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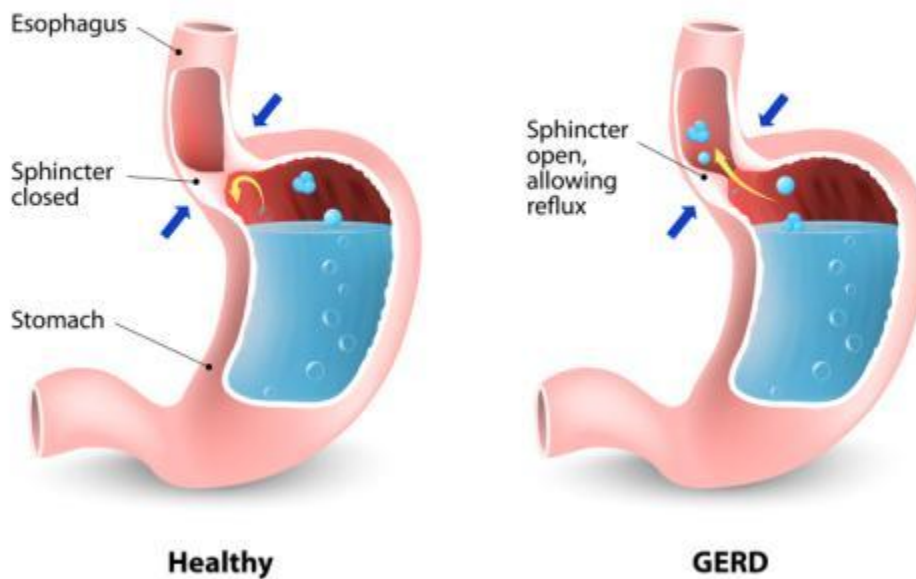
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Gastrointestinal Disorders

Gastroesophageal Reflux Disease (GERD)

Gastroesophageal reflux disease



1. Overview

- a. Backward movement of gastric contents into esophagus
- b. Due to relaxation of or incompetent lower esophageal sphincter, pyloric stenosis, increased gastric volume, or motility disorder

2. NCLEX® Points

a. Assessment

i. heartburn

1. exacerbated by bending over, straining, or recumbent position

ii. regurgitation

iii. hypersalivation

iv. difficulty swallowing

v. dyspepsia (discomfort in upper abdomen)

b. Therapeutic Management

i. Diagnosis made via pH test, esophagoscopy used to rule out malignancy

ii. do not eat within 2 hours of bedtime

iii. avoid food that reduce lower esophageal sphincter tone

1. peppermint

2. chocolate

3. carbonated beverages

4. smoking
5. fried and fatty foods
- iv. eat a low fat, high fiber diet
- v. avoid medications that ↓ gastric emptying (anticholinergics)
- vi. elevate HOB while sleeping
- vii. Medications
 1. antacids
 2. H2 receptor antagonists
 3. Proton pump inhibitors

