HERNIAS

- **Def.:-**It is a protrusion of bowel through a weak point in the musculature of the anterior abdominal wall or an existing opening

Etiology: -

- Powerful muscular effort or strain
- Weakness or defect to the wall of abdominal cavity

HERNIAS

Predisposing factors:-

- Constipation, ascites
- Previous abdominal surgery
- Lifting heavy load
- Chronic Cough

Pathophysiology

- Develops when intra-abdominal pressure increases,
  - while straining to lift something heavy,
  - having a bowel movement, or
  - coughing or sneezing forcefully
- When abdominal pressure increases, a segment of the intestine moves through a weak area of abdominal muscle

Pathophysiology…

- In the areas that are naturally predisposed to weakness, the abdominal wall may be thin or stretched from an inadequate amount of collagen
- Such a condition may be present at birth or develop as a result of aging, abdominal surgery, or obesity

Pathophysiology…

- At first, the defect in the abdominal wall is small
- As the hernia persists and the organs continue to protrude, the defect grows larger.
- Eventually the bowel becomes trapped in the weakened pouch
- If blood supply to the bowel is compromised, it becomes gangrenous

HERNIAS…

Class^{n} - Based on Sites of Hernias :

Inguinal Hernia

- The protrusion of bowel through the weak point is the *inguinal canal which contains the spermatic cord in the male & the round ligament in the female.*
- It occurs more commonly in males than females.

HERNIAS…

Inguinal Hernia Can be:-

- **Direct inguinal Hernia**
- **Indirect inguinal Hernia**

Direct: Hernia extends through inguinal ring;

- It follows spermatic cord in males and round ligament in females.

Indirect: Protrusion follows the posterior inguinal wall;

- It often descends into the scrotum in males.

HERNIAS…

Distinguishing direct from indirect hernias.

- The best way is to reduce the hernia & occlude the internal ring with 2 fingers
- Ask the pt. to cough –
  - if the hernia is restrained it is indirect;
  - if it pops out it is direct.

HERNIAS…

Femoral Hernia

- More Common in women than men.
- Bowel enters the femoral canal, presenting as a mass in the upper middle thigh or above the inguinal ligament where it points down the leg, unlike an inguinal hernia which points to the groin.
- It is frequently strangulate & irreducible

HERNIAS…

Umbilical Hernias:

- These occur just above or below the umbilicus.
- Results from failure of umbilical orifice to close.
- Occur most often in obese women & children & in patients with cirrhosis and ascites.

