



HELICOBACTER PYLORI INFECTIONS

NEWSLETTER

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- **Helicobacter pylori** is a spiral-shaped gram-negative rod. *H. pylori* is associated
- with antral gastritis, duodenal (peptic) ulcer disease, gastric ulcers and gastric
- carcinoma. Other *Helicobacter* species that infect the gastric mucosa exist but are rare.

EPIDEMIOLOGY

- *H. pylori* is one of the commonest bacterial pathogens in humans. The prevalence of infection varies, but is falling in most developed countries.
- Seropositivity increases with age and low socioeconomic status.

What are the infectious causes of genital ulcers?

Histology

- Giemsa staining on oesophagogastroduodenoscopy specimens is also useful in the histological diagnosis of *H. pylori* related gastritis.

Culture

- Culture remains a reference method, but its limited sensitivity and difficulty precludes its routine use.
- Patient factors which could affect culture results include high gastric activity, low bacterial load and alcohol.

Antigen Detection

- Direct fecal antigen detection of *H. pylori* has been approved by the US Food and Drug Administration for diagnosis and follow-up testing.
- *H. pylori* antigens from fresh human faecal specimens are detected by polyclonal antibodies. The sensitivity and specificity of faecal antigen detection is 89% and 94% - 95%, respectively, in multiple studies. Faecal antigen detection is a recommended noninvasive approach for confirmation of *H. pylori* infection in paediatric patients because serologic tests are less reliable (especially in children younger than 5 years) and are useful only for screening in this population.

Antibody Detection

Several assays have been developed to detect serum antibodies specific for *H. pylori*. The serum antibodies persist even if the *H. pylori* infection is eradicated and the role of antibody tests in diagnosing active infection or following therapy is therefore limited.

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Urea Breath Tests

- The breath tests are performed by asking the patient to swallow carbon labelled urea which is metabolized by *H. pylori* produced urease to produce labelled carbon dioxide. This is absorbed into the blood stream and then exhaled in the breath of infected individuals.
- An overnight fast is required.
- False negative breath test results can occur through suppression of urease activity if the breath tests are performed too soon after antibiotic or acid suppression therapy. Contact the local laboratory to confirm the availability of the urea breath test.

Management
Different
treatment
regimens have
been
summarized in
the table below

Length of treatment (Days)	Component Drugs			
Regimens based on clarithromycin				
14	Ranitidine bismuth citrate 400 mg twice daily	Clarithromycin 500 mg twice daily		
7 - 10	Ranitidine bismuth citrate 400 mg twice daily	Amoxicillin 1000 mg twice daily	Clarithromycin 500 mg twice daily	
7 - 10	Proton pump inhibitor twice daily	Amoxicillin 1000 mg twice daily	Clarithromycin 500 mg twice daily	
Regimens based on metronidazole (or tinidazole)				
14	bismuth compound 4 times/day	Tetracycline 500 mg 4 times/day	Metronidazole 400 - 500 mg 3 - 4 times/day	
7 - 10	Proton pump inhibitor twice daily	Amoxicillin 500 mg 2 - 3 times/day	Metronidazole 400 - 500 mg 2 - 3 times/day	
4 - 7	Proton pump inhibitor twice daily	Colloidal bismuth subcitrate 4 times/day	Tetracycline 500 mg 4 times/day	Metronidazole 400 - 500 mg 3 - 4 times/day
Regimens based on clarithromycin plus metonidazole (or tinidazole)				
7	Ranitidine bismuth citrate 400 mg twice daily	Clarithromycin 500 mg twice daily	Metronidazole 400 - 500 mg twice daily	
7	Proton pump inhibitor twice daily	Clarithromycin 500 mg twice daily	Metronidazole 400 - 500 mg twice daily	

References:

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