RAMA UNIVERSITY

www.ramauniversity.ac.in

FACULTY OF NURSING

Cholecystitis

BY:-
Kalpana Devi
Nursing Tutor
MSN Department
Rama College Of Nursing

Surgical Anatomy of Gall Bladder

Shape: Pear or Globular Shaped organ.

Size: 8-12 cm long

Location: Rt. Hypochondrium on inferior surface of Liver in fossa.

Parts :

1) **Fundus:** Dilated portion of GB attached to under surface of Liver
2) **Neck:** The narrow, angulated and distal portion of neck called as **Hartmann's Pouch**.

Also called as infundibulum of GB.

Ducts:

GB drains into **Common Bile Duct (CBD)** through **Cystic Duct.**

Lumen is 1-3 mm in diameter.

Valve of Heister is produced as functional valve due to the contraction of GB.

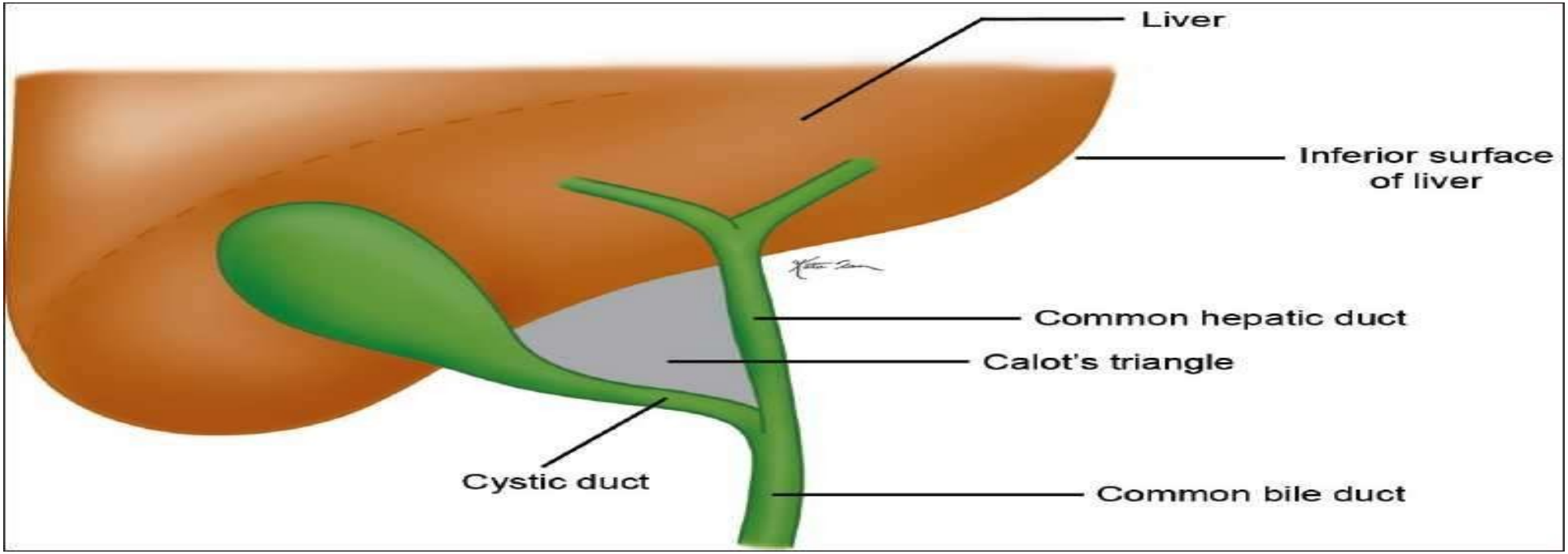
- **Calot's Triangle:**

Its imp. landmark to identify cystic duct and cystic artery during Cholecystectomy.