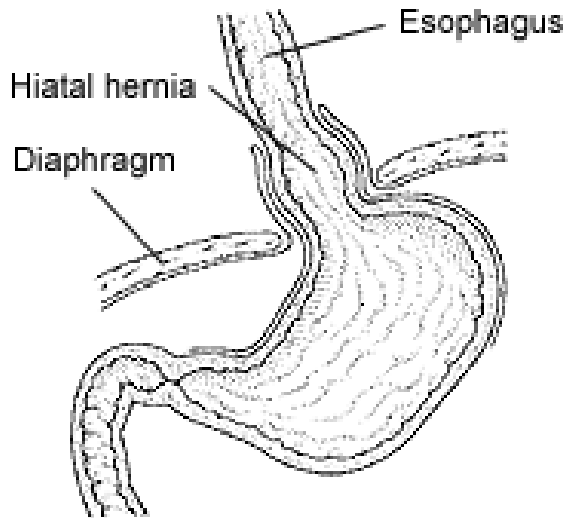
Peptic Ulcer Disease

1. Overview
 - a. Break in mucosal lining of stomach, pylorus, duodenum, or esophagus that come in contact with gastric secretions
2. NCLEX® Points
 - a. Assessment
 - i. pain
 1. Gastric
 - a. gnawing, sharp 30-60 after a meal
 2. Duodenal
 - a. 1.5 to 3 hours after eating
 - b. relieved by eating
 - ii. Upper GI series and EGD used to diagnose
 - iii. hematemesis (gastric)
 - iv. melena (duodenal)
 - b. Therapeutic Management
 - i. avoid foods that cause irritation
 1. coffee
 2. cola
 3. tea
 4. chocolate
 5. high sodium
 6. spicy foods
 - ii. smoking cessation
 - iii. small, frequent meals
 - iv. avoid aspirin and NSAIDs
 - v. monitor H&H and assess for bleeding
 - vi. Surgical options
 1. gastrectomy
 2. vagotomy
 3. gastric resection
 4. Bilroth I, Bilroth II

- vii. medications
 - 1. H2 receptor antagonists
 - 2. Proton pump inhibitors
 - 3. Antacids
 - 4. sucralfate (Carafate)

Hiatal Hernia

Hiatal Hernia



1. Overview
 - a. Protrusion of bowel through the diaphragm into thorax
 - b. due to weakening of muscles in diaphragm
2. NCLEX® Points
 - a. Assessment
 - i. heartburn
 - ii. regurgitation
 - iii. dysphagia
 - iv. fullness
 - v. bowel sounds over chest
 - b. Therapeutic Management
 - i. similar to GERD
 - ii. do not lay down for 1 hour after eating
 - iii. avoid medications that delay gastric emptying (anticholinergics)
 - iv. eat small, frequent meals
 - v. avoid straining
 - vi. avoid vigorous exercise
 - vii. sleep with HOB elevated

Inflammatory Bowel Disease (IBD)

Ulcerative Colitis

1. Overview
 - a. chronic inflammation of mucosa and submucosa in colon and rectum
 - b. results in poor absorption of nutrients
 - c. progresses upward from rectum to cecum
 - d. perforation may develop as colon becomes edematous leading to lesions and ulcers
 - e. exacerbation and remission episodes
2. NCLEX® Points
 - a. Assessment
 - i. 10-20 liquid stools per day containing blood and mucus
 - ii. malnutrition, dehydration, electrolyte imbalances
 - iii. anorexia
 - b. Therapeutic Management
 - i. Maintain NPO during acute phase administering IV fluids and electrolytes
 - ii. reduce intestinal activity
 - iii. assess stool
 1. assess for blood
 - iv. monitor for bowel perforation and hemorrhage
 - v. diet therapy
 1. low residue
 2. high protein
 3. high calorie
 4. vitamins and iron
 - vi. avoid foods that may exacerbate symptoms
 1. raw vegetables and fruits
 2. nuts
 3. popcorn
 4. whole-grain
 5. cereals
 6. spicy
 - vii. medications
 1. corticosteroids
 2. salicylates
 3. immunomodulators
 4. antidiarrheals