C/F:-

- Only abdominal mass if not complicated
- Bowel sound on auscultation

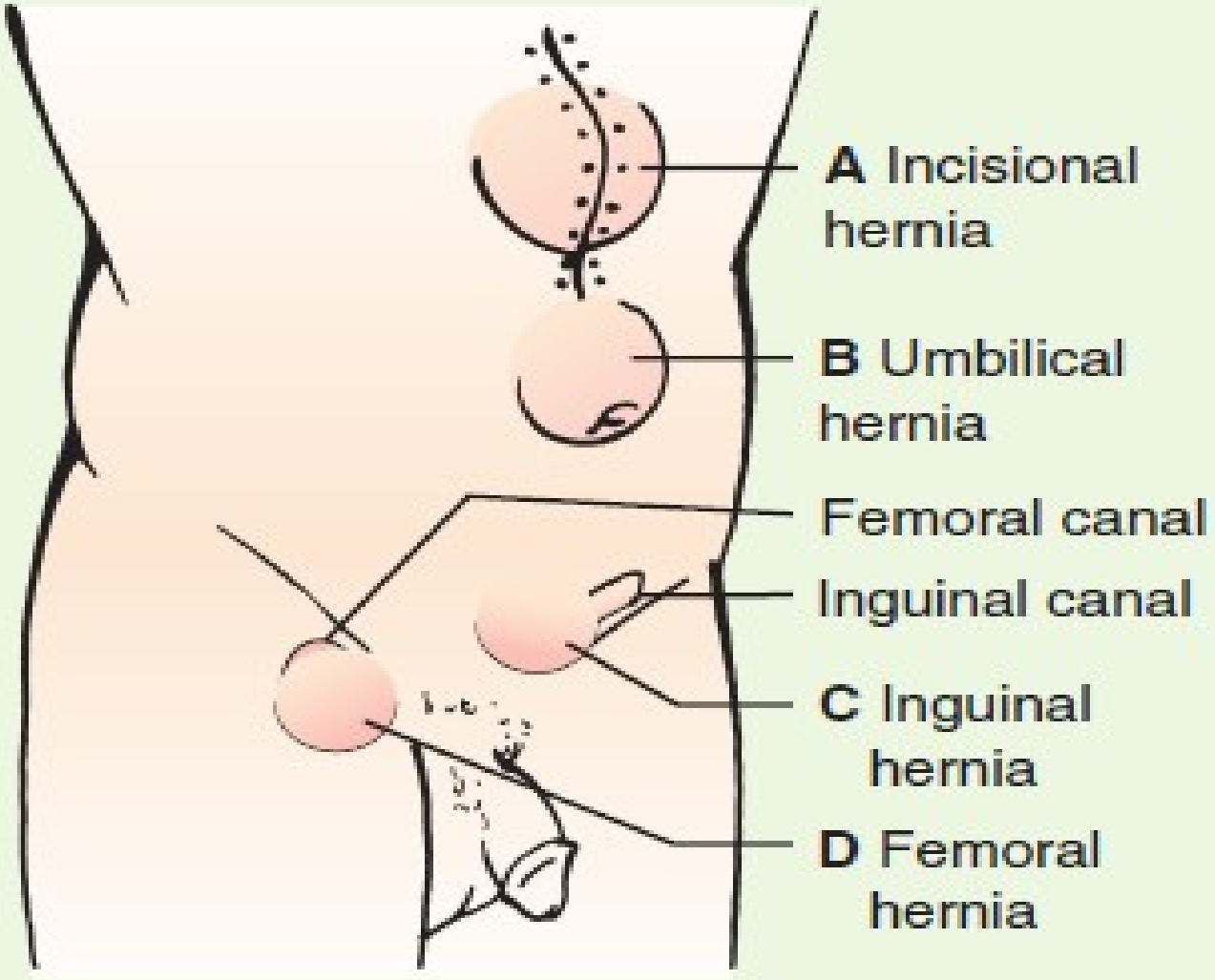
HERNIAS…

Epigastric Hernias :-

- These pass through linea alba above the umbilicus.

Incisional Hernias:-

- These follow breakdown of muscle closure after previous Surgery. If obese, repair is not easy.


A Incisional hernia
B Umbilical hernia
Femoral canal
Inguinal canal
C Inguinal hernia
D Femoral hernia

HERNIAS…

Classification of hernia

According to Severity

- **Reducible Hernia** :- The protruding mass can be replaced in abdomen
- **Irreducible Hernia** :- The protruding mass cannot be moved back into abdomen
- **Incarcerated**: - An irreducible hernia in which the intestinal flow is completely obstructed.
- **Strangulated**: - an irreducible hernia in which the blood & intestinal flow is completely obstructed

HERNIAS…

C/F of Strangulation:

- Pain, vomiting
- Swelling of hernial sac ,fever
- Lower abdominal sign of peritoneal irritation

HERNIAS…

Assessment Findings

- Initially causes swelling on the abdomen with no other symptoms
- When the client coughs or bears down, the protrusion is more obvious
- Sometimes the swelling is painful, but the pain subsides when the hernia is reduced.

HERNIAS…

- Incarcerated hernias cause severe pain and, if not treated, may become strangulated.
- In this case, the client suffers extreme abdominal pain.
- The severe pressure on the loop of intestine protruding outside the abdominal cavity causes intestinal obstruction.

HERNIAS…

Treatment

- Mechanical (reducible hernia only)
- A truss is an appliance having a pad that is held snugly in the hernial orifice
- Does not cure a hernia - it prevents abdominal contents from entering hernial sac.