Laterally: Cystic Duct & GB

Medially: Common Hepatic Duct

Above: Inf. Surface of Rt. Lobe of Liver



Ducts of Gall Bladder

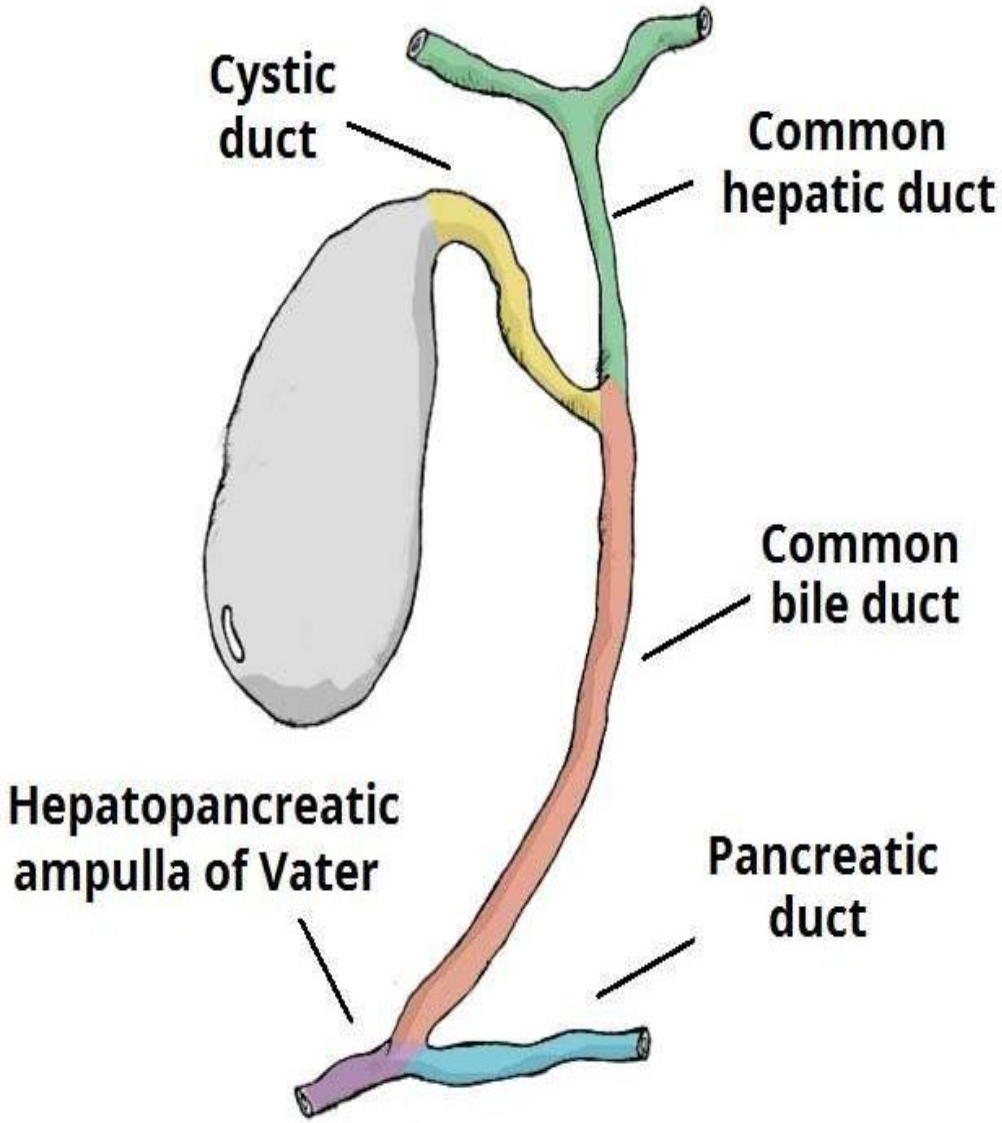
1) **Rt. & Lt. Hepatic Ducts:**
   These are originating from the Liver.