Crohn's Disease



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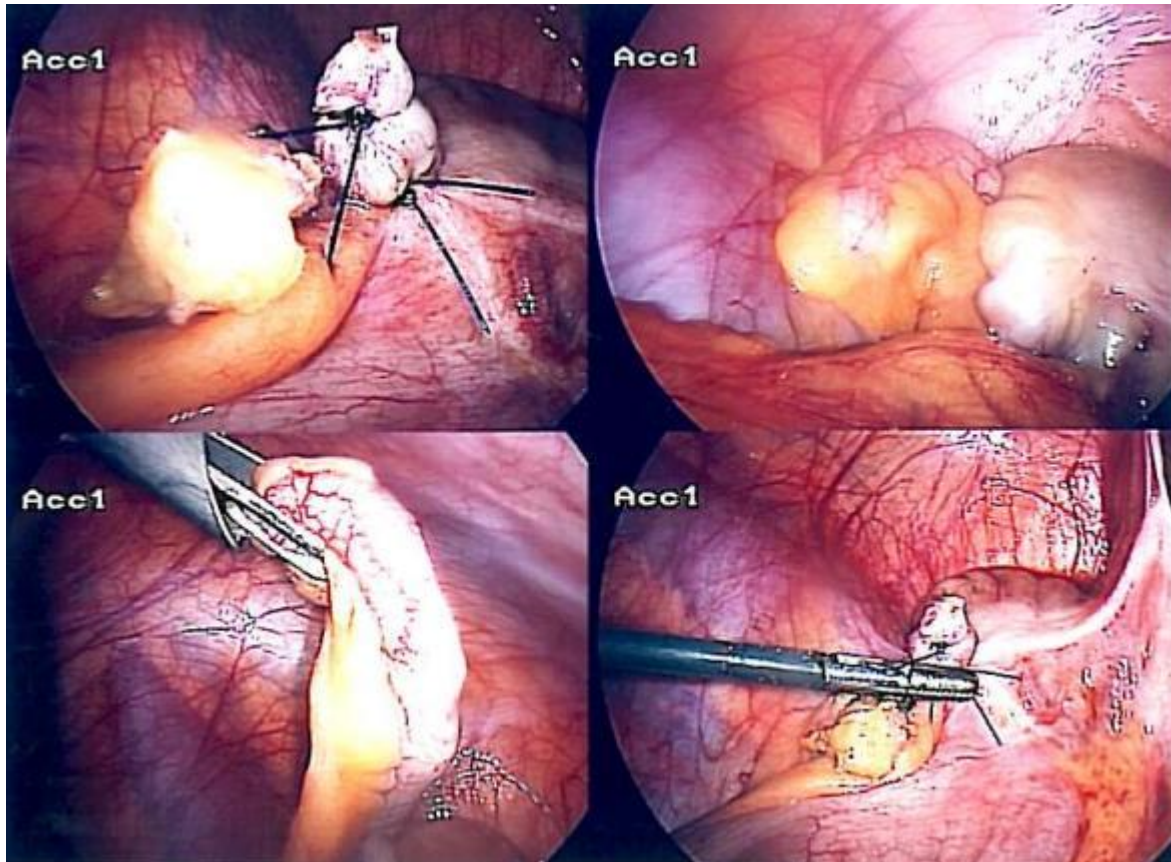
1. Overview

- a. inflammatory disease of GI mucosa anywhere from mouth to anus most often affecting the terminal ileum
- b. leads to thickening and scarring, ulcerations and abscesses
- c. remissions and exacerbations

2. NCLEX® Points

- a. Assessment
 - i. fever
 - ii. cramps and pain after meals (relieved by defecation)
 - iii. diarrhea containing mucus or pus (5-6 stools/day)
 - iv. anemia
 - v. electrolyte imbalances
 - vi. malnutrition
- b. Therapeutic Management
 - i. diet
 1. high calorie
 2. high protein
 - ii. medications - similar to ulcerative colitis
 - iii. weigh daily and maintain accurate I&O

Appendicitis



1. Overview
 - a. Inflammation of the appendix
 - b. major risk factor is appendix rupture leading to peritonitis and/or sepsis
2. NCLEX® Points
 - a. Assessment
 - i. abdominal pain at McBurney's point
 - ii. pain descends to RLQ
 - iii. ↑WBC
 - iv. rebound tenderness
 - v. fever
 - vi. abdominal guarding
 - vii. sudden relief of pain indicates rupture**
 - b. Therapeutic Management
 - i. Appendectomy
 1. keep client NPO
 2. avoid heat application which can lead to rupture
 3. avoid stimulation of peristalsis
 4. if rupture occurs, postoperative healing is prolonged will have drains and NG tube for decompression

5. monitor VS and assess for abdominal distention post operatively

Diverticulitis and Diverticulosis



1. Overview
 - a. Diverticulosis
 - i. Outpouching of intestinal mucosa
 - b. Diverticulitis
 - i. Inflammation of one or more diverticulosis due to trapped food or bacteria can lead to perforation and peritonitis
2. NCLEX® Points
 - a. Assessment
 - i. LLQ pain worsening with straining
 - ii. ↑temp
 - iii. N/V
 - iv. Abdominal distention
 - v. Melena
 - b. Therapeutic Management
 - i. NPO - bowel rest
 - ii. bedrest
 - iii. introduce fiber slowly
 - iv. ↑ fluid intake

