

## SECONDARY PREVENTION OF UPPER GASTROINTESTINAL BLEEDING IN LOW DOSE ASPIRIN USERS INFECTED WITH *HELICOBACTER PYLORI*

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### ABSTRACT

**Background:** Aspirin even at low dose (100 mg) can increase the risk of upper gastrointestinal bleeding. It is usual to use low dose aspirin for cardiovascular prophylaxis. We hypothesized that *Helicobacter pylori* eradication is as effective as omeprazole maintenance therapy for secondary prevention of bleeding in those who take low dose aspirin and are positive for *Helicobacter pylori*.

**Methods:** To compare the effect of *Helicobacter pylori* eradication and omeprazole maintenance therapy in upper gastrointestinal bleeding sixty-two patients taking low dose aspirin for cardiovascular prophylaxis were prospectively followed for 6 months. Upper gastrointestinal bleeding was confirmed by endoscopy. Ulcers healed with 2 months treatment of 20 mg omeprazole daily. Aspirin was withheld during this 2 months. Low dose aspirin was given again after that. Thirty-one patients underwent *Helicobacter pylori* eradication with amoxicillin 1 g bid, metronidazole 500 mg bid, and bismuth subcitrate 240 mg bid for 2 weeks and did not receive omeprazole any more, and in thirty-one patients only omeprazole was given for 6 months.

**Results:** Gastrointestinal bleeding occurred in 3 patients. Two (6%) were in the eradication and one (3%) was in the omeprazole group. The difference was not statistically significant.

**Conclusion:** *Helicobacter pylori* eradication is equivalent to omeprazole treatment in secondary prevention of upper gastrointestinal bleeding in patients who take low dose aspirin and are infected with *Helicobacter pylori*.

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**Keywords:** Low dose aspirin, *Helicobacter pylori*, upper gastrointestinal bleeding.

### INTRODUCTION

Aspirin at low dose is increasingly used for cerebrovascular prophylaxis. Risk of bleeding from peptic ulcer doubles even with daily use of 100 mg aspirin. Few strategies have been suggested to prevent bleeding from ulcers in those who take aspirin.

Concurrent use of proton-pump inhibitors has been

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## Prevention of GI Bleeding in *H. pylori* Positive Aspirin Users

shown to reduce the risk of bleeding in low dose aspirin users.<sup>1</sup>

Another strategy to prevent bleeding is *Helicobacter pylori* eradication.<sup>2,3</sup> Studies based on this approach have shown conflicting data. Data obtained has shown<sup>4</sup> increase, no effect, or even decrease in risk of bleeding in aspirin users.

The aim of the present study was to compare the effect of maintenance omeprazole to *H. pylori* eradication in preventing recurrence of gastrointestinal bleeding in patients who take low dose aspirin and are infected with *H. pylori*.

### METHODS

During 6 years (1998-2003), sixty-two patients with upper gastrointestinal bleeding who took low dose aspirin (100 mg) were prospectively followed for 6 months. Inclusion criteria were: 1. Ulcer found by endoscopy within 24 hours after bleeding, 2. Rapid urease test and histopathologic study confirmed *H. pylori* infection, 3. Low dose aspirin (100 mg) use at least for the previous four months. Patients were excluded from the study if they had: 1. Variceal bleeding, 2. Coagulation disorders, 3. Corticosteroid use.

For patients who had the inclusion criteria 2 months of treatment with omeprazole was started, and aspirin was withheld during this period. After healing was achieved, eligible patients were randomly assigned to receive:

1. Two weeks treatment with omeprazole (20 mg bid), Amoxicillin (500 mg bid), Metronidazole (500 mg bid), and Bismuth (240 mg bid).

2. Six months of therapy with 20 mg omeprazole daily.

Each group consisted of 31 patients who were positive for *H. pylori*. All patients were followed 2 times and checked for symptoms of recurrent bleeding and hemoglobin levels every 3 months.

### RESULTS

We enrolled 62 patients who presented with upper gastrointestinal bleeding and were positive for *H. pylori*. Table I shows the outcome of the two groups of patients. Two patients in the *H. pylori* eradication group had hematemesis and melena during follow up and therefore underwent endoscopy, while one in the omeprazole

Table I. Outcome of the two groups of patients.

	Number of patients	Recurrence of GI bleeding
<i>H. pylori</i> group	31	2 (6%)
Omeprazole group	31	1 (3%)

group had upper gastrointestinal bleeding. The estimated probability of recurrent bleeding during 6 months follow up was 6 percent for the eradication group and 3 percent for the omeprazole group.

The absolute difference in the probability of recurrent bleeding during six months of therapy was 3%.

### DISCUSSION

Our hypothesis in this study was that eradication of *H. pylori* and omeprazole maintenance therapy are equivalent in secondary prevention of upper gastrointestinal bleeding in low dose aspirin users. Eligible patients were high risk because of recent bleeding.<sup>1,4</sup> Results of this study show that *H. pylori* eradication is as effective as omeprazole maintenance treatment in preventing upper gastrointestinal bleeding.

Differentiation of *H. pylori* related ulcer from those due to aspirin is not possible. What we found in this study suggests that we can prevent recurrent bleeding in low dose aspirin users infected with *H. pylori* whether the cause of bleeding is duodenal or gastric ulcer. Thus, *H. pylori* and aspirin may potentiate their deleterious effect on risk of bleeding from ulcers. This means eradication of *H. pylori* would lower the risk of recurrent bleeding.

In summary, in low dose aspirin users infected with *H. pylori*, eradication of *H. pylori* has the same effect as maintenance therapy with omeprazole in secondary prevention of upper gastrointestinal bleeding. Because low dose aspirin is increasingly used for cardiovascular prophylaxis, we recommend *H. pylori* testing in patients who are at risk of bleeding. *H. pylori* eradication should be done in this group of patients.

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