Care of a Client with Gastritis

Understanding gastritis, nursing management, and prevention of complications.

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Learning objectives

1. Identify the causes and predisposing factors to gastritis.
2. State the different types of gastritis.
3. Describe the gastritis is diagnosed.
4. Discuss the basic care of a client diagnosed with gastritis.
5. List prevention of gastritis.

What is Gastritis?

Gastritis is the inflammation of the gastric mucosa of the stomach. Is a common gastrointestinal (GI) problem. In the United States, it accounts for approximately 1.8-2.1 million visits to doctors' offices each year. It is especially common in people older than 60 years.

Structure and Functions of the stomach

The stomach is an elongated pouch-like structure lying just below the diaphragm, with most of it to the left of the midline. It has three divisions: the fundus, the enlarged portion to the left and above the entrance of the esophagus; the body, the central portion; and the pylorus, the lower portions. Circular sphincter muscles that act as valves guard the opening of the stomach. (The cardiac sphincter is at the esophageal opening, and the pyloric sphincter is at the junction of the stomach and the duodenum, the first portion of the small intestine.) The cardiac sphincter prevents stomach contents from reentering the esophagus except when vomiting occurs. The stomach acts as a storehouse for food, receiving fairly large amounts of food, churning it, and breaking it down further for mixing with digestive juices. Semiliquid food is released in small amounts by the pyloric valve into the duodenum, the first part of the small intestine.

Gastric juices that contain digestive enzymes and hydrochloric acids are produced by glands in the linings of the stomach. The enzymes in the gastric juice start the digestion of protein foods, milk, and fats. Hydrochloric acid aids enzyme action. The mucous membrane lining the stomach protects the stomach from being digested by the strong acid and digestive enzymes.
Types of Gastritis

Depending on the cause, gastritis may be acute or chronic, may persist and develop serious conditions such as atrophy of the stomach.

Acute gastritis is characterized by polymorphonuclear (PMN) infiltration of the mucosa of the antrum and body. Acute gastritis starts suddenly and lasts for a short time.

Chronic gastritis develops slowly over time. If chronic gastritis is not treated, it may last for years or even a lifetime. Many people with chronic gastritis are asymptomatic. Some may present with a dull pain and a feeling of fullness or loss of appetite after a few bites of food.

Gastritis can be erosive or non-erosive:

Erosive gastritis can cause the stomach lining to wear away, causing erosions—shallow breaks in the stomach lining—or ulcers—deep sores in the stomach lining.

Non-erosive gastritis causes inflammation in the stomach lining; however, erosions or ulcers do not accompany non-erosive gastritis.

Stress gastritis is a form of acute erosive gastritis which is stress-induced, complication of life-threatening condition (Curling’s ulcer with burns); gastric mucosa becomes ischemic and tissue is then injured by acid of stomach. Stress gastritis can cause mucosal erosions and superficial hemorrhages in patients who are critically ill or in those who are under extreme physiologic stress, resulting in minimal-to-severe gastrointestinal (GI) blood loss.
Pathophysiology of Gastritis

Acute gastritis has a number of causes, including certain drugs (NSAIDS, Steroids); alcohol; bile reflux. The common mechanism of injury is an imbalance between the aggressive and the defensive factors that maintain the integrity of the gastric lining (mucosa). The major mechanism of injury is the reduction in prostaglandin synthesis. Prostaglandins are chemicals responsible for maintaining mechanisms that result in the protection of the mucosa from the injurious effects of the gastric acid. Long-term effects of such ingestions can include fibrosis and stricture.

Overall in gastritis, the gastric mucous membrane becomes edematous and hyperemic and undergoes superficial erosion. It secretes scanty amounts of gastric juice, containing very little acid but much mucus. Superficial ulceration may occurs as a result of erosive disease leading to bleeding.

Risk factors and Causes of Gastritis

- Irritants include drugs such as aspirin and other nonsteroidal anti-inflammatory drugs (NSAIDs), corticosteroids, alcohol, caffeine.
- Ingestion of corrosive substances such as alkali or acid.
- Infection by Helicobacter pylori (H pylori). (The bacteria decreases the stomach's ability to produce mucus, making the stomach prone to acid damage).
- Stress and autoimmune phenomena (atrophic gastritis).
- Effects from radiation therapy, certain chemotherapeutic agents.
- Duodenal and/or bile reflux
- Crohn’s disease

Clinical manifestations

Dyspepsia, nausea, or vomiting, upper abdominal discomfort/pain, indigestion, feelings of fullness in the upper abdomen, hematemesis, melena, or blood in the nasogastric aspirate (in erosive gastritis). A client with chronic gastritis may show no symptom. Sometimes the client may report anorexia, heartburn after eating, belching, sour taste in the mouth, intolerance for spicy or fatty food, or slight pain that is relieved by food. A client with chronic gastritis may not be able to absorb vitamin B12 due to diminished production of intrinsic factors by the parietal cells of the stomach which can lead to pernicious anemia.

