

Review: *Helicobacter pylori* eradication therapy is mildly effective for reducing symptoms in nonulcer dyspepsia

Moayyedi P, Deeks J, Talley NJ, Delaney B, Forman D. An update of the Cochrane systematic review of *Helicobacter pylori* eradication therapy in nonulcer dyspepsia: resolving the discrepancy between systematic reviews. *Am J Gastroenterol.* 2003;98:2621-6.

QUESTION

In patients with nonulcer dyspepsia and a {positive test result for *Helicobacter pylori*}*, is *H. pylori* eradication therapy more effective than placebo for reducing dyspepsia symptoms?

METHODS

Data sources: An existing systematic review was updated. Studies were identified by searching 6 electronic databases {MEDLINE (1966 to 2002), EMBASE/Excerpta Medica (1988 to 2002), CINAHL (1982 to 2002), the Cochrane Controlled Trials Register (2002), and SIGLE}.*

Study selection and assessment: Studies of any publication status in any language were selected if they were randomized controlled trials (RCTs) comparing *H. pylori* eradication therapy ({dual therapy with a proton-pump inhibitor [PPI] in combination with either clarithromycin or amoxicillin; triple therapy with either a PPI or histamine-2 receptor antagonist in combination with either amoxicillin and nitroimidazole or amoxicillin and clarithromycin, or clarithromycin and nitroimidazole; bismuth-based triple therapy with metronidazole and either amoxicillin or tetracycline; or quadru-

ple therapy with a PPI, bismuth, metronidazole tetracycline, or amoxicillin}*) with placebo antibiotics. Studies were assessed for methodological quality according to the {generation of the allocation procedure, concealment of the treatment allocation, implementation of masking, completeness of follow-up, and intention-to-treat analysis}.*

Outcomes: {Dyspeptic symptom assessments (individual or global dyspepsia symptom scores), quality-of-life scores, and adverse effects}.*

MAIN RESULTS

12 RCTs met the selection criteria ($n = 2903$). At 3 to 12 months, the mean *H. pylori* eradication rate was 37% (range 21% to 62%) and the mean placebo response rate was 29% (range 7% to 51%). Patients who received *H. pylori* eradication

therapy had a greater reduction in nonulcer dyspepsia symptoms than did those who received placebo (Table).

CONCLUSION

In patients with nonulcer dyspepsia and a {positive test result for *Helicobacter pylori*}*, *H. pylori* eradication therapy is mildly effective for reducing dyspepsia symptoms.

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*Moayyedi P, Soo S, Deeks J, et al. Cochrane Database Syst Rev. 2003(2);CD002096.

Helicobacter pylori eradication therapy vs placebo for nonulcer dyspepsia at 3 to 12 months†

Outcome	Number of trials	Weighted event rates		RRR (95% CI)	NNT (CI)
		<i>H. pylori</i> eradication therapy	Placebo		
Dyspeptic symptoms the same or worse‡	12	65%	71%	9% (5 to 14)	17 (10 to 34)

†Abbreviations defined in Glossary; {weighted event rates, RRR, NNT, and CI calculated from data in article using a fixed-effects model}.*

‡Symptoms dichotomized into minimal/resolved and same/worse using Gastrointestinal Symptoms Rating Scales and Glasgow Dyspepsia Severity Scores.

COMMENTARY

Dyspepsia is defined as chronic or recurrent pain or discomfort centered in the upper abdomen. According to Rome II criteria, nonulcer or functional dyspepsia (NUD) is defined as symptoms lasting > 12 weeks in a 12-month period with persistent or recurrent dyspepsia. No evidence of structural disease should exist (i.e., negative upper endoscopy or biochemical abnormalities). Although up to 50% of patients diagnosed with NUD may be infected with *H. pylori*, the existence of any causal relationship is controversial.

The results of the meta-analysis by Moayyedi and colleagues, which showed a small but significant benefit of *H. pylori* eradication in NUD patients, differ from those of Laine and colleagues (1) mainly because the current review included studies published up to May 2000 as opposed to December 1999. Although controversial, the widely accepted definition of dyspepsia excludes predominant reflux symptoms. In contrast to the previous meta-analysis, Moayyedi and colleagues included 2 positive trials of patients having reflux symptoms, including 1 large trial of almost 700 patients with NUD in which eradication therapy showed a benefit (2). Given the lack of a uniform disease definition, inconsistent outcome measures, short trial duration, and several possible treatment regimens, it is not surprising that different meta-analyses have included trials with different outcomes. The contradictory results of these analyses reflect the heterogeneity of the NUD

symptom complex and a lack of consensus on how best to measure outcome in NUD trials.

The treatment options for dyspepsia have included acid suppression therapy, prokinetics, antidepressants, and *H. pylori* eradication. In patients with NUD, *H. pylori* eradication and empiric antisecretory therapy result in a small, comparable improvement in symptoms. A small subgroup of patients with NUD, who are also *H. pylori* positive, will respond to *H. pylori* eradication. Unfortunately, it is not possible at present to determine this subgroup before treatment. Even without this information, the number needed to treat for dyspepsia is similar to that for other commonly used treatments, but the response to treatment is modest and long-term symptom relief is low. Thus, the search for better therapies is desirable.

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References

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