

# Helicobacter pylori and Peptic Ulcers

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[Karen Hunter] Hello, I'm Karen Hunter. With me today is Dr. David Swerdlow, senior advisor for epidemiology in the National Center for Immunization and Respiratory Diseases at the Centers for Disease Control and Prevention. We're talking about a paper that appears in the September 2010 issue of the CDC's journal, Emerging Infectious Diseases. The article looks at hospitalization rates for peptic ulcer disease in American patients who may have been infected with the bacteria *Helicobacter pylori*. Welcome, Dr. Swerdlow.

[David Swerdlow] Thank you very much.

[Karen Hunter] Dr. Swerdlow, what is *Helicobacter pylori* and how does it affect people?

[David Swerdlow] *Helicobacter pylori*, or *H. pylori* for short, is a very common spiral-shaped bacteria that can colonize your stomach. It is estimated that about 50 percent of the world is infected, with most people becoming infected in childhood. Although the majority of people infected with *H. pylori* do not have any symptoms, infection with the bacteria can cause a variety of gastrointestinal diseases, including peptic ulcer disease and gastric cancers. The rate of infection with *H. pylori* is decreasing in most of the world, primarily because of improvements in hygiene and sanitation, but since infection is life-long, unless treated, many people are still at risk for peptic ulcer disease.

[Karen Hunter] What is it about an infection with *H. pylori* that increases the risk of developing peptic ulcer disease?

[David Swerdlow] *H. pylori* can colonize and damage the protective lining of your stomach and create chronic inflammation. The stomach's acidic environment can further erode these inflamed areas, leading to peptic ulcers. Although there are other causes of peptic ulcer disease, such as non-steroidal anti-inflammatory medicines like ibuprofen or aspirin, *H. pylori* is thought to cause a majority of cases.

[Karen Hunter] When was the association between *H. pylori* and peptic ulcer disease first discovered?

[David Swerdlow] Well, before the 1980s, most people thought that ulcers were caused by stress and spicy foods. Although medicines like antacids relieved the symptoms, ulcers returned after a patient stopped taking them. In the 1980s, it was first discovered that many peptic ulcers were caused by a bacterium – *H. pylori* – and that antibiotics, rather than avoidance of stress or spicy foods, could get rid of the *H. pylori* infection and cure the ulcers for good.

[Karen Hunter] So antibiotics to treat *H. pylori* infections have been available since the 1980s. Your study looked at whether the availability of antibiotics had an impact on the overall rate of hospitalizations for peptic ulcer diseases. What did you find?

[David Swerdlow] We hypothesized that after the knowledge of the relationship between H. pylori and ulcers became widely known, doctors would prescribe antibiotics for ulcers and patients would be cured. They would therefore be less likely to develop the complications of ulcers such as bleeding or perforation that could lead to hospitalization. So, we looked at a nationally representative sample of hospitalization records with a primary discharge diagnosis of peptic ulcer disease during the years 1998-2005. We found that, adjusted for the effects of age, the peptic ulcer disease hospitalization rate decreased by about 21 percent, from 71 per 100,000 in 1998 to 56 per 100,000 in 2005. This decrease in the peptic ulcer disease hospitalization rate suggests that the incidence of complications due to H. pylori infection has declined. Some of this decrease may have been because over time the proportion of individuals infected with H. pylori is decreasing – perhaps because of better sanitation and hygiene. However, some of this decrease is likely due to the increased use of antibiotics to treat peptic ulcer diseases.

[Karen Hunter] Which groups have been most affected by H. pylori infections and peptic ulcer disease?

[David Swerdlow] The hospitalization rate was highest in adults over 65 years of age, with almost 300 hospitalizations per 100,000 persons. The rate was lower in younger age groups. Overall, males had a higher hospitalization rate than females. However, by 2005, this difference had narrowed considerably because of a greater decline in hospitalization rates for male patients than for female patients. We also observed differences between race and ethnic groups; however, due to a large amount of missing data, it's difficult to draw any conclusions.

[Karen Hunter] What can people do to help protect themselves from getting complications of peptic ulcer disease?

[David Swerdlow] As I mentioned earlier, most cases of H. pylori infection are asymptomatic. However, ongoing symptoms, such as burning pain in the stomach before, or sometimes after, eating which may go away with antacids, or nausea, bloating, or loss of appetite, may be a sign that an individual is experiencing peptic ulcer disease and should see a doctor. The doctor will determine if the individual has peptic ulcer disease and if they are infected with H. pylori, they may be a candidate for antibiotic therapy.

[Karen Hunter] Thanks, Dr. Swerdlow. I've been talking with CDC's Dr. David Swerdlow about a paper that appears in the September 2010 issue of CDC's journal, Emerging Infectious Diseases. You can see the article online at [www.cdc.gov/eid](http://www.cdc.gov/eid). If you'd like to comment on this podcast, send an email to [eideditor@cdc.gov](mailto:eideditor@cdc.gov). I'm Karen Hunter, for Emerging Infectious Diseases.

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