- v. avoid gas forming foods
- vi. bulk forming laxatives
- vii. avoid nuts, foods with small seeds

Hemorrhoids



1. Overview
 - a. swollen and inflamed veins of the anus and lower rectum
 - b. caused by straining, portal hypertension, irritation
 - c. internal, external, or prolapsed
2. NCLEX® Points
 - a. Assessment
 - i. rectal pain
 - ii. bright red bleeding with defecation
 - b. Therapeutic Management
 - i. sitz-bath
 - ii. high fiber diet
 - iii. ↑ fluid intake
 - iv. stool softeners
 - v. cold packs and analgesics

Cholecystitis

1. Overview
 - a. acute or chronic inflammation of the gall bladder most often caused by gall stones (cholelithiasis)
2. NCLEX® Points
 - a. Assessment
 - i. N/V
 - ii. RUQ pain
 1. can occur 2-4 hours after high fat meals
 2. lasting 1-3 hours
 - iii. Murphy's Sign
 1. pain with expiration while examiners hand is placed below the costal margin on right side at midclavicular line. Patient then asked to inspire if patient is unable to inspire due to pain, test is positive.
 - iv. rebound tenderness
 - b. Therapeutic Management
 - i. NPO
 - ii. antiemetics
 - iii. nasogastric decompression
 - iv. analgesics
 - v. avoid gas forming foods
 - vi. surgery
 1. cholecystectomy
 - a. removal of gall bladder
 - b. monitor for pain and infection at incision site
 - c. abdominal splinting when coughing
 - d. T-tube
 - i. High Fowlers position
 1. report drainage >500mL

Hepatitis

1. Overview
 - a. inflammation of liver
 - b. severity varies from mild cases with liver cell regeneration to severe cases with hepatic necrosis and cell death within weeks
 - c. Forms
 - i. Hepatitis A (HAV)
 1. health care workers at risk
 2. Transmission
 - a. fecal-oral
 - b. person-to-person
 - c. poorly washed hands/utensils

- d. contagious
 - i. most contagious 10-14 days prior to onset of symptoms
 - e. self limiting
 - 3. Prevention
 - a. strict hand washing best preventative measure
 - b. Hepatitis A vaccine
 - ii. Hepatitis B (HBV)
 - 1. health care workers at risk
 - 2. Transmission
 - a. IV drugs
 - b. blood or body fluids
 - c. sexual contact
 - 3. Prevention
 - a. hand washing
 - b. blood screening
 - c. Hepatitis B vaccine
 - d. needle precautions
 - e. safe sex practices
 - iii. Hepatitis C (HCV)
 - 1. health care workers at risk
 - 2. Transmission
 - a. IV drug users
 - b. blood
 - 3. Prevention
 - a. hand hygiene
 - b. needle safety
 - c. blood screening
 - iv. Hepatitis D (HDV)
 - v. Hepatitis E (HEV)
2. NCLEX® Points
- a. Assessment
 - i. Preicteric Stage
 - 1. flulike symptoms
 - 2. pain
 - 3. low grade fever
 - ii. Icteric Stage
 - 1. jaundice
 - 2. ↑bilirubin
 - 3. dark urine
 - 4. clay colored stool
 - iii. Posticteric Stage
 - 1. recovery phase

2. laboratory values return to normal
 3. pain relief
 4. increased energy
- iv. Laboratory values
1. \uparrow ALT, AST, Ammonia, Billirubin

Cirrhosis



1. Overview
 - a. chronic, irreversible liver disease
 - b. inflammation and fibrosis of liver cells (hepatocytes) leads to formation of scar tissue within liver which causes obstruction of hepatic blood flow and impedes proper liver function
 - i. interruption of blood flow causes
 1. edema
 2. ascites
 3. esophageal varices
 4. hemorrhoids
 5. varicose veins

