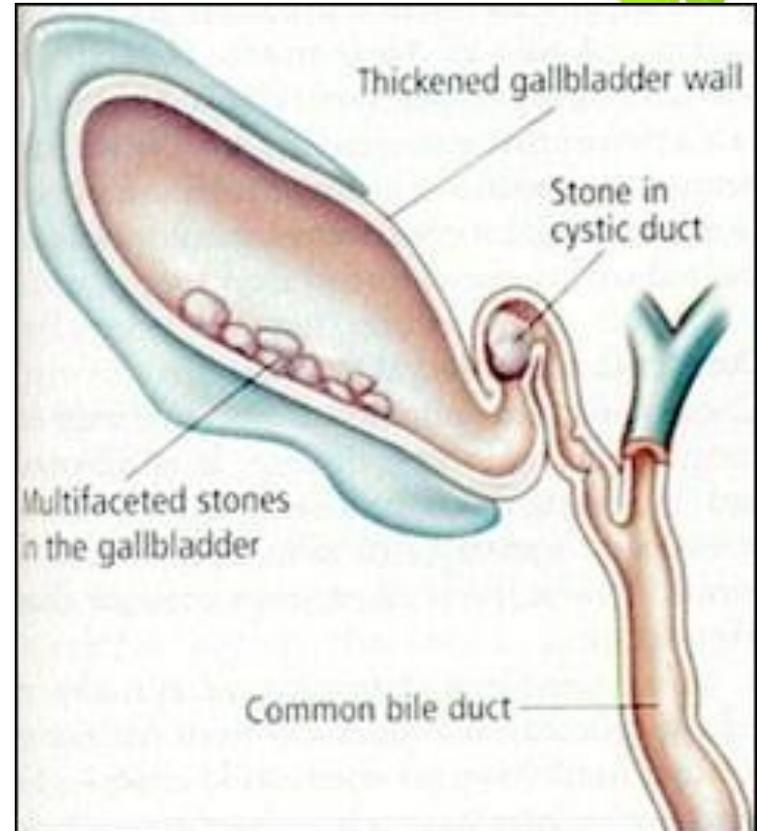


Occurs in

1. Patients with pre existing chronic cholecystitis
2. As first episode

Most Common Cause

Impacted Gallstone in
Hartmann's Pouch



ACUTE CHOLECYSTITIS

- Temporary impaction
 - Only Biliary Colic
 - No INFLAMMATION
- Prolonged impaction
 - INFLAMMATION ENSURES
 - Edema of GB
 - Subserosal Hemorrhage





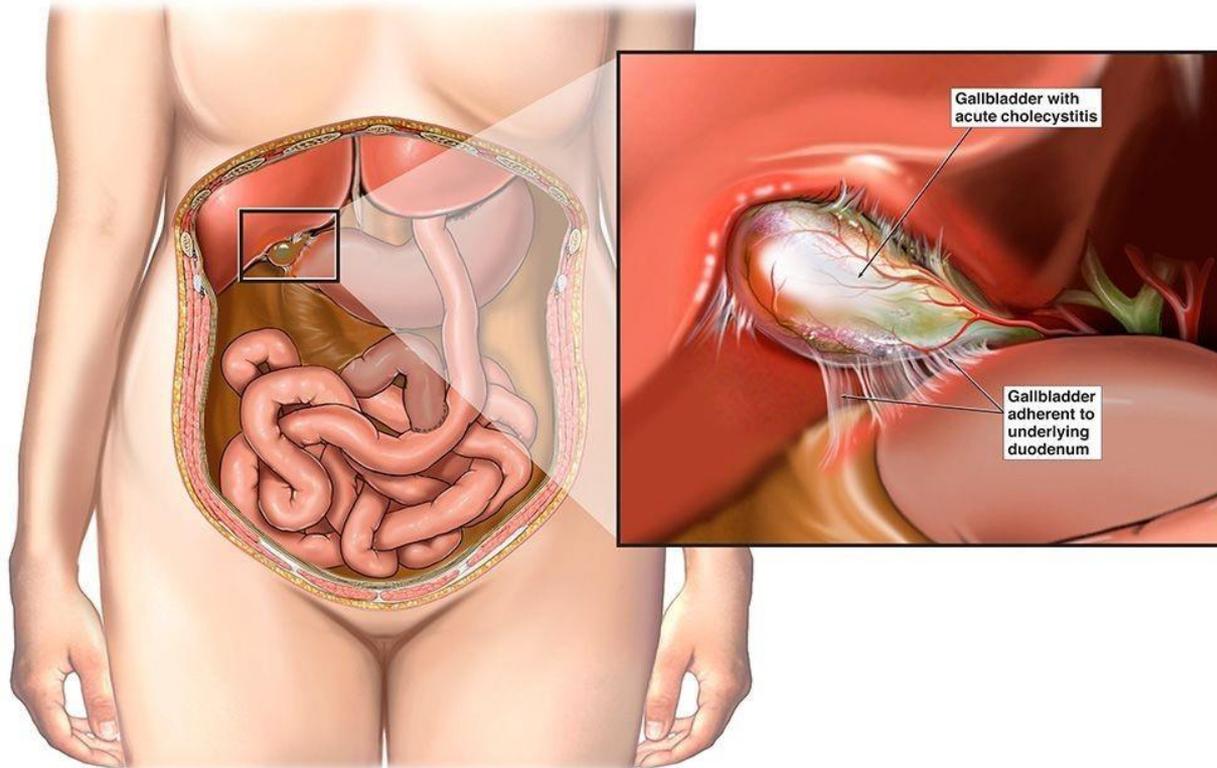
Causitive Organisms:

- E Coli (most common)
- Klebsiella, Pseudomonas, Proteus
- Strep. Faecalis
- Salmonella
- Clostridium Welchii

Classification



- Acute Calculous Cholecystitis
- Acute Acalculous Cholecystitis



Mode of Infection



A. Hematogenous

Hepatic Artery ◇ Cystic Artery

A. Portal Vein

B. Through Bile

Pathogenesis



- Stone causes Obstruction *at hartmann's pouch or in cystic duct*
- Obstruction causes Stasis
- It leads to Edema of the wall
- Bacterial Infection occurs
- Leads to Acute Cholecystitis



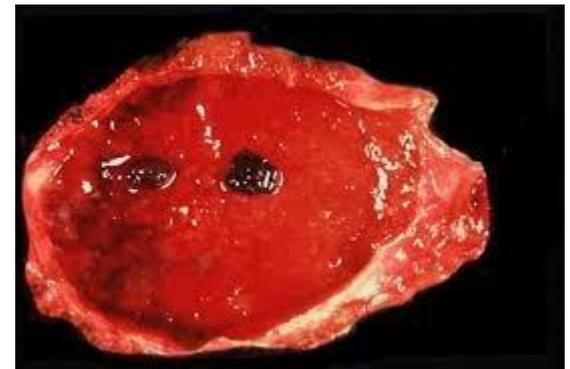
Impacted Stone - - ◇ mucosal erosion



Thereby Bile Salts will act on Submucosal tissue

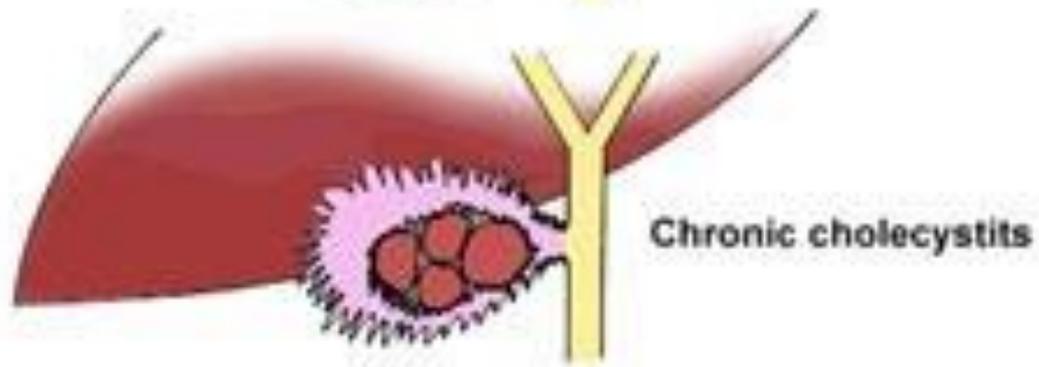
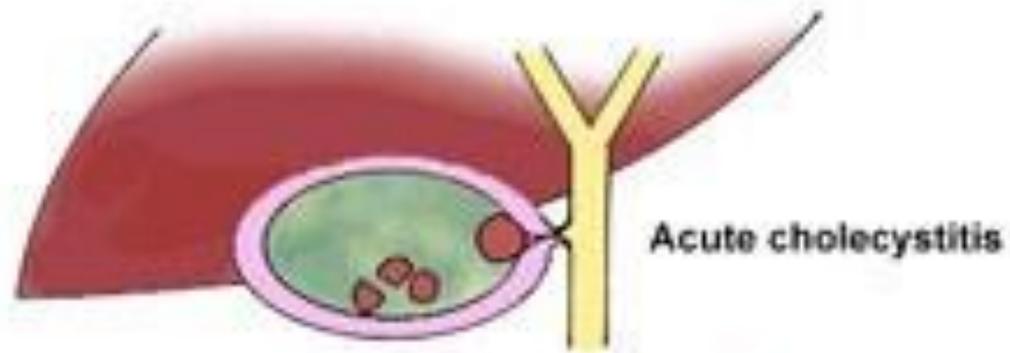
Bile is toxic to tissues