HERNIAS…

Surgical

- Recommended to correct the hernia before a strangulation occurs which then becomes on emergency situation.
- Hernial Sac, is dissected free
- Contents of sac, are replaced in abdominal cavity
- Neck of sac is legated
- Muscle and fascial layers are sawed together firmely.
- Strangulated hernia requires resection of ischemic bowel in addition to hernia repair.

HERNIAS…

Nursing Management

- The nurse educates the client about ways to avoid constipation, control a cough, and perform proper body mechanics
- The nurse teaches the client how to wear a truss and observe for and treat skin irritation from friction caused by continuous rubbing
- When surgery is scheduled, the nurse prepares the client and manages postoperative care
- Instructions about signs and symptoms of possible complications (i.e., bleeding, infection)

Disorders of the rectum

Hemorrhoids

Def: -

- It is an enlarged & congested patch of mucosa & sub-mucosa at ano-rectal junction

or

- Are dilated portions of veins in the anal canal
- **Sites:** - at 3, 7, 11 O'clock, on lithotomy Position

Haemorrhoids…

Hemorrhoid based on its site:-

- **Internal hemorrhoid** (if it is above internal sphincter)
- **External** " (if it is outside external sphincter)

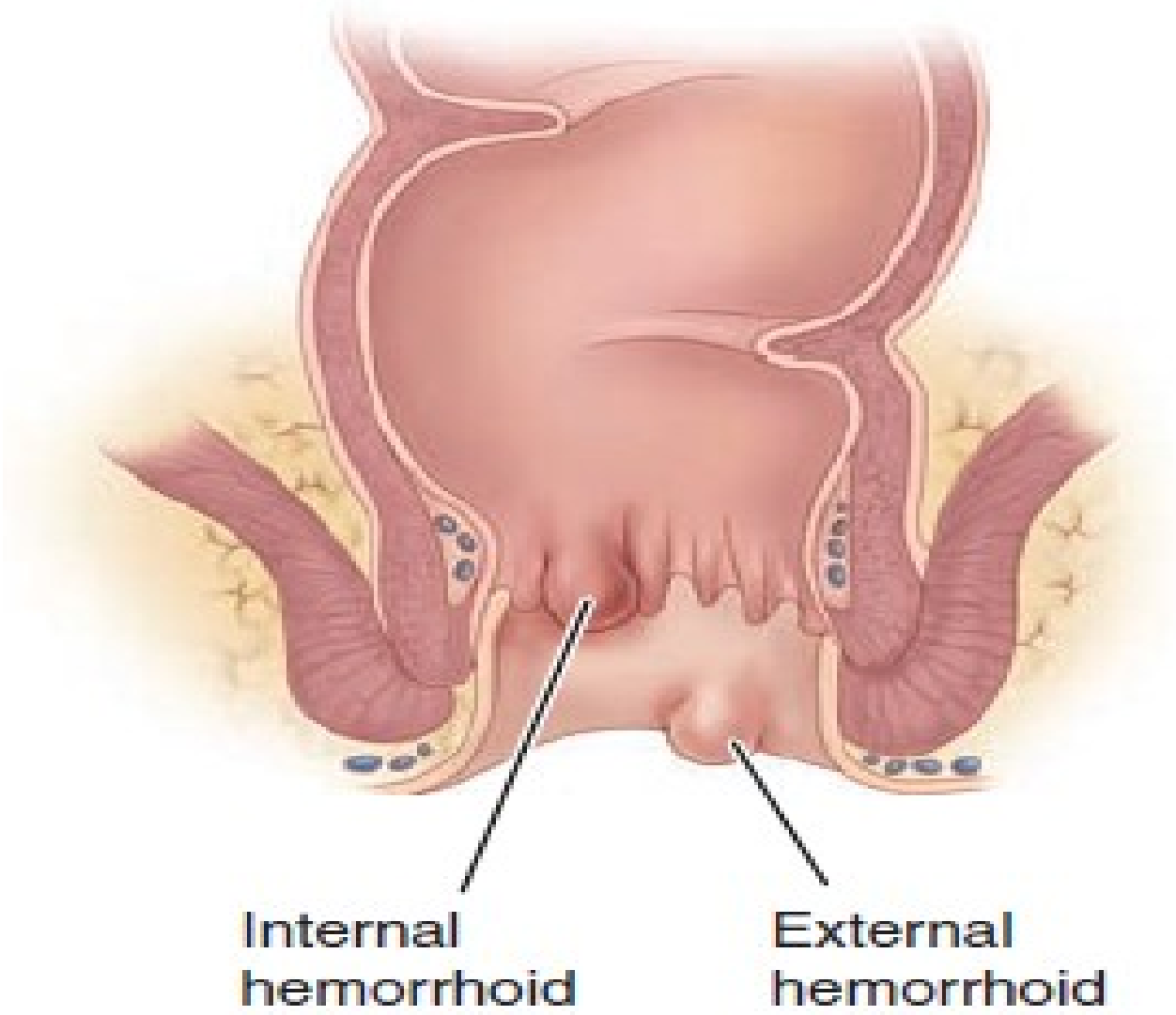
Haemorrhoids…

Pathophysiology and Etiology

- Chronic straining, frequent defecation with chronic diarrhea, prolonged sitting, Pregnancy, prolonged labor, or
- Other intra-abdominal conditions weakens the tissue supporting the veins and interfere with venous blood return
- The veins near the anal sphincter probably are displaced downward from their natural location as the result of a loss of supporting tissue

Haemorrhoids… pathophysiology…

- Without adequate connective tissue and smooth muscle support, the veins dilate and fill with blood
- Dry stool passes by the engorged hemorrhoids, which stretches and irritates the mucosa, giving rise to the local symptoms of burning, itching, and pain.
