Helicobacter pylori eradication reduced the risk for ulcers in dyspeptic patients who were about to begin NSAID treatment

Chan FK, To KF, Wu JC, et al. **Eradication of *Helicobacter pylori* and risk of peptic ulcers in patients starting long-term treatment with non-steroidal anti-inflammatory drugs: a randomised trial.** Lancet. 2002 Jan 5;359:9-13.

QUESTION

In patients who have *Helicobacter pylori* infection and dyspepsia or a history of ulcer and who are about to begin nonsteroidal anti-inflammatory drug (NSAID) treatment, does the eradication of *H. pylori* infection reduce the risk for ulcers?

DESIGN

Randomized {allocation concealed*}†, blinded (investigators, research nurse, and patients),* placebo-controlled trial with 6-month follow-up.

SETTING

A family clinic and outpatient clinic in Hong Kong.

PATIENTS

102 patients who required long-term regular NSAID treatment, had a positive result for *H. pylori* on a urea breath test, and had moderate dyspepsia or a history of endoscopically confirmed peptic ulcers. Exclusion criteria were exposure to NSAIDs (except for aspirin, ≤ 325 mg/d) for > 1 month within the previous 8 weeks; concomitant treatment with steroids, anticoagulants, or antiulcer drugs; substantial renal impairment; previous treatment for *H. pylori*; or history of gastric surgery or serious ulcer complications. Follow-up was 98% (mean age 63 y, 67% women).

INTERVENTION

Patients were allocated to triple therapy (omeprazole, 20 mg; amoxicillin, 1 g; and clarithromycin, 500 mg) (n = 51) or control therapy (omeprazole, 20 mg, and placebo antibiotics) (n = 51) given twice daily for 1 week.

MAIN OUTCOME MEASURES

Endoscopically confirmed gastric or duodenal ulcers. A secondary outcome measure was complicated (symptomatic or bleeding) ulcers.

MAIN RESULTS

Analysis was by intention to treat. Fewer patients in the eradication group than in the control group had gastric or duodenal ulcers or complicated ulcers (Table).

CONCLUSION

In patients who had *Helicobacter pylori* infection and dyspepsia or a history of ulcer and who began long-term nonsteroidal anti-inflammatory drug treatment, the eradication of *H. pylori* infection reduced the risk for ulcers.

Source of funding: No external funding.

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*See Glossary.

†Information provided by author.

Eradication of *Helicobacter pylori* infection vs no eradication for patients who have dyspepsia or history of ulcer and receive NSAIDs‡

Outcomes at 6 mo	Eradication	No eradication	RRR (95% CI)	NNT (CI)
Gastric or duodenal ulcer	9.8%	31%	68% (23 to 87)	5 (3 to 19)
Complicated ulcer	3.9%	24%	84% (41 to 96)	5 (3 to 14)

‡NSAIDs = nonsteroidal anti-inflammatory drugs. Other abbreviations defined in Glossary; RRR, NNT, and CI calculated from data in article.

COMMENTARY

The Hong Kong Prince of Wales Hospital Gastrointestinal Group is to be congratulated on having done several of the pivotal studies investigating whether synergy exists between *H. pylori* infection and NSAIDs (including aspirin). The study by Chan and colleagues and a recent meta-analysis (1) suggest that synergy does exist. The current study shows that in NSAID-naive patients who either had a history of proven ulcers or moderate dyspepsia, curing *H. pylori* at the start of NSAID treatment decreased the risk for ulcers at 6 months. The difference in ulcer frequency was clinically important. Although anti–*H. pylori* treatment offered benefit, I still would recommend NSAID prophylaxis with a proton-pump inhibitor (PPI) in patients with an ulcer history or substantial dyspepsia, given that the prevalence of ulcers was 12% in this group. Most ulcers in such patients starting conventional NSAIDs can be prevented by concomitant therapy with a PPI. Whether cyclooxygenase-2 inhibitors would reduce (i.e., unmask, not necessarily cause) ulcers in patients with *H. pylori* infection and an ulcer history is not known.

The situation is different for patients taking aspirin because Chan and colleagues previously showed that cure of *H. pylori* prevented recurrent aspirin-related ulcers but not other NSAID ulcers (2). The risk for developing ulcers in NSAID users is higher in the first few months of therapy. Gastric adaptation is said to be responsible for this phenomenon, but *H. pylori* infection now seems a likely culprit for pushing NSAID users over the ulcer threshold.

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References

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2. **Chan FK, Chung SC, Suen BY, et al.** Preventing recurrent upper gastrointestinal bleeding in patients with *Helicobacter pylori* infection who are taking low-dose aspirin or naproxen. N Engl J Med. 2001;344:967-73.

