Helicobacter Pylori and Stomach Ulcers: What You Should Know

Helicobacter pylori (H. pylori) is the most common chronic bacterial infection in humans and is found in approximately 30-40% of the Danish population [1]. The bacterium is the main cause of stomach ulcers and a major risk factor for stomach cancer - and can be treated effectively if detected.

What is Helicobacter pylori?

H. pylori is a spiral-shaped bacterium that lives in the lining of the stomach, beneath the protective layer of mucus. It was discovered in 1982 by the Australian researchers Barry Marshall and Robin Warren, who later received the Nobel Prize for proving that stomach ulcers are an infectious disease - not a stress-related illness [2].

Transmission occurs via the oral-oral or faecal-oral route, typically during childhood and often within the family.

What conditions can H. pylori cause?

Most infected individuals have no symptoms. In a subset of people, the infection leads to:

- **Chronic gastritis** (inflammation of the stomach lining)
- **Stomach ulcers (peptic ulcers)** - H. pylori is responsible for 70-95% of all peptic ulcers [3]
- **Stomach cancer (adenocarcinoma)** - a 2-6 times increased relative risk with chronic infection [4]
- **MALT lymphoma** - a rare type of lymphoma that often goes into complete remission upon eradication of the bacterium [5]
- It is also linked to iron deficiency anaemia and chronic idiopathic thrombocytopenic purpura (ITP)

Symptoms of a stomach ulcer

- A burning or gnawing pain in the upper abdomen (epigastrium)
- Pain that gets worse or better after eating
- Bloating, nausea, and feeling full quickly
- Black, tar-like stools (melaena) in the case of a bleeding ulcer - requires urgent medical evaluation
- Weight loss and vomiting with complicated ulcers

With chronic symptoms, GORD (reflux) and functional dyspepsia are also considered.

How is H. pylori tested for?

Several methods are available - the choice depends on the clinical situation:

- **Urea breath test (UBT)** - the gold standard, non-invasive, with high sensitivity/specificity (>95%) [6]
- **Stool antigen test** - as accurate as the UBT, practical and inexpensive
- **Biopsy during a gastroscopy** - for a rapid urease test, histology or culture; mandatory for patients aged ≥50 or those with alarm symptoms [7]

- **Serology (blood test for antibodies)** - no longer recommended as a primary test as it cannot distinguish between an active and a past infection

PPIs (medication for stomach ulcers) and antibiotics must be stopped for 2 weeks and 4 weeks, respectively, before testing to avoid a false negative result [8].

Treatment: Eradication

The standard treatment in Denmark is **triple therapy** for 10-14 days, often consisting of:

- Pantoprazole 40 mg twice a day
- Amoxicillin 1 g twice a day
- Clarithromycin 500 mg twice a day

In cases of penicillin allergy or resistance, **bismuth-based quadruple therapy** (a PPI + bismuth + tetracycline + metronidazole) is used. This is the first-choice treatment in many European countries due to increasing clarithromycin resistance [9].

Eradication should **always** be confirmed with a UBT or stool antigen test at least 4 weeks after treatment has finished [10].

Who should be tested?

The Maastricht VI/Florence Consensus Report recommends testing and treatment for [10]:

- Active or past stomach ulcers
- MALT lymphoma
- First-degree relatives of patients with stomach cancer
- Unexplained iron deficiency anaemia or ITP
- Long-term NSAID or aspirin treatment
- Uninvestigated dyspepsia in patients under 50 with no alarm symptoms ("test-and-treat" strategy)

Does it reduce the risk of stomach cancer?

Yes. A large Japanese study and subsequent meta-analyses show that eradicating H. pylori reduces the risk of stomach cancer by approximately 40-50%, with the greatest benefit seen when treatment is given before atrophic gastritis develops [11,12].

References

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