- Passing dry, hard stool causes the hemorrhoids to bleed



. Internal and external hemorrhoids.

Haemorrhoids…

C/F:-

- Bright red blood occurring at the end of defecation (Late)
- Mass Per-rectum
- Peri-anal Discomfort
- Pruritus
- Mucosal Discharge
- Pain when complicated
- External hemorrhoids are associated with **severe pain** due to inflammation & edema caused by thrombosis. Clotting of blood (thrombosis) lead to necrosis & ischemia.
- Internal Haemorrhoids are painless until they bleed

Haemorrhoids…

- **<u>Classification of heamorhoids based on its stage(severity)</u>**
  - 1st degree:- Bleed but no prolapsed
  - 2nd degree :- Prolapsed but reduce spontaneously
  - 3rd degree :- " but need manual replacement
  - 4th degree :- " not returned.

Haemorrhoids…

Assessment Findings

- External hemorrhoids may cause few symptoms, or they can produce pain, itching, and soreness of the anal area.
- They appear as small, reddish-blue lumps at the edge of the anus.
- Thrombosed external hemorrhoids are painful but seldom cause bleeding.

Haemorrhoids… Assessment Findings

- Internal hemorrhoids cause bleeding but are less likely to cause pain, unless they protrude through the anus.
- The amount of bleeding varies from an occasional drop to chronic loss of blood, leading to anemia.
- Usually protrude each time the client defecates but retract after defecation.
- As the masses enlarge, they remain outside the sphincter.

Haemorrhoids… Assessment Findings

- An anoscope, an instrument for examining the anal canal, or a proctosigmoidoscope, allows visualization of internal hemorrhoids.
- A colonoscopy rules out colorectal cancer, which has similar symptoms

Haemorrhoids…

Rx: -

- Regulating bowel by laxatives
- Avoid Constipation
- Advice high - residue diet that contain fruit.
- Sitz bath
- Good personal hygiene & by avoiding excessive straining during defecation haemorrhoid symptoms & discomfort can be relieved.