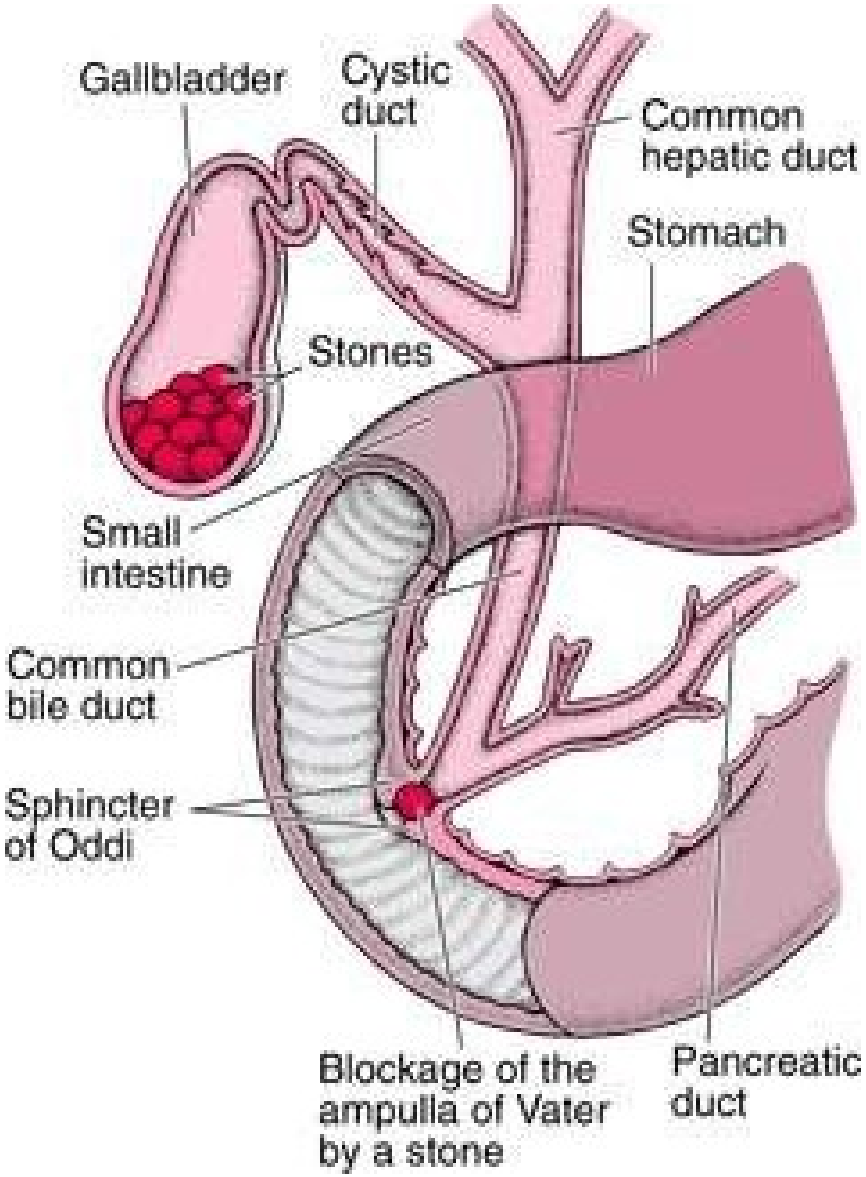
2) **Common Hepatic Duct:**
   The Rt & Lt Hepatic Duct in union forms CHD.
   About 3 cm , recieves cystic duct and forms CBD.

