

Peptic Ulcer Disease

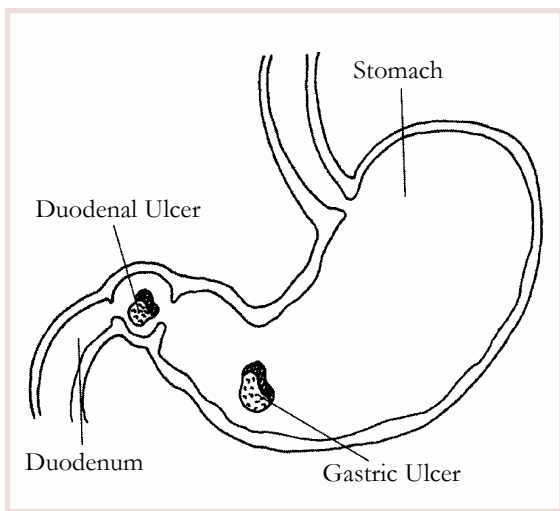
Peptic ulcer disease (PUD) is a very common ailment, affecting one out of eight persons in the United States. The causes of PUD have gradually become clear and with this understanding have come new and better ways to treat ulcers and even cure them.

Anatomy and Function of the Stomach

The stomach produces a very strong acid. This acid digests and breaks down food before it enters the small intestine (duodenum). The lining of the stomach is covered by a thick protective mucous layer which prevents the acid from injuring the wall of the stomach.

What Causes Peptic Ulcers?

An ulcer is an open sore in the lining of the stomach or intestine, much like mouth or skin ulcers. Peptic ulcers are eventually caused by acid and pepsin, a digestive stomach enzyme. These ulcers can occur in the stomach, where they are called gastric ulcers. Or they can occur in the first portion of the intestine beyond the stomach. These are called duodenal ulcers.



In the end, it is acid that causes the injury to the bowel wall. However, a revolutionary and startling recent discovery is that most peptic ulcers result from a stomach infection caused by the bacteria, *Helicobacter pylori*.

Helicobacter Pylori (H. Pylori)

This funny-sounding name identifies the basic cause of most peptic ulcers, excluding those caused by aspirin or arthritis drugs. The bacteria has a twisted spiral shape (Helico) and infects the mucous layer lining of the stomach. This is a true infection and produces an inflammation in the stomach wall called gastritis. The body even develops an antibody in the blood against it. The bacteria is probably acquired through ingesting contaminated food or drinking glass. It is only after *H. pylori* bacteria injures the protective mucous layer of the stomach that an ulcer develops.

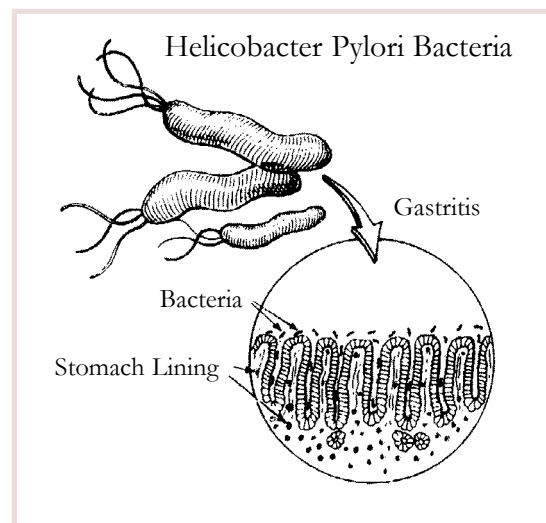
Aspirin and Arthritis Medications

Arthritis medications include ibuprofen (Advil), Feldene, Naprosyn, Voltaren, Indocin, Lodine, and many others. As with aspirin, they can damage the mucous layer of the stomach, after which the stomach acids causes the final injury.

So, *H. pylori* and these above drugs are the two major factors that bring on ulcers. There is also a small group of patients that produces very large amounts of acid uncontrollably, thereby causing ulcers. A stomach cancer may look and act like a peptic ulcer. Finally, some people get ulcers for unknown reasons.

Symptoms

Ulcers cause gnawing, burning pain in the upper abdomen. These symptoms frequently occur several hours following a meal, after the food leaves the stomach but while acid production is still high. The burning sensation can occur during the night and be so extreme as to wake the patient. Instead of pain, some patients experience intense hunger or bloating. Antacids and milk usually give temporary relief. Other patients have no pain but have black stools, indicating that the ulcer is bleeding. Bleeding is a serious complication of ulcers.



Diagnosis

A diagnosis of peptic ulcers can be suspected from the patient's medical history. However, the diagnosis should always be confirmed either by an upper intestinal endoscopy, which allows direct examination of the ulcer through a fiberoptic instrument (endoscope), or by a barium x-ray of the stomach. With endoscopy, a biopsy is usually obtained of a gastric ulcer to determine if it is malignant and requires surgery.

Treatment

Therapy of PUD has undergone profound changes. The first has been the development of drugs which suppress stomach acid (Pepcid, Tagamet, Zantac, Acid) or even stop it altogether (Prilosec). These acid-suppressing drugs have been dramatically effective in relieving symptoms and allowing ulcers to heal. If an ulcer has been caused by aspirin or an arthritis drug, then no subsequent treatment is usually needed. Avoiding these latter drugs, should prevent ulcer recurrence.

The second major change in PUD treatment has been the discovery of the *H. pylori* infection. When this infection is cleared by antibiotics, the infection

and the ulcer do not come back. So, increasingly, physicians are not just suppressing the ulcer with the acid-reducing drugs listed above, but they are also curing the underlying ulcer problem by getting rid of the bacterial infection. If not, the ulcers invariably recur.

There are a number of antibiotic programs available now to treat H. pylori. For example, Pepto-Bismol is an active antibiotic against H. pylori but must be used in conjunction with other drugs. The physician will select the best treatment program for the patient.

What Else Can Be Done?

The above factors have altered the approach to ulcers in a dramatic way. Still, many other factors are still important:

Caffeine and Alcohol - Both of these simulate the secretion of stomach acid and should be avoided in the acute phase of an ulcer.

Cigarettes - Nicotine will delay the healing of an ulcer. There are many other good reasons to stop cigarette smoking. Healing an ulcer is one of them.

Antacids - These agents purchased over the counter can be used for relief of peptic ulcer symptoms. Except for Pepto-Bismol, they do not help heal ulcers.

Stress - In the past, stress and emotion were felt to be a major cause of ulcers. Now it is known that, by itself, stress rarely causes an ulcer although it probably can aggravate the symptoms.

Surgery - Surgery used to be a major form of ulcer treatment. Now, it is the exceptional patient who needs surgery for an ulcer complication such as perforation, obstruction or uncontrolled hemorrhaging.

In Summary

The new era of peptic ulcer disease is at hand. With a firm understanding of how ulcers occur, with the potent acid-suppressing drugs now available, and with the knowledge that peptic ulcers caused by H. pylori can now be cured, the future is indeed bright for patients with ulcers. The physician now has the tools to deal very effectively with this old disease.

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