Leads to Necrosis, Infection and Perforation





Acute and Chronic cholecystitis



Presentation



SYMPTOMS

θ FEVER

θ RIGHT UPPER QUAD PAIN

θ NAUSEA



SIGNS



θ RIGHT UPPER QUAD TENDERNESS

θ GUARDING

θ RIGIDITY

θ **MURPHY'S SIGN** (arrest of inspiration with gentle pressure under the R costal margin due to tenderness)

θ **BOAA'S SIGN**- Hyperaesthesia at 9th to 11th rib posteriorly on R side

θ PALPABLE TENDER GALLBLADDER

θ TACHYCARDIA



Murphy's Sign



CHOLELITHIASIS



Predisposing factors



1. Obesity
2. Female sex hormones – estrogen & OCPs
3. Increasing age
4. Pregnancy
5. Drugs- octreotide, clofibrate
6. High fat diet
7. Diabetes mellitus

LITHOGENIC BILE

NUCLEATION

STASIS OR HYPOMOTILITY OF GALL BLADDER



- Increase cholesterol-obesity, diet
- Decrease bile acids- OCPs, genetic factors, PBC, ileal disease, ileal resection
- Increase bilirubin- Hemolytic Anemia

- Excess pronucleating factors- e.g. mucin
- Decreased anti-nucleating factors- e.g. Apolipoproteins

- OCPs
- Vagotomy
- Fasting
- Pregnancy
- Prolonged parenteral nutrition

Types of Gall stones



1. Cholesterol stones – radiating crystal like appearance
2. Mixed stones- Most common type of stones; contains cholesterol, calcium salts of phosphates and carbonates, palmitate ,proteins and are multiple faceted.



3. Pigment stones- small, black or greenish black, multiple and often sludge like

Pigment stones



Black pigment stones

- Most common
- Formed in gall bladder
- Made of Calcium bilirubinate, phosphate, bicarbonate
- Common in hemolytic disorders, cirrhosis
- Multiple, small & hard in consistency

Brown pigment stones

- Rarely form in gall bladder
- Formed in bile duct
- Related to bile stasis & infected bile
- E.coli, Bacteroides

Clinical features



- More common in females
- Fat, fertile, forty, flatulent
- 10% Gallstones are RADIO-OPAQUE
- Asymptomatic in 10 to 20% cases
- Symptoms-
- Biliary colic- Right hypochondrium & epigastrium, radiating to chest, back & shoulder, severe, on & off, spasmodic, occurs within hours after meal, usually self limiting and recurring, precipitated by fatty meal.
- vomiting
- Fever
- Increased WBCs

INVESTIGATIONS



- **LAB STUDIES**
 - LEUKOCYTOSIS
 - Mild elevation of BILIRUBIN , ALP, SGOT/PT

If Profound Jaundice + Picture of Acute Cholecystitis

**Suspect,
CHOLANGITIS with obstruction of
CBD MIRIZZI syndrome**



USG



- Sensitive
- Inexpensive
- Reliable

» Sensitivity 85% and Specificity 95%

What will you look in USG?