Diagnosis.

Many gastrointestinal symptoms are usually vague making the diagnosis of GI problems quite difficult. In acute gastritis diagnosis is most often based on history of drug and alcohol abuse, while in chronic gastritis diagnosis may be delayed or missed due to nonspecific symptoms. A complete patient history and an adequate physical examination are necessary in order to gather as much information as possible. Although the admitting physician routinely complete the physical assessment of the client, a nursing assessment must be completed as well. A detailed nursing interview is very important to elicit information which the client may consider...
insignificant, unimportant, or irrelevant. The nurse should question the client about dietary habits, bowel habits, and GI complaints (signs and symptoms).

Diagnostic tests include gastric analysis, stool examination, and endoscopy (Gastroscopy). Gastric analysis is done to examine the gastric contents and gastric juice. Provides information about the presence, amount, or absence of hydrochloric acid; the presence of cancer cells, and the types and amounts of enzymes present in the stomach. Stool samples can be examined the presence of occult blood and H. pylori antigen. Endoscopy is a direct visual examination of the gastric lining. A biopsy can also be done during this procedure. Complete blood count (CBC) to detect anemia from blood loss from chronic gastric bleeding. Tests for H. pylori infection (Table 1).

The stool antigen test and urea breath test are fast and noninvasive, therefore are recommended for the diagnosis of an H. pylori infection and for the evaluation of the effectiveness of treatment.

**Medical management**

The goal of treatment is aimed at:

- Reducing or eliminating contributing factors
- Acid neutralization and suppression with proton pump inhibitor (PPI) or Histamine 2 (H2) blocker.
- Protection of gastric mucosa
- Antibiotic therapy (H pylori infection):
- For bleeding, endoscopic hemostasis and replacement of blood loss via transfusions.

Chronic gastritis caused by H. pylori infection is treated by eradicating the bacteria. Helicobacter infection typically responds well to the triple therapy protocol (consisting of two antibiotics, and a proton pump inhibitor) such as PCA or PCM triple therapy (PPI, Clarithromycin, Amoxicillin) or (PPI, Clarithromycin, Metronidazole), or Quadruple therapy (PPIs, Bismuth subsalicylates, Metronidazole, and Tetracycline).

If client with gastritis develops GI bleeding, endoscopy is required to define the cause of bleeding, provide prognostic information and to apply hemostatic treatments.

**Complications list for Gastritis:**

- Potential complications for gastritis include the following:
- Gastrointestinal bleeding
- Gastric erosion
- Anemia: from chronic bleeding in the stomach
- Vitamin B\textsubscript{12} deficiency and pernicious anemia
- Dehydration
- Gastric perforation
- Clients with chronic gastritis has increased risk of developing gastric adenocarcinoma.
- atrophic gastritis

### Table 1: Tests used to detect H. pylori:

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<tr>
<th>Non-invasive</th>
<th>Detecns the presence of H. pylori antigen in a stool sample.</th>
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<td>Stool/fecal antigen test</td>
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<tr>
<td>Urea breath test</td>
<td>This test is based on the capability of H. pylori to metabolize urea to CO\textsubscript{2} because of the organism’s ability to produce large amount of urease. Detection of labeled carbon dioxide in the breath after drinking a solution. Two breath samples are obtained, one before and one 30 minutes after ingestion of the urea in a liquid form. The use of PPI and cytoprotective agents such as Bismuth will suppress the uptake of urea.</td>
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<tr>
<td>H. pylori antibody testing</td>
<td>Detects antibodies to the bacteria (will not distinguish previous infection from a current one). If test is negative, then it is unlikely that a person has had an H. pylori infection. Results should be confirmed using stool antigen or breath test if test is positive. This test is usually not recommended for routine diagnosis and evaluation of treatment effectiveness.</td>
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<th>Invasive Endoscopy with tissue biopsy</th>
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<tr>
<td>Histology</td>
<td>Tissue is examined under a microscope to detect H. pylori bacteria and any other signs of disease that may explain a person's symptoms.</td>
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<td>Rapid urease testing</td>
<td>H. pylori produces urease, an enzyme that allows it to survive in the acidic environment of the stomach. A client scheduled for rapid urease testing should not use antacids for at least one week. This will result to false negative results.</td>
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<tr>
<td>Culture</td>
<td>Growing H. pylori in/on a nutrient solution. Takes several weeks. (May be used for antibiotic susceptibility testing).</td>
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**Nursing management**

