Peptic Ulcer Disease Assessment

Peptic ulcers are caused by an erosion of the mucosal wall of the gastrointestinal tract. These ulcers develop when excess hydrochloric acid and digestive enzymes (pepsin) disrupt the gastric mucosal barrier, causing breakdown. A bacteria called Helicobacter pylori (H. pylori) also contributes to peptic ulcer formation; however, not everyone who is infected with this bacteria will develop an ulcer. Patients with this condition may present with abdominal pain, heartburn, melena, weight changes, and GI distress. Duodenal ulcers are more common than gastric ulcers. With duodenal ulcers, pain is relieved by eating, but in gastric ulcers pain is increased by eating.



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Mechanism/Cause

Helicobacter Pylori
Helicopter-bacteria
H. pylori is a bacteria that lives in the stomach and has been linked to the development of peptic ulcers. Despite this association, not everyone who is infected with H. pylori will develop an ulcer. Factors such as diet, environment, and genetic makeup influence a person’s response to the bacteria.

NSAIDs
N-Sad
Prolonged exposure to NSAIDs can cause peptic ulcer disease. Patients who use these drugs regularly will inhibit the production of gastroprotective prostaglandins in their gastric mucosa through the inhibition of COX-1. Gastric bicarbonate production will decrease, leaving the mucosa more vulnerable to the damaging effects of hydrochloric acid.

Increased Stomach Acid
Up-arrow Stomach with Acidic-lemon
A person’s lifestyle can greatly contribute to the development of peptic ulcers. For example, individuals experiencing stress, or those who consume beverages such as coffee or alcohol, cause an increase in hydrochloric acid secretion, which can lead to ulcerations. Patients with Zollinger-Ellison syndrome, a condition that causes hypersecretion of gastric acid, will also develop ulcers.

Assessment

Abdominal Pain
Abdominal Pain-bolt
Though abdominal pain is a common complaint of patients with peptic ulcers, timing of the pain varies according to where the ulcer is located. Pain caused by a duodenal ulcer typically occurs 2 to 5 hours after a meal, and may radiate to the patient’s back. Gastric ulcers, however, can cause a burning pain more closely associated with meals, and may be relieved by vomiting.

Heartburn (Pyrosis)
Heart-burning
Heartburn is a burning sensation in the chest, caused by gastric acid. Patients with peptic ulcer disease may notice this burning sensation at night when they are in a supine position. Elevating the head of the bed is recommended, as laying flat can worsen heartburn.

Melena
Black Melon
Upper GI bleeding related to ulcers can cause patients to have black, tarry stools. Patients should monitor their stool for signs of bleeding and report these changes to their healthcare provider immediately. Hematemesis or vomiting of blood may also occur.

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Weight Changes

Delta Weight-scale

Peptic ulcer disease can cause different changes in weight depending on the etiology. Gastric ulcers are associated with weight loss, since the pain with eating discourages people from eating. Duodenal ulcers however may be associated with weight gain, since the pain decreases with eating.

GI Distress

GI with Flare-gun

Patients with peptic ulcer disease, particularly a gastric ulcer, may lose their desire to eat or drink due to unrelieved pain in their abdomen. A decrease in food and fluid intake can cause constipation.

Considerations

Most Commonly in Duodenum

#1 Foam-finger Dodo-denim

Duodenal ulcers are more common than gastric ulcers, and can occur in people of all ages.

Duodenal: Pain Relieved by Eating

Dodo-denim Pain-bolt Relieved by Eating

Pain caused by a duodenal ulcer typically occurs 2 to 5 hours after a meal, because eating relieves the pain due to the buffering effect of food on the stomach acid. Pain is typically located in the mid-epigastric region and is described as burning or cramp-like.

Gastric: Pain Caused by Eating

Stomach Pain-bolt Caused by Eating

Gastric ulcers cause a burning pain 1 to 2 hours after a meal, and pain is not relieved by eating. Pain from a gastric ulcer may be relieved by vomiting.

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