1. GallStone
2. Pericholecystic fluid
3. GB wall thickening
4. Sonographic murphy's sign





Accurate History
Physical Examination
Supportive Lab Studies
And an Ultrasound

Needed in most of the cases for Diagnosis

Extras

HIDA Scan

CT Scan

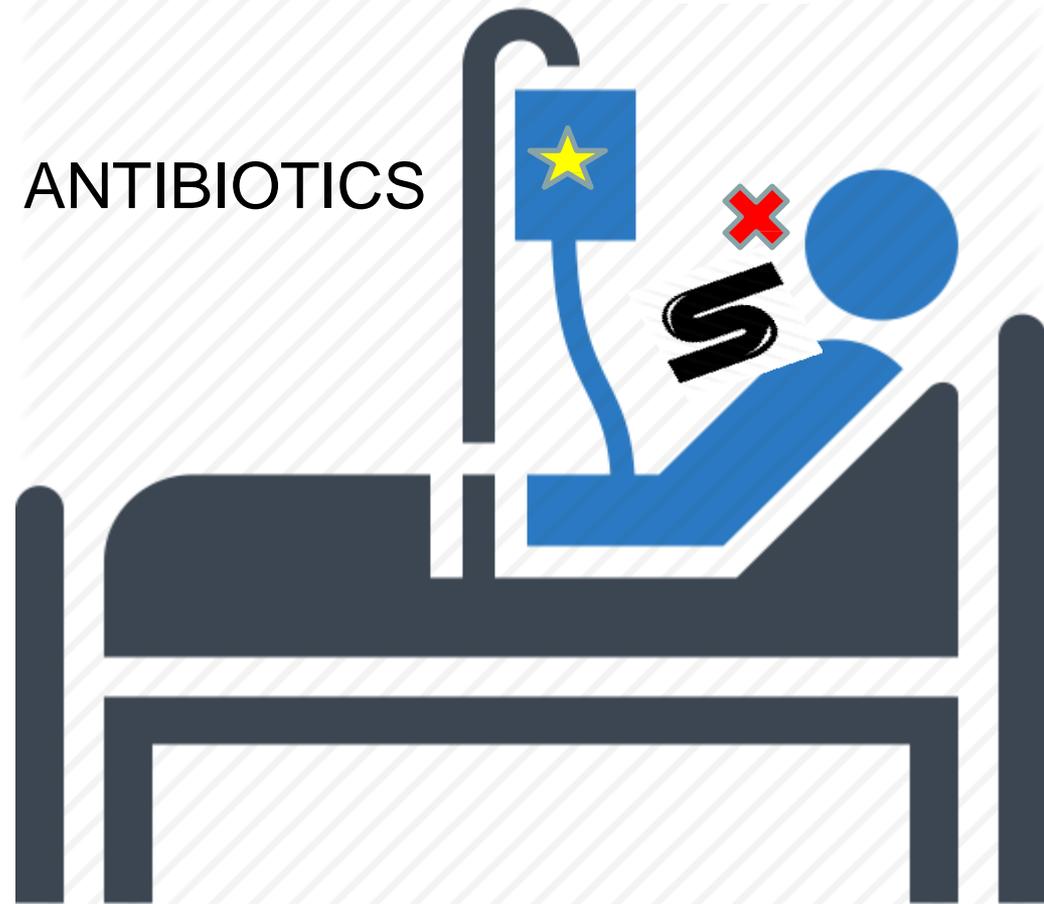


- *Remember*

CT is less sensitive than USG for the diagnosis of Acute Cholecystitis

Management of Acute Cholecystitis

1. NPO
2. RYLES TUBE ASPIRATE
3. IV Fluids
4. BROAD SPECTRUM ANTIBIOTICS
5. IV ANALGESICS
6. OBSERVATION



Surgery in a/c Cholecystitis



When presents within 2 to 3 days **LAP CHOLECYSTECTOMY**

When presents more than 3 days **INTERVAL CHOLECYSTECTOMY**
after 6 weeks

In Pregnancy **CHOLECYSTECTOMY @ T2**

Empyema, Persisting and Progressing Symptoms **EMERGENCY**
CHOLECYSTECTOMY



Complications



- θ PERFORATION
- θ PERITONITIS
- θ PERICHOLECYSTIC ABSCESS
- θ CHOLANGITIS and SEPTICEMIA
- θ PANCREATITIS
- θ EMPYEMA GB
- θ GANGRENOUS GB

Acute Acalculous Cholecystitis



- 5%
- ICU patients, Post OP patients, Burns, Cholecystoses
- Gallbladder distension, release of Factor VII
- Acute Presentation
- Rx – Cholecystectomy



Chronic Cholecystitis

*Chronically
Inflamed
Thickened
Gallbladder
which is
NONFunctioning
NONdistending*



Causes



- GALL STONES
- CHOLECYSTOSIS
- CHRONIC ACALCULOUS CHOLECYSTITIS

Organisms:

Klebsiella

Streptococci

Salmonella

Pathology



- GB is shrunken, contracted, small, nonfunctioning, fibrotic with thickened GB wall

Mucosa proliferates into Lumen ◇

ROKITANSKY ASHCHOFF SINUSES

Muscular wall replaced by Fibrotic tissue

Clinical Features



- Colicky Pain
- Murphy's Sign
- Dyspeptic Symptoms
- Intolerance to fatty meal

Complications of Gall stones



In Gall Bladder-

- Acute cholecystitis
- Chronic cholecystitis
- Empyema of gall bladder
- Mucocele gall bladder
- Perforation – leading to biliary peritonitis
- Gangrene of gall bladder
- Carcinoma

