# The Medical Letter®

On Drugs and Therapeutics

Published by The Medical Letter, Inc. • 145 Huguenot Street, New Rochelle, NY 10801 • A Nonprofit Publication

IN THIS ISSUE (starts on next page)	
In Brief: PPIs and Hypomagnesemia	p 25

# 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

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

For further information call: 800-211-2769

# The Medical Letter®

On Drugs and Therapeutics

Published by The Medical Letter, Inc. • 145 Huguenot Street, New Rochelle, NY 10801 • A Nonprofit Publication

Volume 53 (Issue 1361) April 4, 2011

www.medicalletter.org

### **IN BRIEF**

# PPIs and Hypomagnesemia

The FDA has warned that prolonged use of a proton pump inhibitor (PPI) can lead to hypomagnesemia.1 Normal serum concentrations of magnesium are 0.7-1.0 mmol/L. About 30 cases of severe hypomagnesemia (<0.5 mmol/L) have been reported in long-term PPI users; when the PPI was stopped, serum magnesium levels returned to normal in less than 2 weeks.2-5 The exact mechanism is unknown, but in some patients PPIs apparently interfere with active transport of magnesium across the intestinal wall or cause excessive loss into the intestinal Hypomagnesemia is often accompanied by hypocalcemia and hypokalemia. Symptoms can include muscle weakness, tremor, muscle cramps, carpopedal spasm, tetany, seizures, and cardiac conduction disturbances and arrhythmias. Most patients who take PPIs for a long time do not develop hypomagnesemia, and those with hypomagnesemia often do not have symptoms. Patients also taking other drugs that cause hypomagnesemia, such as diuretics and digoxin, may be at increased risk.

- 1. FDA Drug Safety Communication: Low magnesium levels can be associated with long-term use of proton pump inhibitor drugs (PPIs). Available at www.fda.gov/Drugs/ DrugSafety/ucm245011.htm. Accessed March 28, 2011.
- 2. M Epstein et al. Proton-pump inhibitors and hypomagnesemic hypoparathyroidism. N Engl J Med 2006; 355:1834.
- 3. T Cundy and A Dissanayake. Severe hypomagnesaemia in long-term users of proton-pump inhibitors. Clin Endocrinol (Oxf) 2008; 69:338.
- 4. MA Broeren et al. Hypomagnesemia induced by several proton-pump inhibitors. Ann Intern Med 2009; 151:755.
- 5. J Mackay and PT Bladon. Hypomagnesaemia due to protonpump inhibitor therapy: a clinical case series. QJM 2010; 103:387
- 6. T Cundy and J Mackay. Proton pump inhibitors and severe hypomagnesaemia. Curr Opin Gastroenterol 2011; 27:180.

## 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

EDITOR: Jean-Marie Pflomm, Pharm.D.

ASSISTANT EDITORS, DRUG INFORMATION: Susan M. Daron, Pharm.D., Blaine M. Houst, Pharm.D., Corinne E. Zanone, Pharm.D.

CONSULTING EDITOR: Brinda M. Shah, Pharm D.

CONTRIBUTING EDITORS:

Carl W. Bazil, 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 Jules Hirsch, M.D., Rockefeller University

David N. Juurlink, BPhm. M.D., Ph.D., Sunnybrook Health Sciences Centre

Richard B. Kim, M.D., University of Western Ontario

Hans Meinertz, M.D., University Hospital, Copenhagen

Sandip K. Mukherjee, M.D., F.A.C.C., Yale School of Medicine

Dan M. Roden, M.D., Vanderbilt University School of Medicine

F. Estelle R. Simons, M.D., University of Manitoba

Jordan W. Smoller, M.D., Sc.D., Harvard Medical School

Neal H. Steigbigel, M.D., New York University School of Medicine

Arthur M. F. Yee, M.D., Ph.D., F.A.C.R., Weil Medical College of Cornell University

SENIOR ASSOCIATE EDITORS: Donna Goodstein, Amy Faucard

ASSOCIATE EDITOR: Cynthia Macapagal Covey

EDITORIAL FELLOW: Esperance A.K. Schaefer, M.D., M.P.H.,

Massachusetts General Hospital, Harvard Medical School

MANAGING EDITOR: Susie Wong

ASSISTANT MANAGING EDITOR: Liz Donohue PRODUCTION COORDINATOR: Cheryl Brown

EXECUTIVE DIRECTOR OF SALES: Gene Carbona FULFILLMENT & SYSTEMS MANAGER: Cristine 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 dona-

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.

145 Huguenot St. Ste. 312 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

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

E-mail site license inquiries to: info@medicalletter.org or call

1 year - \$98; 2 years - \$189;

students, interns, residents and

fellows in the US and Canada.

3 years - \$279. \$49.00 per year for

Subscriptions (US):

800-211-2769 x315. Special fees for bulk subscriptions. Special classroom rates are available. Back issues are \$12 each. Major credit cards accepted.

Copyright 2011. ISSN 1523-2859