Important Copyright Message

The Medical Letter® publications are protected by US and international copyright laws. Forwarding, copying or any distribution of this material is prohibited.

Sharing a password with a non-subscriber or otherwise making the contents of this site available to third parties is strictly prohibited.

By accessing and reading the attached content I agree to comply with US and international copyright laws and these terms and conditions of The Medical Letter, Inc.

For further information click: Subscriptions, Site Licenses, Reprints
or call customer service at: 800-211-2769
Primary Prevention of Ulcers in Patients Taking Aspirin or NSAIDs

Aspirin and other nonsteroidal anti-inflammatory drugs (NSAIDs) are common causes of peptic ulcer disease. Patients infected with Helicobacter pylori who take aspirin or another NSAID have an especially high risk.1 Drugs that have been tried for prevention of ulcers in patients taking NSAIDs including H2-receptor antagonists, proton pump inhibitors (PPIs), aluminum- or magnesium-containing antacids, the prostaglandin misoprostol (Cytotec, and others), and antibiotics to eradicate H. pylori.2

H2-RECEPTOR ANTAGONISTS — NSAIDs are more likely to cause gastric than duodenal ulcers. High doses of an H2-receptor antagonist have been shown to prevent NSAID-related gastric ulcers. In a 6-month study in patients on long-term NSAID therapy, famotidine 40 mg twice daily was significantly superior to placebo in preventing gastric ulcers found on endoscopy, which occurred in 20% of placebo-treated patients and 8% of those on famotidine.3 In a 12-

Table 1. Some Drugs for Prevention of Peptic Ulcers

<table>
<thead>
<tr>
<th>Drug</th>
<th>Formulation</th>
<th>Dosage</th>
<th>Cost¹</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proton Pump Inhibitors</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Esomeprazole²-⁴ — Nexium (AstraZeneca)</td>
<td>20, 40 mg caps⁵</td>
<td>20-40 mg once daily</td>
<td>$195.06</td>
</tr>
<tr>
<td>Lansoprazole²,⁶-⁸ — generic</td>
<td>15, 30 mg tabs, caps, ODT</td>
<td>15-30 mg once daily⁹</td>
<td>$176.93</td>
</tr>
<tr>
<td>Prevacid (Takeda)</td>
<td></td>
<td></td>
<td>$179.94</td>
</tr>
<tr>
<td>Omeprazole⁴,⁶-⁸ — generic</td>
<td>10, 20, 40 mg caps</td>
<td>20-40 mg once daily⁹</td>
<td>$119.40</td>
</tr>
<tr>
<td>Prilosec (AstraZeneca)</td>
<td></td>
<td></td>
<td>$169.75</td>
</tr>
<tr>
<td>Zegerid</td>
<td>20, 40 mg caps⁵,¹⁰</td>
<td>20-40 mg once daily</td>
<td>$167.74</td>
</tr>
<tr>
<td>Pantoprazole¹¹ — generic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protonix (Wyeth)</td>
<td>20, 40 mg tabs</td>
<td>20-40 mg once daily</td>
<td>$122.70</td>
</tr>
<tr>
<td>Rabeprazole⁶-⁶ — Aciphex (Eisai)</td>
<td>20 mg tabs</td>
<td>20 mg once daily</td>
<td>$188.39</td>
</tr>
<tr>
<td><strong>H2-Receptor Antagonists</strong>⁶-⁸,¹²</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cimetidine — generic</td>
<td>200, 300, 400, 800 mg tabs</td>
<td>200-400 mg bid</td>
<td>$52.20</td>
</tr>
<tr>
<td>Tagamet (GlaxoSmithKline)</td>
<td></td>
<td></td>
<td>$104.83</td>
</tr>
<tr>
<td>Famotidine — generic</td>
<td>20, 40 mg tabs</td>
<td>20-40 mg bid</td>
<td>$4.00¹³</td>
</tr>
<tr>
<td>Pepcid (Merck)</td>
<td></td>
<td></td>
<td>$116.80</td>
</tr>
<tr>
<td>Nizatidine — generic</td>
<td>150, 300 mg caps</td>
<td>150 mg once daily-bid</td>
<td>$71.50</td>
</tr>
<tr>
<td>Axid (Lilly)</td>
<td>150, 300 mg caps⁵</td>
<td></td>
<td>$96.38</td>
</tr>
<tr>
<td>Ranitidine — generic</td>
<td>150, 300 mg tabs, caps⁵</td>
<td>150 mg once daily-bid</td>
<td>$4.00¹³</td>
</tr>
<tr>
<td>Zantac (GlaxoSmithKline)</td>
<td>150, 300 mg tabs⁵</td>
<td></td>
<td>$122.83</td>
</tr>
<tr>
<td><strong>Other Drugs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Misoprostol¹⁴ — generic Cytotec (Searle)</td>
<td>100, 200 mcg tabs</td>
<td>200 mcg bid-tid¹⁴</td>
<td>$71.95</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$113.82</td>
</tr>
</tbody>
</table>