1. Pain R/T irritation of gastric mucosa

   - Planning: relief of discomfort by removing irritating factor or agent.
   - Implementation: the nurse should focus on teaching the client about causes of gastritis & food that may aggravate the disease.
   - The nurse should help the client assess factor that increase symptoms such as stress or fatigue.
2. Nutritional altered less than body requirement R/T decrease appetite, nausea & vomiting & pain.
   - Planning: improve nutrition intake by eating balanced diet as evidenced by weight gain.
   - Implementation: N P O if nausea & vomiting is severe & give him I-V fluid until the symptoms subsite.
   - The nurse can help the client identify food that stimulate development of gastritis & encourage the client to avoid these agent.

3. Risk for fluid volume and electrolyte imbalance: less than body requirements related to inadequate intake, vomiting.
   - Planning: Prevent dehydration and maintain moist mucous membranes, good skin turgor, electrolytes returned to normal, capillary filling pink, vital signs stable, maintain the balance of intake and output.
   - Implementation: Assess signs and symptoms of dehydration, observation of vital signs, measuring intake and output, encourage clients to drink ± 1500-2500ml if client is able to tolerate oral intake, observation of skin and mucous membranes, collaboration with physician in the provision of intravenous fluids.

4. Deficient knowledge: about diseases related to lack of information.
   - Planning: increased awareness of dietary and medication management.
   - Implementation: Provide client teaching about Medication, dietary restrictions, and lifestyle changes.

5. Anxiety related to disease symptoms and treatment.
   - Planning: reduced anxiety and improve stress management.
   - Implementation: Assess the client's anxiety. Give the client an opportunity to express his/her anxiety. Use calm approach and explain all procedures and treatments. Help client identify stressors.

Nursing care

Acute gastritis is self-limiting lasts few hours to a few days and complete healing of gastric mucosa is expected. Decreased appetite and food intake persist for a few days after symptoms subsides. Client need intravenous access, client is usually placed on NPO until symptoms subsides. When client can take oral nourishment nonirritating diet is recommended. If client is vomiting, dehydration can occur quickly, intravenous fluid need to be administered, promote rest and administer parenteral antiemetic as prescribed. Observe client for signs of hemorrhage and check vomitus for blood. Monitor vital signs very closely. Administer medications as ordered to reduce gastric mucosal irritation and relief symptoms.
Client education

Teach the patient about gastritis

- Medication regimen, dose, and potential side effects.
- Keep food diary and avoid food and substances that trigger gastritis symptoms.
- Life style changes: Limit or avoid alcohol consumption, cigarette smoking.
- Avoid the use of aspirin and other NSAIDS if clinical feasible. If client must continue to use NSAIDS, PPI maintenance is recommended to prevent recurrences.
- In cases of associated pernicious anemia educate the client about injections of Vitamin B₁₂.
- Good hand hygiene and safe food handling to decrease exposure to microbes including H. pylori.
- Close medical follow-up.

Prevention

Prophylaxis with acid-suppressive drugs such as intravenous H₂ blockers, proton pump inhibitors, can reduce the incidence of acute stress gastritis. Early enteral feeding also can decrease the incidence of bleeding.

Learn more about it/ References


NCLEX style questions for student nurses.

Gastritis NCLEX RN Questions

1. Which of these is an appropriate assessment question for client admitted with suspicion of gastritis?

   a. “Do you have abdominal pain/discomfort after you eat or before you eat?”
   b. “What do you do when you are stressed to help you relax?”
   c. “Do you use laxatives, is so how often do you use them?”
   d. “How often and how much food do you eat at a time.”

2. A client is admitted with severe acute gastrointestinal bleeding secondary to chronic gastritis. Which of these is the most appropriate nursing diagnosis for this client?

   a. Imbalanced Nutrition: Less than Body Requirements related to inadequate food intake due to chronic anorexia.
   b. Risk for fluid volume and electrolytes imbalance related to inadequate fluid intake and vomiting.
   c. Acute pain related to an increase in stomach acid.
   d. Ineffective tissue perfusion related to blood loss as evidenced by hypotension, tachycardia.