3) **Common Bile Duct:**
   About 8 cm in length.
   Has 4 parts: Supraduodenal
   Retroduodenal
   Infraduodenal
   Intraduodenal

Combines with Pancreatic duct to form Ampulla of Vater

Diagrammatic Representation





Physiology

Functions of GB:

1) **Reservoir for Bile:**
2) **Concentration:**
3) **Mucus Secretion:**

Bile:

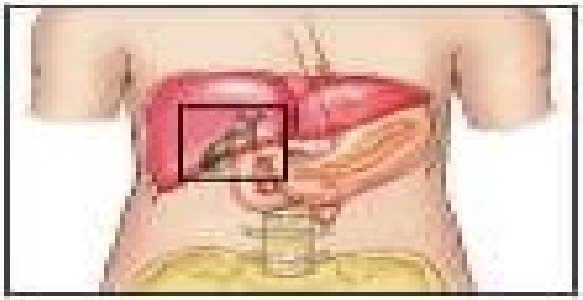
Secreted from Hepatocytes

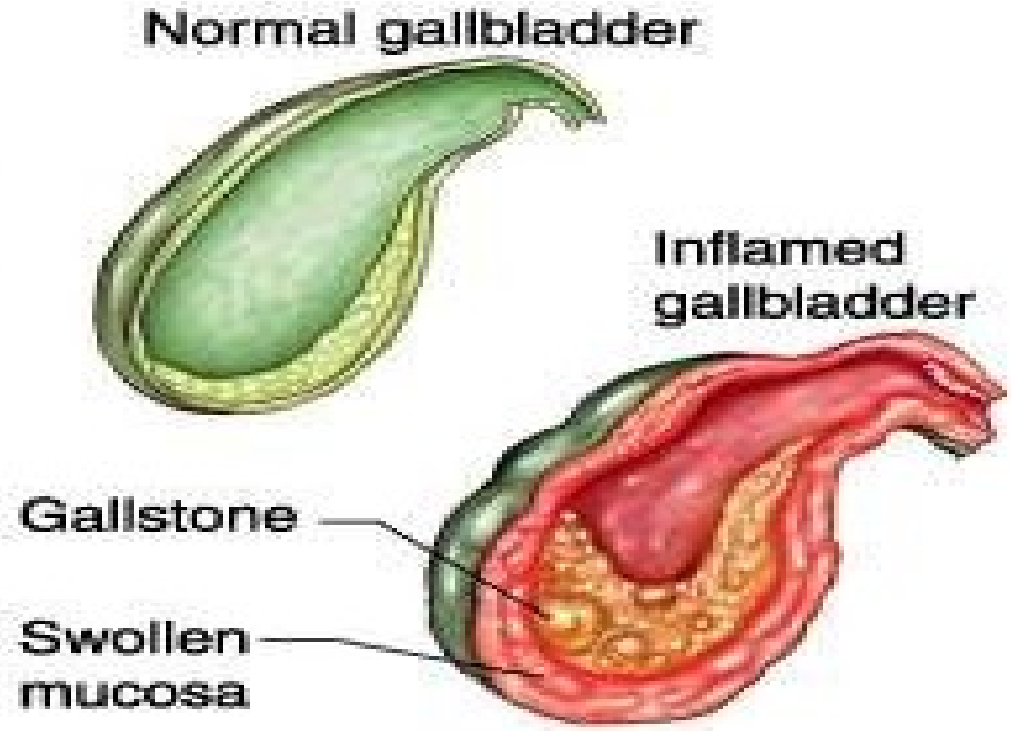
Normal pH > 7.0

Secretion- ½ to 1 litre/ day

Definition

The inflammatory condition of Gall Bladder is called as Cholecystitis





Acute Cholecystitis

Acute bacterial inflammation of gall bladder with or without stone.

Types:

1) **Calculous**:

-It is the obstructive cholecystitis due to gall stones having the most common variety in which around 90% of people having gall stones suffers.

2) **Acalculous**:

-It is the non-obstructive type which is common in person suffering from major illness like sever sepsis, burns, DM, dehydration, multiple injury etc.