Haemorrhoids…

Conservative Surgical Rx of internal Haemorrhoid:-

- Rubber - band ligation procedure: - The haemorthoid is visualized through the anoscape, & its proximal portion above the muco-cutaneous lines is grasped with an instrument
- Cryosurgical Hemorrhoidectomy
- Involves freezing the tissue of the hemorrhoid for a sufficient time to cause necrosis.
- Hemorrhoidectomy, or surgical excision, can be performed to remove all of the redundant tissue involved in the process

Anorectal Abscess

- It is an infection in the para-rectal spaces

Risk Factors: -

- Crohn’s disease
- Anal intercourse or insertion of foreign bodies into the rectum.
- Forms abscesses that result in fistulas.

Anorectal Abscess…

Clinical manifestation

- Occur in a variety of spaces in and around the rectum
- Quantity of foul smelling pus and painful
- If the abscess is superficial, swelling, redness, and tenderness are observed.
- A deeper abscess may result in severe lower abdominal pain and fever

Anorectal Abscess…

Assessment Findings

- Pain that is aggravated by walking and sitting
- A swollen mass is evident in the anus
- Culture of anal drainage reveals the infectious microorganism.

Anorectal Abscess…

Mx :-

1) Palliative Rx:-

- Sitz Bath
- Analgesics

2) **Surgical Rx:-**

- Incision & drainage

ANAL FISTULA

- **Def:-**
  - It is a tiny, tubular, fibrous tract that extends into the anal canal from an opening located beside the anus

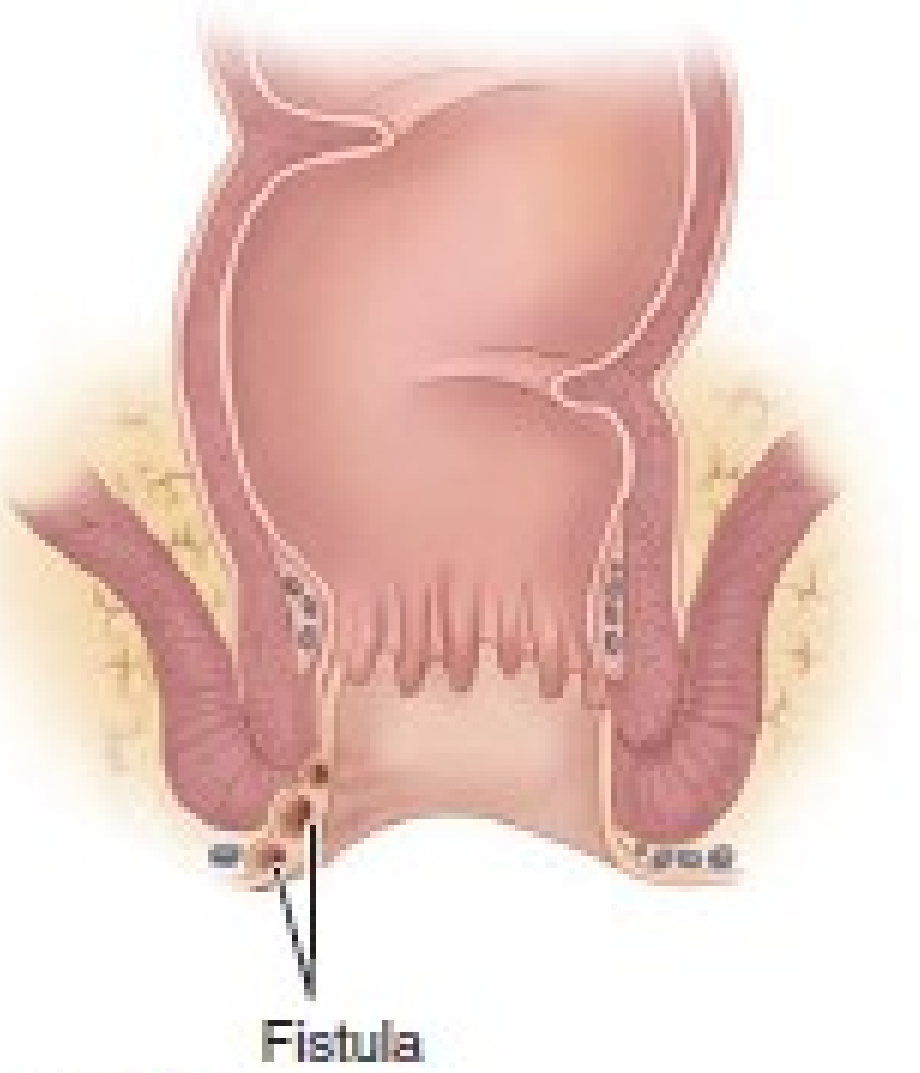
Cause:

- Fistula usually results from an infection.
- Trauma
- Fissures
- Regional Enteritis

ANAL FISTULA…

C/M

- Pus or stool may leak constantly from the cutaneous opening
- Passage of flatus or feces from the vaginal or bladder depending on the fistulas tract.
- Fever



6-7. Anal fistula.

ANAL FISTULA….

Mx:-

- Surgery is always recommended
- Fistulectomy (excision of the fistulous tract)

ANAL FISSURE

Def:

- **It is a longitudinal tear or ulceration in the lining of the anal canal**

Cause: -

- Trauma of passing a large firm stool
- Persistent tightening of the anal canal secondary to stress or anxiety (leading to Constipation)
- Child birth
- Trauma

ANAL FISSURE…

C/M: -

- Extremely Painful Defecation
- Bleeding

Mx: -

- Increase water intake
- Sitz bath
- Emollient Suppositories
- Corticosteroid Suppositories Relieve Discomfort
- Surgery

*Most of the fissures will heal by conservative measures

DISORDERS OF THE GALLBLADDER

Cholecystitis

- acute inflammation of the gallbladder
- Based on the cause can be either
  - **Calculous cholecystitis**
  - **Acalculous cholecystitis**

Cholecystitis

Calculous cholecystitis

- 90% of cases of acute cholecystitis
- A gallbladder stone obstructs bile outflow
- Bile remaining in the gallbladder initiates a chemical rxn; autolysis and edema occur; and
- The blood vessels in the gallbladder are compressed, compromising its vascular supply
- Gangrene of the gallbladder with perforation may result

Cholecystitis…

- Bacteria play a minor role; however, secondary infection of bile occurs in approximately 50% of cases

- Involved organisms are nnteric (normally live in the GI tract) and include *Escherichia coli, Klebsiella species, and Streptococcus*

Cholecystitis…

Acalculous cholecystitis

- Describes acute gallbladder inflammation in the absence of obstruction by gallstones
- It occurs after major surgical procedures, severe trauma, or burns
- Other factors associated with this type of cholecystitis include torsion, cystic duct obstruction, primary bacterial infections of the gallbladder, and multiple blood transfusions

Cholecystitis…

- It is speculated that acalculous cholecystitis is caused by alterations in fluids and electrolytes and alterations in regional blood flow in the visceral circulation.
- Bile stasis (lack of gallbladder contraction) and increased viscosity of the bile are also thought to play a role.

Cholecystitis…

Patho-physiology: -

- Obstruction of the cystic duct
- Causes distension of gallbladder leads to
  - Venous and lymphatic drainage is impaired
  - proliferation of bacteria occurs
  - localized cellular irritation
  - areas of ischemia may develop
- Necrosis
- Empyema (pus in the gallbladder

Cholecystitis…

S/S: -

- Sudden onset
- Severe nausea & Vomiting
- Pain & tenderness in the RUQ of abdomen or mid epigastrium
- Fever , Jaundice
- Leukocytosis

Cholecystitis…

DX: -

- Murphy's sign on physical examination.
- Ultrasonography – is the best investigation
- Erect chest x-ray
- WBC count

Cholecystitis…

MX: -

- Complete bed rest
- IV fluid
- Analgesics
- Antibiotics (Ampicillin , gentamycin, cephalosporin)
- * If the condition persists or worsen it may indicate suppuration (Empyema) of the gallbladder.
- Surgery for Empyema: -
  - Cholecystostomy
  - Cholecystectomy

Cholecystitis…

Chronic Cholecystitis

- It is almost always associated with gallstones.

