H. Pylori Transcript

MINNESOTA CENTER OF EXCELLENCE IN NEWCOMER HEALTH MICROLEARNING SERIES

Hello, I'm Dr. Andrea Shahum. I'm an infectious disease physician, and I work at Infectious Disease & Travel Clinic with HealthPartners in Minnesota. Welcome to the Minnesota Center of Excellence in Newcomer Health's microlearning series. This series is designed to help health care providers, clinical teams, and public health workers better understand best practices for newcomer health. Today, we will review Helicobacter pylori.

The learning objectives for the microlearning are to review Helicobacter pylori infection, symptoms, and epidemiology, provide screening recommendations, and discuss diagnosis and treatment.

Helicobacter pylori is a gram negative spiral microaerophilic bacteria that can infect humans and can cause peptic ulcer disease and gastritis. It can chronically infect gastric epithelial cells, leading to sustained inflammation and mucosal damage. H. pylori has carcinogenic potential and is associated with gastric cancer and Mucosa-Associated Lymphoid Tissue or MALT gastric lymphoma.

Humans are the only primary reservoir and infection is primarily transmitted through the oral-oral or fecal-oral routes. H. pylori can survive in the gastric tissue due to its ability to break down gastric acid and to connect the gastric epithelium resulting in chronic colonization. Infection may induce chronic inflammation which can progress to atrophic gastritis, intestinal metaplasia, dysplasia, and eventually gastric cancer. Infection is usually acquired in childhood and tends to be life-long as spontaneous eradication is uncommon.

Clinical presentation of H. pylori infection varies widely, from asymptomatic gastritis in 80 to 90% of infected persons to various other symptomatic gastrointestinal diseases including symptomatic gastritis, peptic ulcer disease, gastric cancer, and gastric MALT lymphoma. H. pylori may play a role in persistent dyspepsia and can have extra-gastrointestinal associations with ITP and refractory iron deficiency anemia.

H. pylori infection prevalence among adults in the United States is approximately 30 to 40%, but in low- and middle-income countries, prevalence is greater than 50%. Prevalence of H. pylori infection in children in low- and middle-income countries increases with age with 20 to 50% of children infected by age 5, and more than 50% infected later in childhood. H. pylori infection has been linked with low socioeconomic status, poor hygiene, crowded living conditions, and close interpersonal contact.

Screening of asymptomatic cases is recommended only for high-risk newcomers as a part of cancer screening who meet any following criteria: infants, children, and adults with household contact with H. pylori infection, family history of gastric cancer, or personal history of peptic ulcer disease. Screening among the U.S.-born population is not recommended. Indications for H. pylori testing for symptomatic diagnoses include active peptic ulcer disease, history of peptic ulcer disease but not previously treated for H. pylori, gastric MALT lymphoma, and gastric cancer. Testing can be also considered for persistent

dyspepsia among children and adults less than 60 years of age who do not have alarm features, or cases of unexplained iron deficiency anemia, ITP, or prior anticipated long-term NSAID therapy in adults.

Non-invasive tests are commonly used to diagnose H. pylori and include stool antigen test, urea breath test, and serology. Both stool antigen test and urea breath test are highly accurate for diagnosing an active infection or confirming eradication. Their sensitivity and specificity are above 90%, but sensitivity can be reduced by proton pump inhibitors. Stool antigen test is more practical for home collection and preferred in children. Serology cannot distinguish active from treated infection, so it is not useful for either diagnosing active infection or confirming eradication. Invasive tests require endoscopy with gastric tissue sampling and include rapid urease test, histopathology, culture, and PCR.

Recent treatment guidelines reflect rising antibiotic resistance in the United States and reinforces the importance of using non-clarithromycin-based regimens. For treatment naïve patients the first line recommended therapy is Bismuth-quadruple therapy. Alternative treatments include Rifabutin-based or Vonoprazan-based regimens. For patients with treatment failure, obtaining cultures with susceptibilities are preferred to guide antibiotic therapy. All regimens have standard 14 days duration.

Susceptibilities are usually not available to guide selection of antibiotic regimen. However, prior exposure to macrolides or fluoroquinolones for any reason increases the risk for resistance and therefore clarithromycin and levofloxacin-based regimens should be avoided in patients with this history. If a patient has a penicillin allergy, consider penicillin desensitization as amoxicillin resistance is less common. During pregnancy, defer H. pylori treatment until after delivery and breastfeeding as most antibiotics used to treat H. pylori are contraindicated in pregnancy and lactation. Tetracyclines are contraindicated among children younger than 8 years of age; therefore, use Amoxicillin as part of the Bismuth-based regimen rather than tetracycline when treating children under age 8. As symptoms may persist despite treatment, always test to prove eradication four weeks after treatment, and a minimum of two weeks after stopping acid suppressors to avoid false negative results. Any test except serology can be used to test for eradication.

Thank you for listening to today's training. Please refer to the supplemental information document posted on the COE website to learn more about H. pylori.

Minnesota Department of Health
Center of Excellence in Newcomer Health
PO Box 64975
St. Paul, MN 55164-0975
651-201-5414
MNCOENewcomerHealth@state.mn.us
www.health.state.mn.us

7/31/25

To obtain this information in a different format, call: 651-201-5414.