3) **Acute Emphysematous Cholecystitis**

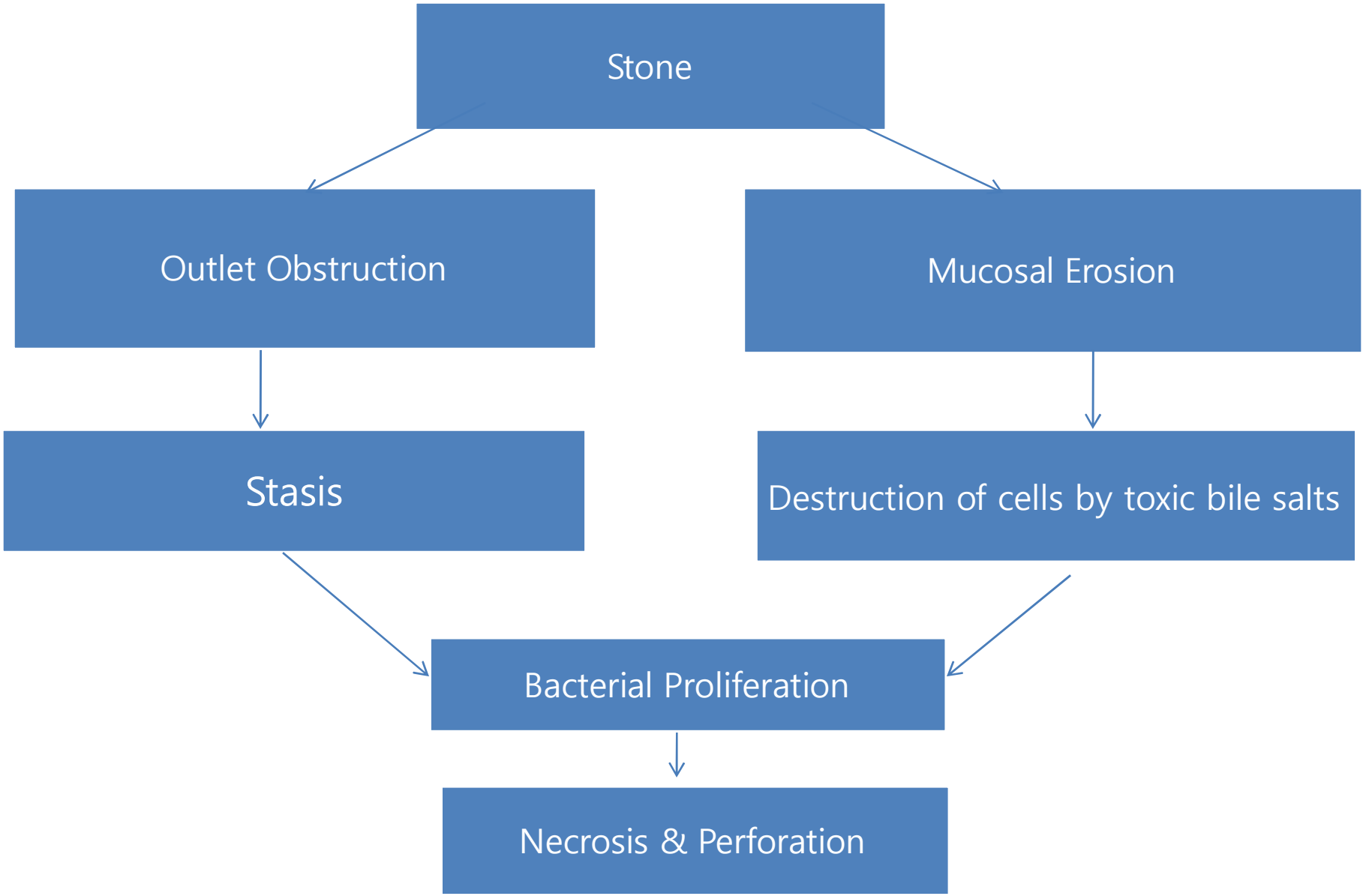
Bacteriology

- Majority of cases of calculous cholecystitis are due to organism such as **E. coli, Streptococci, Salmonella, Klebsiella**, etc

- In Typhoid Fever, around 2nd week can cause Typhoid Cholecystits

- Even **Clostridial** infection presents with Toxaemia.