S/S –

- long history of vague digestive complaints
- Abdominal discomfort & flatulence after a large meal or one high intake.
- A dull aching pain
- Nausea & vomiting
- It affects middle-aged & older obese women

Cholecystitis…

S/S –

- Moderate fever, fat intolerance, dyspepsia
- Leukocyte count is lower.
- If calculi are present, they progressively increase in size or number.

Cholecystitis…

DX: -

- Ultrasonography

MX: -

- Surgery – Cholecystostomy
- Low fat diet, weight reduction
- Antacids, sedatives

Cholecystitis…

Complication:-

- Sub-phernic abscess
- Fistula
- Pancreatitis
- Biliary cirrhosis
- Cholangitis (inflammation of bile duct)
- Rapture of the gall bladder

Cholelithiasis

- Calculi, or gallstones, usually form in the gallbladder from the solid constituents of bile;
- They vary greatly in size, shape, and composition
- They are uncommon in children and young adults but become more prevalent with increasing age,
- Affecting 30% to 40% of people by the age of 80 years

Cholelithiasis…

Pathophysiology

- Two major types of gallstones
  - pigment and cholesterol

Cholelithiasis…

Pigment stones

- Form when unconjugated pigments in the bile precipitate to form stones;
- These stones account for about 10% to 25% of cases in the United States
- The risk is increased in patients with cirrhosis, hemolysis, and infections of the biliary tract
- Pigment stones cannot be dissolved and must be removed surgically

Cholelithiasis…

Cholesterol stones

- 75% of cases of gallbladder disease in the United States
- Cholesterol, a normal constituent of bile, is insoluble in water.
- Its solubility depends on bile acids and lecithin (phospholipids) in bile

Cholelithiasis…

- In gallstone-prone patients
  - There is decreased bile acid synthesis and
  - Increased cholesterol synthesis in the liver, resulting in bile supersaturated with cholesterol, which precipitates out of the bile to form stones
- The cholesterol-saturated bile predisposes to the formation of gallstones and acts as an irritant that produces inflammatory changes in the gallbladder