2. NCLEX® Points

a. Assessment

- i. malaise
- ii. jaundice with scleral icterus
- iii. edema
- iv. anorexia
- v. clay-colored stool
- vi. pain in RUQ
- vii. hepatomegaly
- viii. splenomegaly
- ix. ascites (positive fluid wave test)
- x. hepatic encephalopathy
 1. disorientation
 2. altered LOC
 3. fatigue
- xi. asterixis (flapping hand tremor)
- xii. ↓ reflexes
- xiii. anemia
- xiv. dark urine

b. Complications

- i. portal hypertension
 1. increased pressure in portal vein
- ii. ascites
 1. fluid accumulation in abdominal cavity
- iii. esophageal varices
 1. dilated, thin veins in the esophagus can rupture
 2. bleeding is a life-threatening emergency
 3. goal is to control bleeding
- iv. Hepatorenal syndrome
 1. renal failure associated with liver failure

c. Therapeutic Management

- i. elevate HOB
- ii. paracentesis to drain abdominal fluid
- iii. fluid restriction
- iv. ↓ protein intake
- v. ↓ Na intake
- vi. monitor daily weights
- vii. institute bleeding precautions and monitor coagulation studies
- viii. Medications
 1. vitamin K
 2. antacids
 3. lactulose to decrease ammonia levels

4. analgesics
5. blood products
6. diuretics

Pancreatitis

1. Overview

- a. inflammation of the pancreas
- b. autodigestion of pancreas results
- c. Alcohol abuse, gall bladder disease, PUD, obstruction of the ducts and hyperlipidemia common causes
- d. Acute - occurs suddenly with most patients recovering fully
- e. Chronic - usually due to longstanding alcohol abuse with loss of pancreatic function

2. NCLEX® Points

- a. abdominal pain
 - i. sudden onset
 - ii. mid epigastric
 - iii. LUQ
- b. N/V
- c. weight loss
- d. abdominal tenderness
- e. ↑WBC, bilirubin, ALP, amylase, lipase
- f. Cullen's sign
 - i. bruising and edema around the umbilicus
- g. Turner's sign
 - i. flank bruising
- h. steatorrhea

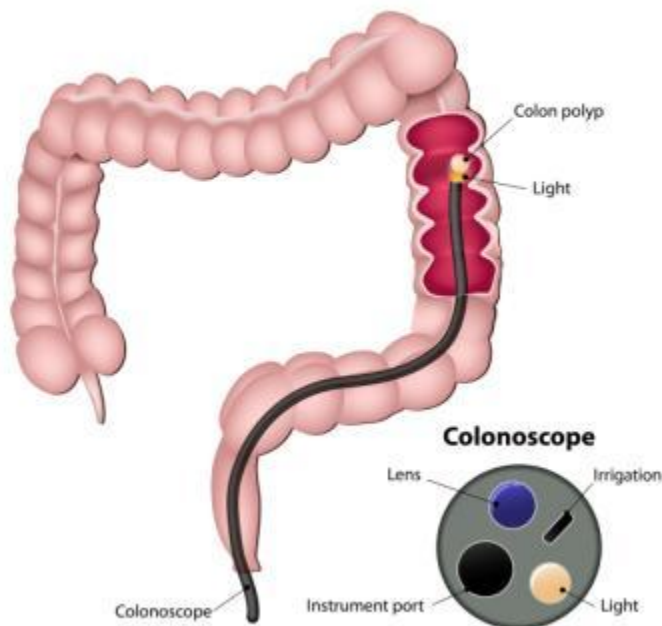
3. Therapeutic Management

- a. ↓pancreatic secretions
- b. NPO
- c. NG tube insertion to decompress stomach and suppress pancreatic secretions
- d. IV hydration
- e. TPN for prolonged exacerbations
- f. educate on avoidance of alcohol
- g. notify provider of exacerbations
- h. ERCP to remove gall stones
- i. medications
 - i. analgesics
 - ii. H2 blockers
 - iii. Proton pump inhibitors
 - iv. insulin
 - v. anticholinergics

