RIVER CITY
GASTROENTEROLOGY

H.Pylori and Peptic Ulcers

Understanding the bacteria and how it causes ulcers

WHAT IS A PEPTIC ULCER?

A peptic ulcer is an open sore in the lining of the stomach or duodenum (the first part of the small intestine). Stomach ulcers are called gastric ulcers; duodenal ulcers occur in the duodenum. A person can have both types at once, and ulcers can recur throughout life.[1]

WHAT CAUSES PEPTIC ULCERS?

- **Helicobacter pylori (H. pylori)**: a bacterium that is the most common cause worldwide [1,3]
- **NSAIDs**: non-steroidal anti-inflammatory drugs such as aspirin and ibuprofen, another frequent cause [1]
- Rarely, certain tumours in the stomach, duodenum, or pancreas

Stress and spicy food do not cause ulcers but can worsen symptoms. Smoking and alcohol also slow healing and make ulcers worse.

WHAT IS H. PYLORI?

H. pylori is a type of bacteria that can live in the stomach and damage the mucous lining that protects the stomach and duodenum. When this lining is damaged, stomach acid irritates the tissue underneath, forming an ulcer. Infection is common worldwide and often begins in childhood. Most people infected with H. pylori never develop ulcers.[1,2]

H. pylori is thought to spread through contaminated food or water, or through contact with the stool, vomit, or saliva of an infected person.

SYMPTOMS

The most common symptom is a dull or burning pain in the abdomen (between the navel and breastbone). This pain:[1]

- Often occurs when the stomach is empty; between meals or at night
- May be briefly relieved by eating (especially for duodenal ulcers) or by antacids
- Lasts from minutes to hours, and tends to come and go over days or weeks

Other symptoms may include weight loss, poor appetite, bloating, belching, nausea, and vomiting.

SEEK URGENT MEDICAL ATTENTION IF YOU HAVE:

Sharp, sudden, or severe stomach pain Bloody or black, tarry stools Bloody vomit or vomit that looks like coffee grounds. These may indicate internal bleeding or a hole in the stomach wall, both are emergencies.

DIAGNOSIS

Non-invasive tests:[1,2]

- **Blood test**: detects H. pylori antibodies in the blood
- **Urea breath test**: you swallow a special substance, then breathe into a container. H. pylori break it down in a way that can be detected in your breath.
- **Stool antigen test**: a stool sample is tested for H. pylori proteins

Invasive tests (if concerning symptoms are present):

- **Upper GI endoscopy**: a thin, flexible camera is passed through the mouth into the stomach and duodenum for direct inspection and tissue biopsy. Can also be used to stop active bleeding.
- **Upper GI series (barium X-ray)**: you swallow barium liquid that coats the digestive tract and makes ulcers visible on X-ray.

TREATMENT

Standard treatment ("triple therapy" or HP7) for 10-14 days:[1,2,4]

- Clarithromycin (antibiotic) 500mg PO BD
- Amoxicillin or metronidazole (second antibiotic) Amoxicillin 1g PO BD
- High dose proton pump inhibitor (PPI) - to reduce stomach acid: Esomeprazole 20mg PO BD/Pantoprazole 40mg PO BD/Omeprazole20mg PO BD/Rabeprazole10mg PO BD

If triple therapy fails, second line therapy will be needed. These include a Levofloxacin/Moxifloxacin regimen or a Bismuth based regimen.

Levofloxacin based therapy for 10 days:

- Levofloxacin (antibiotic) 500mg PO Daily
- Amoxicillin (antibiotic) 1g PO BD
- High dose PPI (see above)

Followed by a repeat Urea Breath Test or H.Pylori Fecal Antigen test 4-6 weeks after completion of therapy.
***Moxifloxacin 400mg PO daily can be used instead of Levofloxacin in this regimen.

Bismuth-Based eradication therapy for 10 days:

- Bismuth subsalicylate (reduces stomach acid) 120mg PO BD
- Metronidazole (antibiotic) 400mg PO TDS
- Tetracycline (antibiotic) 500mg PO QID ‘
- High dose PPI (see above)

Side effects of antibiotic treatment can include nausea, diarrhoea, headache, and a metallic taste. Contact your doctor if side effects are troublesome.

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AFTER TREATMENT

Take all medications as prescribed, even after symptoms improve. At least 4 weeks after finishing treatment, your doctor will use a breath or stool test to confirm H. pylori has been cleared. **Blood tests are NOT reliable for this purpose.** [1,2]

PREVENTION

- Wash hands thoroughly with soap and water after using the toilet and before eating
- Eat properly washed and cooked food
- Drink clean, safe water

AUSTRALIAN RESOURCES AND SUPPORT

- **Gastroenterological Society of Australia (GESA):** www.gesa.org.au - Clinical guidelines
- **Therapeutic Guidelines (eTG):** www.tg.org.au - Australian prescribing guidelines for H. pylori eradication therapy (for health professionals)
- **NPS MedicineWise:** www.nps.org.au - Consumer information on medications used to treat H. pylori and peptic ulcers
- **Healthdirect Australia:** 1800 022 222 | www.healthdirect.gov.au - Free health advice and information 24 hours a day, 7 days a week

REFERENCES

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4. Therapeutic Guidelines. (2024). Gastrointestinal: peptic ulcer disease. Melbourne: Therapeutic Guidelines Ltd. https://www.tg.org.au