Pathogenesis



Pathology

1) **Inflammation**
2) **Perforation**
3) **Obstruction**
4) **Gangrene**

Clinical Features

Symptoms:

4 F's are seen:

1) Fatty
2) Fertile
3) Female
4) Forty or Fifty

-Represents as colicky pain & more prolonged due to inflammation.

-Nausea & Vomiting

-Initially Low Grade Fever

Signs

1) Murphy's Sign:

Keep the fingers in Rt. Hypochondrium & told to take deep breath.

At the height of inspiration, there is sudden catch of breath.

Its due to inflamed gall bladder coming in contact with abdominal wall

This is called as **Murphy's Sign Positive.**

2) Boas Sign:

Feel of Hyperesthesia between 9^{th} & 11^{th} ribs posteriorly.

3) Rigidity & Guarding of upper abdominal wall.

4) Presence of **Vague Mass** of Gall Bladder, Omentum, Exudate.

Differential Diagnosis

1) Perforated Peptic Ulcer
2) Acute Pancreatitis
3) High Retroceacal Appendicitis
4) Amoebic Liver Abscess
5) Lobar Pneumonia

Investigations

1) **Total WBC** count is always raised

2) **Blood & Urine Analysis** to rule out DM

3) **Plain X-ray** to rule out **:**
   - Gall Stones
   - Gall Bladder Calcification