NCLEX® Cram - Gastrointestinal Disorders

1. Functions of the liver
 - a. store vitamin B12 and fat-soluble vitamins
 - b. store and release blood
 - c. produce plasma proteins
 - d. synthesize clotting factors
 - e. convert amino acids to carbohydrates
 - f. synthesize glucose
 - g. detoxify alcohol and drugs
2. Functions of the pancreas
 - a. secrete insulin and glucagon
 - b. secrete sodium bicarbonate
 - c. secrete pancreatic enzymes (amylase, lipase)
3. EGD
 - a. keep client NPO for 6-12 hours prior
 - b. keep client NPO until gag reflex returns
4. Colonoscopy

COLONOSCOPY



- a. position
 - i. side lying (left side) knees drawn up to chest
- b. colon must be clean prior to procedure

5. Paracentesis
 - a. removal of fluid from the peritoneal cavity
 - i. monitor vital signs closely
 - ii. monitor breathing - rapid fluid removal can lead to shock
 - iii. Position
 1. upright, back supported
 - iv. measure fluid collected
6. Liver biopsy
 - a. monitor for bleeding
 - i. high risk for bleeding
 - b. position post procedure
 - i. right side
 - ii. pillow under costal margin
7. GI Surgery
 - a. Colonostomy
 - i. low-residue (low fiber) diet
 - ii. assess appearance of stoma
 1. notify provider if stoma becomes pale, darkened, cyanotic, or bleeding increases
 - iii. insure proper fit of pouch
 1. 1/8 inch between stoma and bag
 2. empty bag when 1/3 full
8. Pernicious anemia
 - a. body unable to absorb vitamin B12
 - b. requires monthly B12 injections
9. Dumping syndrome
 - a. complication of gastric surgery (common with Billroth I and II)
 - i. rapid emptying of gastric contents into small intestine without proper digestion
 - ii. symptoms begin 30 minutes after eating
 - iii. N/V
 - iv. abdominal fullness
 - v. palpitations
 - vi. tachycardia
10. BMI
 - a. $BMI = wt (kg)/Ht^2(m)$
11. Malnutrition
 - a. signs
 - i. dry skin
 - ii. anemia
 - iii. muscle wasting
 - iv. alopecia
 - v. cheilosis (dry scaling lips)

- vi. glossitis
- 12. Melena - bloody stool
- 13. Steatorrhea - fat in stool
- 14. Intestinal obstruction
 - a. assessment
 - i. early - high pitched bowel sounds
 - ii. late - absent
 - iii. vomit with fecal scent
 - iv. abdominal distention
 - b. maintain NPO
- 15. Jaundice
 - a. due to hyperbilirunemia
 - i. bilirubin is a byproduct of hemoglobin breakdown
 - ii. with liver damage bilirubin is not broken down
- 16. Ammonia
 - a. byproduct of protein digestion in large intestine
 - b. protein -> ammonia -> urea -> excreted via urine
 - c. liver converts ammonia to urea
 - i. with liver damage - ammonia levels raise in blood - causing complications and neurologic changes
 - ii. lactulose draws ammonia from the blood into the urine to be excreted via stool
 - d. BUN - measure renal and liver function
 - i. ↑BUN = kidneys are not able to excrete urea
 - ii. ↓BUN = liver is not converting ammonia to urea
- 17. Liver cancer
 - a. RUQ pain, fatigue, anorexia, ascites, jaundice, liver failure
- 18. Pancreatic cancer
 - a. causes
 - i. smoking
 - ii. toxins
 - iii. high fat diet
 - b. slow onset
 - c. most clients do not present with symptoms until disease is advanced
 - d. supportive care
 - e. symptoms
 - i. pain - worse when lying down
 - ii. jaundice
 - iii. weight loss
 - iv. steatorrhea
- 19. Celiac Disease
 - a. gluten sensitivity
 - b. lifelong dietary modifications required

- c. Celiac Crisis
 - i. acute episode
 - 1. precipitated by infection
 - 2. fasting
 - 3. gluten ingestion
 - 4. leads to: dehydration, electrolyte imbalance, severe acidosis
 - ii. Assessment
 - 1. severe steatorrhea
 - 2. abdominal distention
 - 3. anemia
 - iii. instruct patient on reading food labels