Helicobacter Pylori

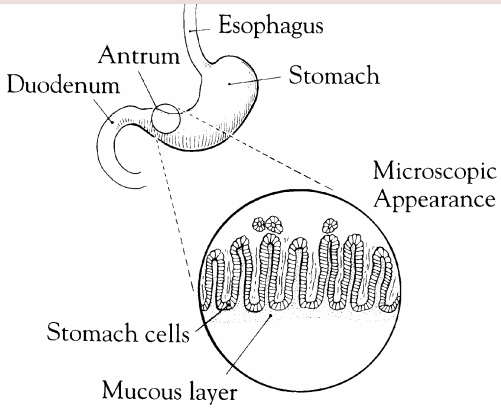
This unusual name identifies the bacteria that cause infections of the stomach. It is known to be an important cause of stomach and duodenal ulcers, and gastritis or inflammation of the stomach. There is even evidence to support the theory that this bacteria is associated with the development of cancer of the stomach.

Upper Digestive Anatomy and Function

To better understand how and where the infection occurs, it is important to know some of the anatomy of the upper digestive tract. The food enters the esophagus from the mouth and is transported into the stomach. It initially enters into the upper part of the stomach, the fundus, where food remains until it is propelled into the working region of the stomach. The narrower, lower part of the stomach is called the antrum. The antrum contracts frequently and vigorously, grinding up the food until it is able to pass through the pylorus and into the small intestine. The stomach lining is very thick and covered with a dense, protective layer of mucus, which protects it from the strong acid secreted by the stomach.

The Infection

Helicobacter pylori is a fragile bacterium that has found an ideal home in the protective mucous layer of the stomach antrum. The bacteria is curved and has several long threads that protrude and help attach the bacteria to the underlying stomach cells. The germ is protected in this mucous environment. It does not actually infect the stomach cells, but rather is an infestation. The infection causes a reaction in the body, with infection-fighting white blood cells producing protein antibodies to the bacteria. This infection may occur when an individual swallows the bacteria in food, fluid or, perhaps, from contaminated utensils. Older people have a higher incidence of the infection, as do people in Third World countries where contaminated foods are more frequently found. The majority of the time the infection remains undetected and localized, unless specific treatment is given



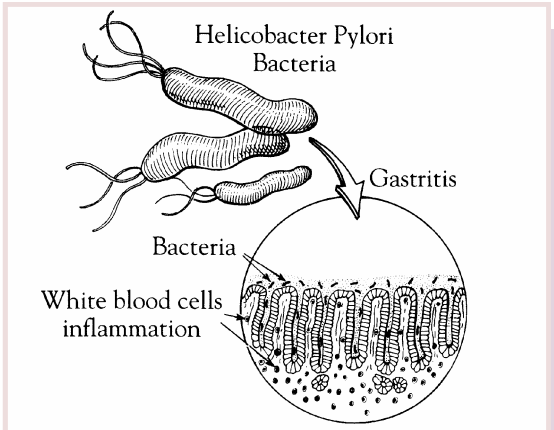
Helicobacter has been found in every part of the world, in all parts of society, and in every age group. The infection tends to be more common where sanitation is less effective. However, the infection does increase with age everywhere, indicating its wide prevalence. In fact, this infection is probably one of the most common infections in the world. In many, perhaps most, cases it does not produce symptoms. In other words, the infection can occur without the individual knowing it. And it appears that the infection doesn't cause any injury to a person unless it leads to an ulcer, or other conditions listed below.

Gastritis

Gastritis can be caused the use of alcohol, certain drugs, such as aspirin and some arthritis drugs, such as ibuprofen, bile, and excessive acidity. The Helicobacter pylori bacteria can also cause gastritis. The symptoms of gastritis are upper-abdominal burning, bloating and discomfort. Nausea and even vomiting may also occur. In extreme cases, there may be pain as well as bleeding, loss of appetite, and weight loss.

Non-Ulcerative Dyspepsia

At times, a person may have symptoms that suggest ulcers, however, there is no ulceration present if an x-ray or endoscopy is performed. There may be symptoms of burning or pain in the upper abdomen, often occurring an hour or so after meals or even during the night. These symptoms are frequently improved by the use of antacids, milk or medications that reduce stomach acidity. Often Helicobacter pylori is found in the stomach, however, recent evidence suggests that treating the bacteria will not have any effect on the symptoms. Therefore, it is not recommended any longer to treat for Helicobacter pylori, in the presence of non-ulcer dyspepsia alone, unless there is ulceration of inflammation present.