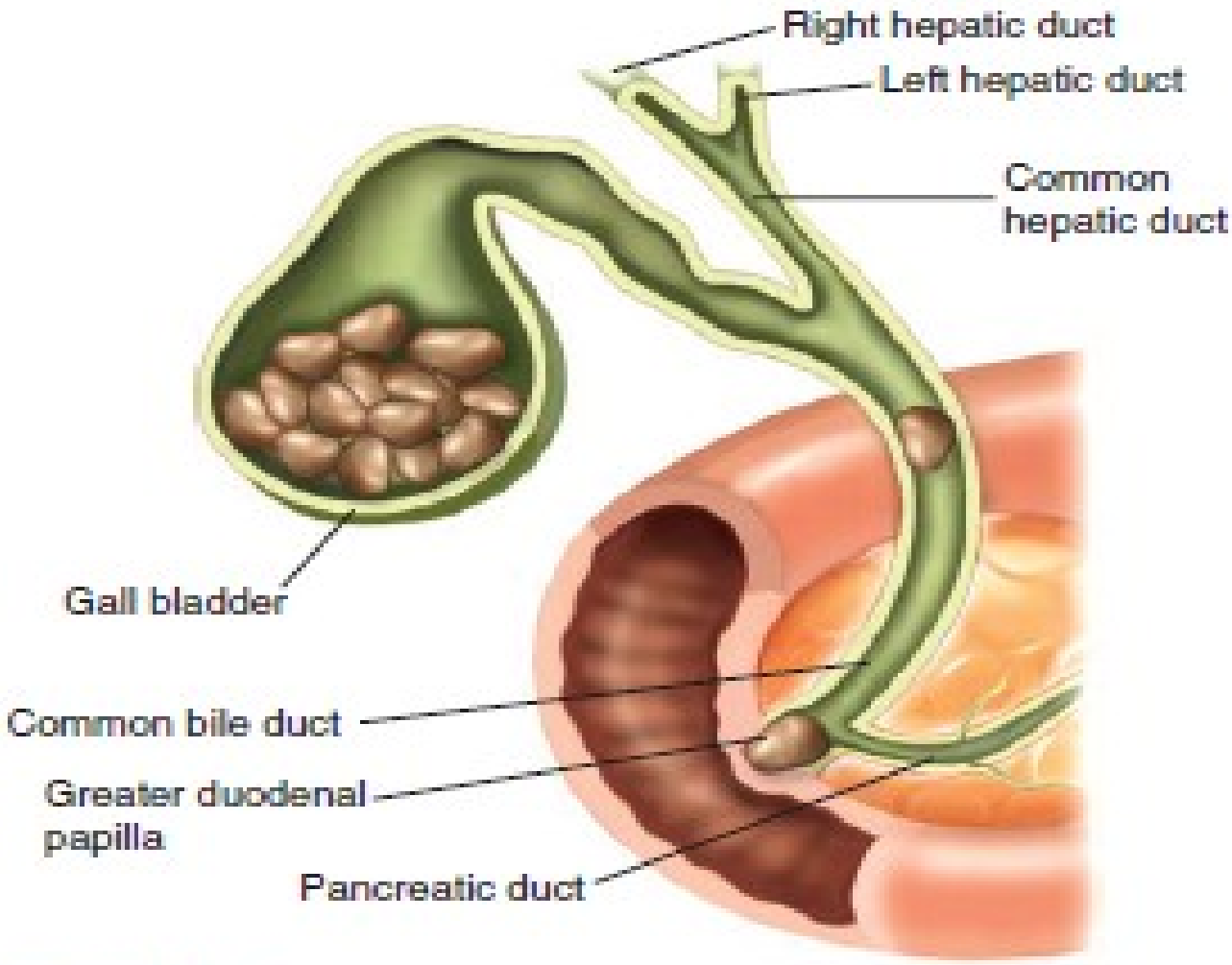


FIGURE 47-8. Gallstones may form in many locations within the biliary tree.

Cholelithiasis…

Incidence: -

- May occur in bath sexes
- Higher in individual with
  - Regional enteritis
  - Cirrhosis of liver
  - Obesity & genetic factors.
  - Oestrogen administration

Cholelithiasis…

Clinical Manifestations

- Gallstones may be silent, producing no pain
- The symptoms may be acute or chronic
- Epigastric distress, such as fullness, abdominal distention, and vague pain in the right upper quadrant of the abdomen, may occur.
- This distress may follow a meal rich in fried or fatty foods

Cholelithiasis…

Clinical Manifestations…

- Pain and Biliary Colic
- Jaundice
- Changes in Urine and Stool Color
- Vitamin Deficiency

Assessment and Diagnostic Findings

Abdominal X-Ray

- Ultrasonography
- Cholecystogram, cholangiogram
- Laparoscopy
- Helical computed tomography (CT scans) and magnetic resonance imaging (MRI)
- Cholesterol levels

Medical management

- Medical management
  - Administration of parenteral analgesics
- Endoscopy
  - For stone removal from common bile duct
- Cholestrol dissolving agents
  - Ursodeoxycholic acid
- T-tube tract to remove stone
- **Surgical MX**: - Cholelcystolithotomy

Dietary management

- Avoid eating a fatty meal, consumption of a large meal after fasting
- In acute attack the patient should be NPO.
- IV fluid for maintaining fluid & electrolyte balance.
- NG tube insertion & aspiration if vomiting & abdominal distension occurs.
- Observe for sign of jaundice
- Stool should be notice for its colour

Complication of Cholelithiasis

- Cholangitis
- Biliary Cirrhosis
- Carcinoma & Peritonitis
- Choledocholithiasis (Stone in the common bile duct)

TemplatesWise.com