10% gall stones are radio-opaque & 90% are radiolucent

Triradiate- Mercedes Benz Sign

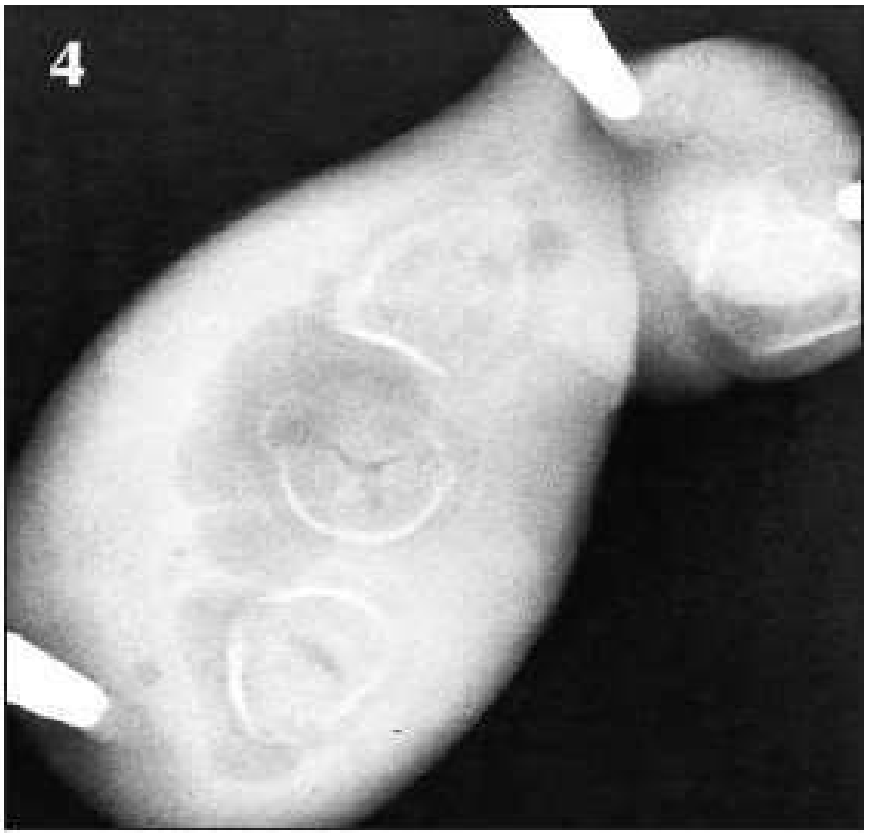
Biradiate- Sea Gull Sign

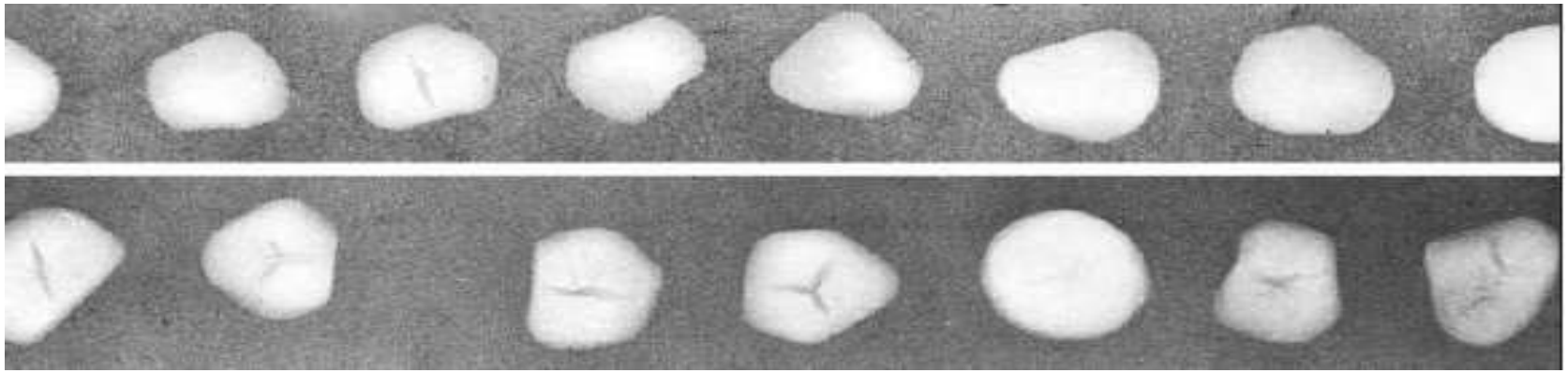
4) **Ultrasonography:**

Success rate is more than 95%

Calculous- Posterior Acoustic Shadow

Acalculous- inflamed, thickened organs.


4



5) HIDA Scan/ PIPDA Scan:

It is Hepatic iminodiacetic acid.

The HIDA agent is excreted in biliary tree within 1 hr of IV administration.

In Acute Cholecystitis even dye is excreted in biliary tree , it doent not enter GB due to oedema of cystic duct

So there is no visualisaton of GB after imaging.

6) CT Scan:

Not only detect gall stones but also detects perforation.

Used when USG findings are not clear.

Treatment

1) **Conservative (60-70%)**
   i) Admission
   ii) Aspiration- of HCL with Ryle's Tube
   iii) Antispasmodics- Inj. Morpine 8-10 mg IM along with Inj. Atropine 0.6 mg to relieve spasm

iv) Antibiotics- Broad spectrum antibiotics like Cefazoline, or Amikacin.

Pt is kept NBM for 2-3 days. During this period IV fluids are given.

2) Early Cholecystectomy:

This can be done from 2nd to 7th day of admission.

As there's proved of having complications of inflamed GB.

Prior to these, the conditions like DM, HTN etc should be made corrected.

3) Emergency Cholecystostomy:

About 10% pt needs emergency cholecysostomy.

The deciding factors to be considered are High Grade Fever, Sepsis, Shock, etc.

Acalculous & Perforated GB are the strong indications.

4) Prophylactic Cholecystectomy:

It means complete removal of GB with stones & without symptoms.

Chronic Cholecystitis

- The recurrent attacks of cholecystitis converts GB into the fibrosed, non-functioning, contracted, shrunken and small.
  - Stones are invariably present.
  - Pt having fatty food intolerance
  - Murphy's Sign is positive
  - Diagnosed by USG or else OGC (Oral Cholecystography) to the functioning of GB.

Treatment

Treatment：

Cholecystectomy

THANK YOU