

Title: The Facts about Ulcers and *Helicobacter pylori* Infections

Name: Maria Carrow

Date: August 31st, 2008

Keywords: Gastric Ulcers, H. pylori, Antibiotic Therapy

Abstract:

The standard combination proton-pump inhibitor plus antibiotic therapy for *Helicobacter pylori* infection, fails in up to one quarter of patients. A new approach, using a 10-day sequential therapy may be more efficacious at eradicating the long term effects (gastritis, ulcers, carcinoma or lymphoma) of this microorganism.

This document was created by a medical student enrolled in the Primary Care Clerkship at the University of Minnesota Medical School as part of the course project. The aim of the project is to present information on a medical topic in the format of a patient education handout. It does not necessarily reflect the views of the University of Minnesota Medical School physicians and faculty. These materials are provided for informational purposes only and are in no way intended to take the place of the advice and recommendations of your personal health care provider. The information provided may no longer be up to date since it has not been reviewed since the date of creation. The information provided should not be used to diagnose a health problem or disease, or as a means of determining treatment. In the event of a medical emergency, immediately contact a doctor or call 911.

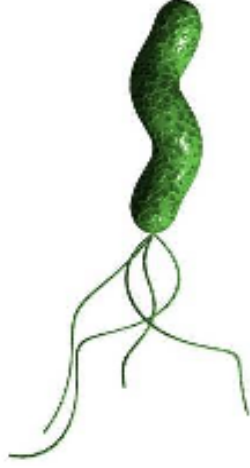
The Facts about Ulcers and *Helicobacter pylori* Infections



Background: Chronic gastritis is a continual inflammation of the stomach lining that can eventually lead to stomach ulcers (**peptic ulcer disease**) and permanent stomach changes. These permanent changes put patients at an increased risk for developing cancer of the stomach. In developed countries, 50% of people over age 50 have changes in their stomach lining that are consistent with chronic gastritis. While we tend to think of ulcers being caused by eating spicy or greasy foods, current research suggests that 90% of people with stomach ulcers are infected with a bacterium called **Helicobacter pylori**.

What is *Helicobacter pylori*?

BELOW is an image of the bacterium, **Helicobacter pylori** (*H. pylori*). It has unique properties that allow it to survive in the acidic environment of our stomachs. It also has multiple tail like structures that allow it to burrow into the stomach lining and survive despite our immune defenses.



How does *H. pylori* cause an ulcer?

Our stomachs are lined by a protective mucus layer. **H. pylori** burrows down and hides in the protective mucus layer which attracts our immune system's defense cells. These defense cells release toxins in an effort to kill the bacteria, but **H. pylori** has developed ways to be resistant to the efforts of our immune system. As a result, our own immune system causes damage by a continual, ineffective immune response that can result in an ulcer!



What are the signs and symptoms of gastritis?

Gastritis can be divided into two types, acute and chronic.

The signs and symptoms of infectious **acute gastritis**:

- Stomach pain
- Nausea
- Vomiting
- Relief with Antacids
- No fever

Chronic gastritis result when infectious acute gastritis goes untreated and can eventually lead to **peptic ulcer disease**.

What are the signs and symptoms of peptic ulcer disease (PUD)?

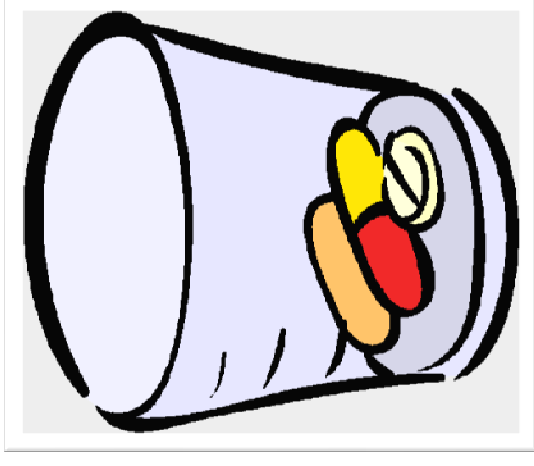
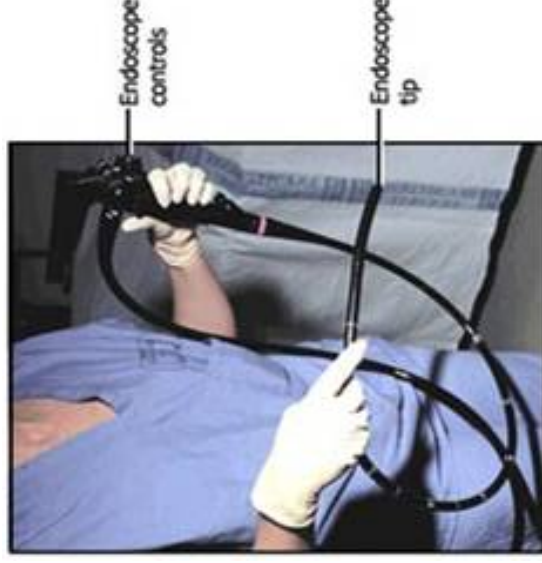
- Stomach pain – presents in variety of ways
 - Burning, gnawing or hunger-like
 - Crampy or vague
 - Occurs 2 – 5 hours after eating a meal
 - Pain may awaken patient in the middle of the night
 - Periods of feeling fine
- Weight gain
 - Eating often relieves the pain from the ulcer so patients tend to eat more
- Blood loss
 - Black, tar like stool
 - Anemia
 - Vomit tinged with blood
- 1 – 2 % of patients with ulcers are asymptomatic

Peptic Ulcer Disease

- 500,000 new cases each year
- 1 million hospitalized
- 6000 die
- Annual cost: \$6 billion

Diagnosis of *H. pylori* Infections

There are many ways to test for *H. pylori* infection. The best test involves taking a sample of the infected stomach tissue through a procedure known as endoscopy. That tissue then undergoes multiple tests that can detect the presence of *H. pylori*. There are also less invasive ways to test for the infection but they are not as accurate. These include testing the patient's blood for antibodies to *H. pylori*, testing the patient's stool for the bug itself or testing the patient's breath for chemicals that are specific to *H. pylori*.



Treatment of *H. pylori* Infections

Before starting treatment, your doctor will take a complete history, perform a physical exam and use the results of one of the diagnostic tools describe above. Treatment for gastritis from *H. pylori* usually requires several antibiotics with the combination of a proton pump inhibitor. It is important to remember that each patient is different and no one treatment is right for everyone. Be sure to discuss treatment options with your doctor.