ODT = orally disintegrating tabs.

1. Cost for 30 days’ treatment at the lowest dosage, according to AWP listings of prescription formulations in Redbook 2009 and Redbook Update February 2010.
2. FDA-approved for treatment of GERD.
3. FDA-approved for risk reduction of NSAID-associated gastric ulcers.
4. FDA-approved for H. pylori eradication to reduce risk of duodenal ulcer recurrence.
5. Also available as an oral suspension, syrup or solution.
6. FDA-approved for treatment of duodenal ulcers.
7. FDA-approved for treatment of gastric (benign) ulcers.
8. Also available over the counter, often at a much lower cost.
9. Lower dose is for GERD and duodenal ulcer; higher dose is for gastric ulcer.
10. Both strengths contain sodium bicarbonate 1.1 g; therefore, two 20-mg caps are not equivalent to a 40-mg cap.
11. FDA-approved for treatment of erosive esophagitis associated with GERD.
12. Twice the dose once daily in the evening is effective.
13. Price at some chain pharmacies.
14. FDA-approved only for prevention of NSAID-associated gastric ulcers.
week randomized, double-blind trial comparing famotidine 20 mg twice daily to placebo in 404 adult patients taking aspirin 75-325 mg daily with or without clopidogrel (Plavix) or dipyridamole (Persantine, and others), the prevalence of gastric ulcers found on endoscopy was 15% with placebo and 3.4% with famotidine, and that of duodenal ulcers was 8.5% and 0.5%, respectively. However, continued use of these agents leads to pharmacologic tolerance and loss of effectiveness over time.2

PROTON PUMP INHIBITORS (PPIs) — A randomized, double-blind trial in 169 patients taking NSAIDs compared omeprazole 20 mg once daily with placebo. After 6 months, the incidence of ulcers seen at endoscopy was 3.6% in the patients on omeprazole and 16.5% in those on placebo.5 A more recent 2-year study (VENUS) found that esomeprazole 20 or 40 mg once daily for 6 months was superior to placebo in preventing ulcers in NSAID users who had additional risk factors such as advanced age or a past history of ulcer; among 844 such patients, endoscopic ulcers developed in 20% with placebo, 5% with esomeprazole 20 mg, and 4% with esomeprazole 40 mg.6 Another trial compared esomeprazole 20 or 40 mg once daily with placebo in patients who were taking aspirin 75-325 mg daily and had one or more additional risk factors for ulceration, such as age over 65 or a past history of peptic ulcer disease; after 26 weeks, endoscopic ulcers were present in 7.4% of placebo-treated patients and in 1.1% and 1.5% of those on esomeprazole 20 or 40 mg, respectively.7 PPIs have been shown to be more effective than H2-receptor antagonists in prevention of NSAID-related ulcers and at least as effective as misoprostol.8,9

MISOPROSTOL — Misoprostol (Cytotec, and others), a synthetic prostaglandin E1 analog, can prevent gastric and duodenal ulcers in patients on chronic NSAID therapy. It may be as effective as a PPI, but requires multiple daily dosing and is not as well tolerated. Abdominal pain and dose-related diarrhea are the most common adverse effects of misoprostol. Nausea can also occur. Misoprostol is an abortifacient and is contraindicated during pregnancy.10

H. PYLORI ERADICATION — A meta-analysis of five prospective trials of H. pylori eradication showed a statistically significant reduction in the risk of endoscopic ulcers in patients who had not yet begun NSAID treatment, but not among those already taking an NSAID.11 The American College of Gastroenterology now recommends considering routine testing for H. pylori before starting long-term therapy with an NSAID.1

ANTACIDS — There is no convincing evidence that long-term use of aluminum- or magnesium-containing antacids can prevent development of peptic ulcers in patients taking aspirin or NSAIDs. Other problems with antacid use are the requirements for multiple daily doses and adverse effects on bowel habits: constipation with aluminum-containing products and diarrhea with magnesium.