In Bile duct-

- Obstructive jaundice
- Cholangitis
- Acute pancreatitis

In Intestine-

- Acute intestinal obstruction

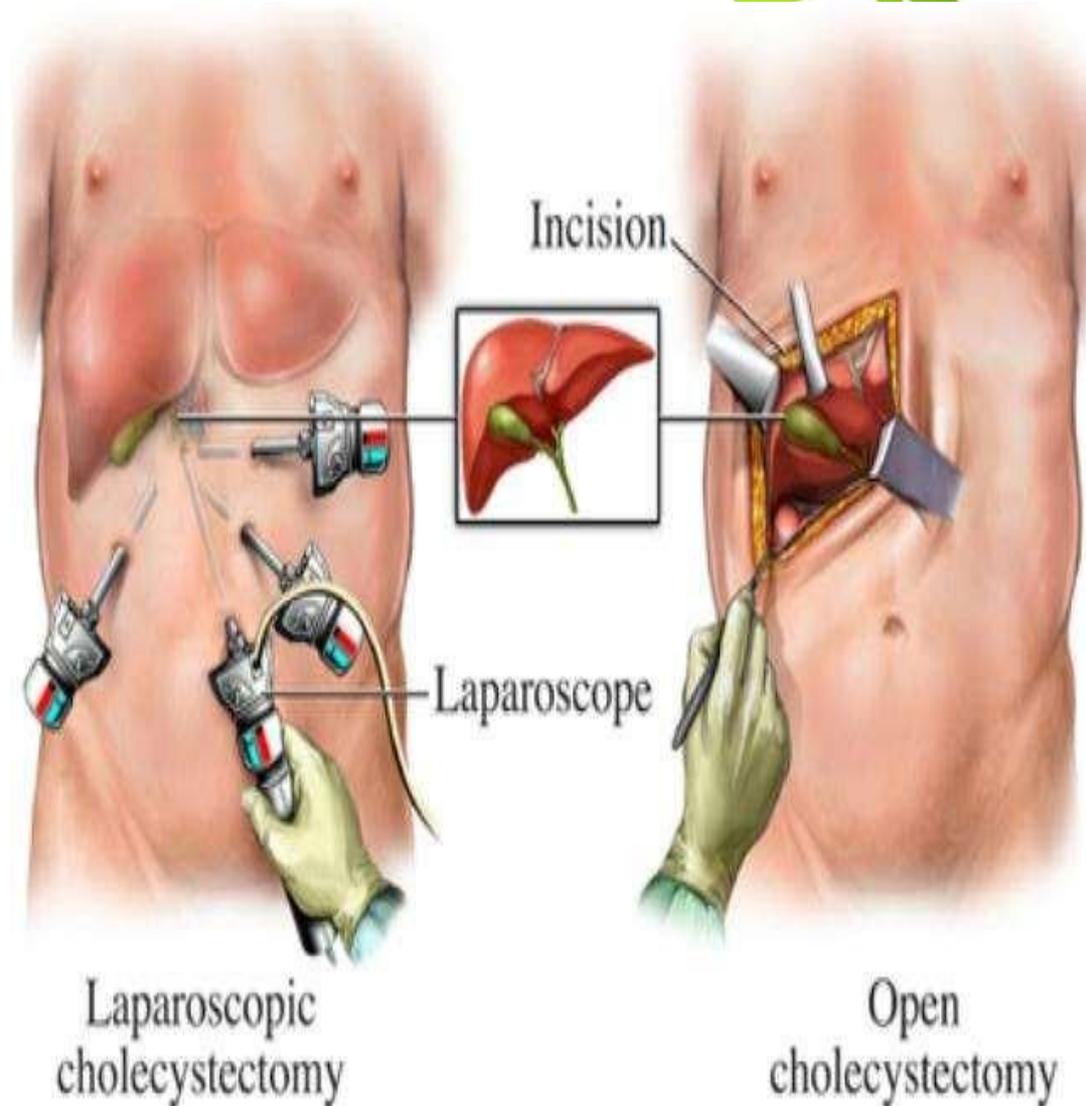


Treatment of Chronic Cholecystitis is
CHOLECYSTECTOMY

Surgical therapy



- Laparoscopic cholecystectomy is ideal.
- Open cholecystectomy is done if patient unfit for laparoscopy through Right Sub-costal (KOCHERS's) incision.





THANK YOU