3. A client admitted with upper GI bleed has the following orders. Which order should the nurse implement first?

   a. Prepare client for gastroscopy.
   b. Insert 20 gauge intravenous catheter.
   c. Administer IV normal saline 1L over 5hours.
   d. Insert NG tube and connect to low wall suction.

4. The nurse is performing assessment on a client with acute erosive gastritis. Which of these findings should the nurse anticipate?

   a. Constipation.
   b. Abdominal distention.
   c. Hematemesis
   d. Fever.

5. A client is admitted 3 hours ago with acute gastritis. Which of these are appropriate nursing interventions by the nurse? (Select all that apply).

   a. Offer ice chips, and ginger ale to the client.
   b. Give antiemetic as ordered by the physician.
c. Place an emesis basin within patient's reach.

d. Assess for pain and offer oral analgesics as needed.

e. Assess frequency, character and amount of any vomitus.

6. A client admitted to the ICU following severe burns is started on intravenous Pantoprazole (Protonix). The nurse understands the rationale for this order as:

   a. Pantoprazole is given to treat the client’s peptic ulcer disease.
   b. Pantoprazole is administered until the client can begin oral food intake.
   c. Pantoprazole is given to the client to prevent stress gastritis.
   d. Pantoprazole prevent erosive gastritis causes by smoke inhalation.

7. The nurse is performing an assessment on a client with acute gastritis who was admitted to the hospital. Which assessment question would most specifically elicit information regarding the intensity of the client’s pain?

   a. “How long have you had this type of pain, what does your pain feel like?”
   b. “Does anything thing make this pain better or worse? If so what is it?”
   c. “Can you tell me what you have done for this pain?”
   d. “If ‘0’ is not pain and ‘10’ is the worst pain of your life. What is your pain now?

8. The morning nurse is performing pre-procedure assessment for a client scheduled for abdominal CT scan and barium studies. When the client stated, “I drank the contrast the night nurse gave me 30 minutes ago.” Which is the most appropriate nursing intervention?

   a. Notify the CT scan lab that client need to have her test within the next 30 minutes.
   b. Ask the client why she did not wait until after the CT scan is done to drink the contrast.
   c. Notify the physician about this immediately, and reschedule the CT scan for another day.
   d. Ask the client if she has shellfish and contrast allergies and monitor the client closely.

9. A client has undergone gastroscopy for H. pylori culture. The nurse should place highest priority on which item as part of the client's care plan?

   a. Monitoring the temperature every 4 hours.
   b. Monitoring for recurrence of heartburn.
   c. Giving warm gargles for a sore throat.
   d. Assessing for the return of the gag reflex.
10. The nurse has taught the client diagnosed with chronic gastritis about an upcoming rapid urease testing procedure for H. pylori. The nurse determines that the client needs further information if the client makes which statement?

a. “I should continue taking my antacids as prescribed until after the test.”
b. "I know I will have to sign the informed consent form."
c. "I hope the throat spray keeps me from gagging."
d. "I will not be able to eat or drink anything after midnight before the procedure."
Answers to NCLEX style questions.

1. (A).

2. (D). In the management of GI bleeding initial priorities relate to the support of the patient’s circulation as opposed to the identification of the source of the bleed.

3. (B). Client will need an intravenous line is set up immediately.

4. (C). In erosive gastritis superficial ulceration occurs leading to GI bleeding which can manifest as hematemesis or melena.

5. (B, C, E).

6. (C). Stress associated with acute illness such as severe burns has long been recognized to cause gastric mucosal damage leading to gastritis. Intravenous PPI such as a Pantoprazole is administered for the prevention of stress-related mucosal injury.

7. (D). Pain intensity quantifies the pain. Good pain assessment includes (WILDA) words to describe the pain, intensity of the pain scale of 0 to 10, location of the pain, duration of the pain, aggravating and alleviating factors.

8. (C). The nurse should schedule barium studies after ultrasound and CT scan to allow for visualization of the intestinal tract.

9. (D). Assessing for the return of the gag reflex. The throat is anesthetized during test to suppress gag reflex. Monitoring for return of gag reflex is essential after the procedure.

10. (A). A client scheduled for rapid urease testing should not use antacids for at least one week. This will result to false negative results.