CONCLUSION — Taking a proton pump inhibitor can prevent aspirin- or NSAID-associated ulcers detected on endoscopy. To what extent it prevents clinical symptoms or bleeding remains to be determined. □

The Medical Letter
On Drugs and Therapeutics

EDITOR IN CHIEF: Mark Abramowicz, M.D.
EXECUTIVE EDITOR: Gianna Zuccotti, M.D., M.P.H., F.A.C.P., Harvard Medical School
EDITOR: Jean-Marie Pfommm, Pharm.D.
ASSISTANT EDITORS, DRUG INFORMATION: Susan M. Darin, Pharm.D., Blaine M. Houst, Pharm.D., Corinne E. Zanone, Pharm.D.
CONSULTING EDITOR: Brinda M. Shah, Pharm.D.

ADVISORY BOARD:
Jules Hirsch, M.D., Rockefeller University
Gerald L. Mandell, M.D., University of Virginia School of Medicine
Dan M. Roden, M.D., Vanderbilt University School of Medicine

CONTRIBUTING EDITORS:
Carl W. Baxil, M.D., Ph.D., Columbia University College of Physicians and Surgeons
Vanessa K. Dalton, M.D., M.P.H., University of Michigan Medical School
Eric J. Epstein, M.D., Albert Einstein College of Medicine
David N. Juurlink, BPhm, M.D., Ph.D., Sunnybrook Health Sciences Centre
Richard B. Kim, M.D., University of Western Ontario
Hans Meineitz, M.D., University Hospital, Copenhagen
Sandip K. Mukherjee, M.D., F.A.C.C., Yale School of Medicine
F. Estelle R. Simons, M.D., University of Manitoba
Jordan W. Smoller, M.D., Sc.D., Harvard Medical School
Neal H. Steinleigal, M.D., New York University School of Medicine

SENIOR ASSOCIATE EDITORS: Donna Goodstein, Amy Fauchard
ASSOCIATE EDITOR: Cynthia Macapagal Covey

MANAGING EDITOR: Susie Wong
ASSISTANT MANAGING EDITOR: Liz Donohue

PRODUCTION COORDINATOR: Cheryl Brown

EXECUTIVE DIRECTOR OF SALES: Gene Carbona
FULFILLMENT & SYSTEMS MANAGER: Cristina Romatowski
DIRECTOR OF MARKETING COMMUNICATIONS: Joanne F. Valentino
VICE PRESIDENT AND PUBLISHER: Yosef Wissner-Levy

Founded in 1959 by Arthur Kallet and Harold Aaron, M.D.

Copyright and Disclaimer: The Medical Letter is an independent nonprofit organization that provides health care professionals with unbiased drug prescribing recommendations. The editorial process used for its publications relies on a review of published and unpublished literature, with an emphasis on controlled clinical trials, and on the opinions of its consultants. The Medical Letter is supported solely by subscription fees and accepts no advertising, grants or donations.

No part of the material may be reproduced or transmitted by any process in whole or in part without prior permission in writing. The editors do not warrant that all the material in this publication is accurate and complete in every respect. The editors shall not be held responsible for any damage resulting from any error, inaccuracy or omission.

Subscription Services

Mailing Address: The Medical Letter, Inc. 1000 Main Street, New Rochelle, NY 10801-7537
Customer Service: Call: 800-211-2769 or 914-235-0500 Fax: 914-632-1733
Web Site: www.medicalletter.org E-mail: custserv@medicalletter.org

Permissions: To reproduce any portion of this issue, please e-mail your request to permissions@medicalletter.org

Copyright 2010. ISSN 1523-2859