Duodenal Ulcers

The duodenum is the first portion of the intestine beyond the stomach. Originally, physicians felt that acid from the stomach was required to cause the development of ulcers. Research has now demonstrated that almost all patients who develop duodenal ulcers have Helicobacter pylori infection in the stomach as well. Medical studies are still under way to determine the exact nature of the relationship between the bacteria and ulcers. Acid is still important; patients without excessively strong acid in the stomach never get duodenal ulcers. Increasingly, however, physicians are accepting the fact that the infection is related somehow to the development of duodenal ulcers. It is now known that ulcers may be cleared entirely by treating the bacteria, thus avoiding the chronic need for acid lowering medicines. In the past, acid lowering medicines alone were able to heal the ulcers, but recurrence was common. Today we know that this is almost always the result of the presence of the bacteria.

Stomach Ulcers

Ulcers can develop in the stomach as well, and in these instances, the Helicobacter pylori bacteria is found in 25-80% percent of cases. Again, it is still uncertain exactly how the infection acts to cause the ulcer. The infection probably weakens the protective mucous layer of the stomach. This allows acid to seep in and to injure the underlying stomach cells. There is still a great deal of research that continues to further define this relationship.

The Diagnosis

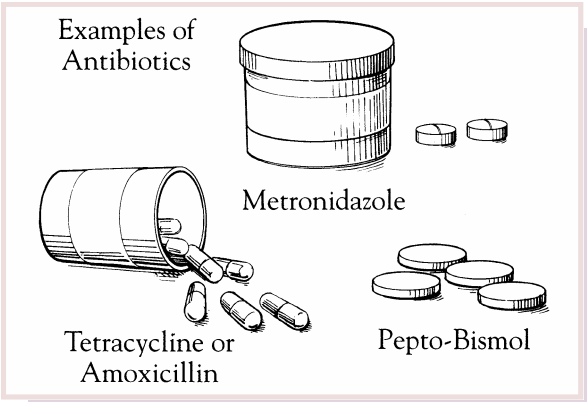
There are a few methods used to diagnose Helicobacter. The simplest method is to perform a blood test to measure antibodies to the bacteria. This test is useful only for initial diagnosis and is not used to test to see if the bacteria, has been eradicated after treatment. Another non-invasive test is the breath test. During this test, a pudding-like material containing urea is eaten. If present, the bacteria will digest the urea and produce a gas, which is expelled via the lungs. The patient breathes into a balloon or tube, and the breath sample is then analyzed. The breath test is effective not only for initial diagnosis, but also after treatment to test for elimination of the bacteria. Alternatively, it is possible to obtain a small biopsy sample, during endoscopy, and with special staining techniques find the bacteria in the tissue. Another test available looks for antibodies in the stool.

When is Treatment Necessary?

Since the infection is relatively common and usually causes no symptoms, it is generally recommended that no treatment be given unless there is actual damage present caused by the bacteria, such as ulceration of tissue irritation. In patients, with non-ulcer dyspepsia, which is symptoms without tissue damage, treatment is actually not helpful. Research continues, and further recommendations with regard to Helicobacter and cancer prevention are expected in the future.

What is the Treatment?

Treatment is constantly changing. The basis of therapy is to provide effective medications that can penetrate the thick mucus lining of the stomach to reach the bacteria. Current treatment consists of a combination of medications, including strong acid-reducing medicine in conjunction with two antibiotics and a bismuth-containing compound, Peptobismol. These medications are taken with meals, to allow maximum amount of contact time with the bacteria. Treatment usually lasts for a total of two weeks, although some early research suggests that one week may also be as effective. Occasionally, a resistant form of the bacteria may be found, which requires different and/or more prolonged treatment.



Summary

Helicobacter pylori is a bacteria commonly found in the stomach. Normally, it causes no problems or symptoms. However, it has become increasingly clear that the infection is related to the development of stomach and duodenal ulcers, as well as tissue irritation. In patients who have symptoms, treating the underlying infection with a combination of acid lower medication, Peptobismol and antibiotics will normally eliminate the bacteria. Once the bacteria has been eliminated, the ulcers and tissue irritation will heal, and the symptoms will disappear. New research continues to explore new treatment possibilities and the relationship between the bacteria and stomach cancer.

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