

HELICOBACTER PYLORI

This unusual name identifies the bacteria that can cause infection in the stomach. Bacteria are tiny microbes, larger than viruses, but still only seen under the microscope. To understand how and where the infection occurs, it is useful to know the anatomy of the upper digestive tract. The food pipe is called the esophagus. It enters into the upper part of the stomach, where food collects. The narrower, lower part of the stomach is called the antrum. The antrum contracts frequently and vigorously, grinding up the food and squirting it into the small intestine. The stomach, including the antrum, is covered by a layer of mucus, which protects it from the strong acid that the stomach secretes.

The Infection

Helicobacter pylori is a fragile bacteria that has found an ideal home in the protective mucous layer of the stomach antrum. It has several long, protruding threads that attach themselves to the side of the underlying stomach cells. The germ is protected in this mucous environment. It does not infect the stomach cells as certain other bacteria might. The infection, however, does generate a reaction in the body. Infection-fighting white blood cells move into the area, and the body even develops protein antibodies to the bacteria, so the infection is indeed very real. It is still uncertain how this infection occurs. It is probably acquired by ingesting contaminated food or cooking with 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 infection, however, remains localized.

Gastritis

Inflammation of the stomach is called gastritis. Gastritis can be caused by consuming excessive alcohol and by certain drugs, such as aspirin and arthritis drugs like ibuprofen. The Helicobacter pylori bacteria can also cause gastritis. The infection has been found in every part of the world, in every part of society, and in every age group. The infection tends to be more common where sanitation is less effective, so it occurs more frequently in younger people in Third World countries. 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. Infection, at times, can lead to an ulcer. The symptoms of gastritis are upper abdominal burning, bloating, and discomfort. Nausea and even vomiting may also occur.

Non-Ulcerative Dyspepsia

At times, a person may have symptoms that suggest ulcers. These include burning or pain in the upper abdomen, often occurring an hour or so after meals or even during the night. These symptoms are often temporarily relieved by antacids, milk, or medications that reduce stomach acidity. Yet, the physician does not find an ulcer when the patient is tested by x-ray or endoscopy (a visual scope exam of the stomach). If Helicobacter pylori is found in the stomach, it is tempting to believe that it is the cause of the symptoms. At times, a physician will use antibiotic therapy to see if clearing the infection relieves symptoms.

Duodenal Ulcers

The duodenum is the first portion of the intestine beyond the stomach. In times past, physicians were taught “no acid, no ulcer”. This statement means that the medical profession felt the single most important factor in duodenal ulcer formation was strong stomach acid. Research has now demonstrated that the majority of patients who develop duodenal ulcers have *Helicobacter pylori* infection in the stomach as well. Medical studies are under way to determine the relationship between the two, and how an infection in the stomach can be related to a duodenal ulcer. Acid is still important. So is aspirin and arthritis medication like ibuprofen. It is now rather easy to clear duodenal ulcers with the strong acid-reducing medicines available. But ulcers usually recur unless the *Helicobacter pylori* infection is cleared in patients who have the bacteria.

Stomach Ulcers

Ulcers can develop in the stomach as well and, in these instances, the *Helicobacter pylori* infection is frequently found. Again, it is still uncertain how the infection acts to cause the ulcer. It probably weakens the protective mucous layer of the stomach. This allows acid to seep in and injure the underlying stomach cells.

The Diagnosis

There are several ways to make the diagnosis. During endoscopy, the physician may remove small snippets of tissue for testing. A simple breath test, when available, can diagnose the infection. In this test, a substance called urea is given by mouth. A strong enzyme in the bacteria breaks down the urea into an ammonia gas, which is then exhaled through the lungs and can be measured. And finally, there is a blood test that measures the protein antibodies in the blood against the bacteria.

When Is Treatment Necessary?

Since the infection is so common and often does not cause symptoms, it is presently recommended that no treatment be given under these circumstances. If ulcers have occurred in the stomach or duodenum, treatment with antibiotics is strongly recommended. It must be remembered that the microbe is buried deep in the stomach mucus, so it is difficult to get rid of this infection. Therefore, several antibiotics are generally used together to prevent the germ from developing resistance to any one of them.

In Summary

Helicobacter pylori is a very common infection of the stomach. In most cases, it causes no problems or symptoms. It is now clear that the infection is related to the development of stomach and duodenal ulcers. However, stomach acid is still a factor in the development of most ulcers. Increasingly, physicians are treating the underlying infection with antibiotics. The physician is able to evaluate this infection and arrive at the appropriate recommendation and treatment program.

This information is not intended as medical advice and should not be used for diagnosis. The information in these brochures should not be considered a replacement for consultation with a health-care professional. If you have questions or concerns about the information found in these brochures, please contact your health-care provider. We encourage you to use the information and questions in these brochures with your health-care provider(s) as a way of creating a dialogue and partnership about your condition and your treatment.