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CLINICAL ISSUE 1: Is 1 week of treatment sufficient to eradicate Helicobacter pylori?

One week of omeprazole, amoxicillin, and clarithromyin given twice daily is as effective at eradicating Helicobacter pylori (HP) as 2 weeks of treatment. It also costs less and is less burdensome for patients. . The HP eradication rate was similar for the 1- and 2-week groups (79.7% vs 81.7%); both OAC groups had a higher eradication rate than the omeprazole and amoxicillin alone group (44.6%). Adverse events and discontinuation of treatment were similar between the 1- and 2-week groups.

EVIDENCE: adult based study extrapolated to children.

Level of evidence : 1 B

Reference

Zagari RM, Bianchi-Porro G, Fiocca R, Gasbarrini G, Roda E, Bazzoli F. Comparison of 1 and 2 weeks of omeprazole, amoxicillin and clarithromycin treatment for Helicobacter pylori eradication: the HYPER study. Gut 2007;56:475-479.

CLINICAL ISSUE 2: What is the optimum duration of treatment for Helicobacter pylori eradication?

Seven days of treatment with triple therapy -- a proton pump inibitor (PPI) + clarithromycin (Biaxin) + amoxicillin ormetronidazole -- produces rates of eradication that are nearly as good as 10 days to 14 days of treatment, and are equally good if only high-quality research is considered. Researchers conducting this meta-analysis searched 3 databases to find research comparing different durations of triple therapy for H. pylori eradication. They also searched conference proceedings, but limited all of their choices to articles in English. Two researchers independently abstracted the data and assessed study quality via the commonly used Jadad criteria. Their search yielded 21 studies comparing 7, 10, and 14 days of treatment using regimens of a PPI with clarithromycin andamoxicillin or a PPI with clarithromycin and metronidazole. The difference in outcome between durations of therapy were present in studies usingamoxicillin but not in studies using metronidazole. The outcomes were not different based on duration of therapy when only the high-quality studies were analyzed.

EVIDENCE: adult based study extrapolated to children.

Level of evidence : 1 A-

Reference

Fuccio L, Minardi ME, Zagari RM, Grilli D, Magrini N, Bazzoli F. Meta-analysis: Duration of first-line proton-pump inhibitor-based triple therapy for Helicobacter pylori eradication. Ann Intern Med 2007;147(8):553-562.

CLINICAL ISSUE 3: Is a response to a proton pump inhibitor a useful diagnostic strategy to determine gastroesophageal reflux?

A 2-week trial to determine the response to a proton pump inhibitor (PPI) will not identify a significant proportion of patients who have true GERD. If a patient has typical reflux symptoms, begin treatment, since an early lack of response does not rule out true GERD. The sensitivity of the PPI test was 91% (95% CI, 78%-96%) and the specificity was 26% (10%-49%). In this high prevalence population, the positive predictive value was 75% (62%-85%) and the negative predictive value was 54% (22%-81%). Using these results, the likelihood ratio for the PPI test was 1.2, similar to the likelihood ratio for the presence of typical symptoms.

EVIDENCE: adult based study extrapolated to children.

Level of evidence: 1 C

Reference

Aanen MC, Weusten BL, Numans ME, De Wit NJ, Baron A, Smout AJ. Diagnostic value of the proton pump inhibitor test for gastro-oesophageal reflux disease in primary care. Aliment Pharmacol Ther 2006;24:1377-1384.

CLINICAL ISSUE 4: Is there any difference between proton pump inhibitors for the treatment of gastroesophageal reflux disease?

There is no significant difference between equivalent doses of proton pump inhibitors, including equivalent doses of esomeprazole and omeprazole The decision to choose one over another should be based first on cost and second on individual patient response. This meta-analysis identified all double-blinded randomized controlled trials comparing one proton pump inhibitor with another for the treatment of gastroesphageal reflux disease (GERD), using endoscopic healing as the reference standard for treatment success. A total of 19 studies with more than 9000 patients were identified, most lasting 4 weeks. No difference in effectiveness was seen.

EVIDENCE: adult based study extrapolated to children.

Level of evidence: 1A

Reference:

Klok RM, Postma MJ, Van Hout BA, Brouwers JR. Meta-analysis: comparing the efficacy of proton pump inhibitors in short-term use. Aliment Pharmacol Ther 2003;17:1237-45.