

Studies document risks associated with common acid-suppressing medications

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Proton pump inhibitors, medications that suppress acid in the stomach, appear to be associated with fractures in postmenopausal women and bacterial infections in many patients, and higher doses do not appear any more beneficial for treating bleeding ulcers, according to a series of reports in the May 10 issue of *Archives of Internal Medicine*, one of the JAMA/Archives journals. An additional report finds that introducing guidelines for proton pump inhibitor use into clinical settings may reduce rates of inappropriate prescriptions.

"A staggering 113.4 million prescriptions for proton pump inhibitors are filled each year, making this class of drugs, at \$13.9 billion in sales, the third highest seller in the United States," writes Mitchell H. Katz, M.D., of the San Francisco Department of Public Health, in an editorial accompanying the reports. These medications effectively treat inflammation of the esophagus, [gastroesophageal reflux disease](#) (GERD), ulcers and several other conditions, but evidence suggests that between 53 percent and 69 percent of [proton pump inhibitor](#) prescriptions are for inappropriate indications, he notes.

"All drugs have adverse effects, but that alone is not a reason to avoid them. Rather, prior to prescribing medications, good clinicians must weigh the benefits vs. the risks and the seriousness of the disease vs. the seriousness of the adverse effects," Dr. Katz writes. Proton pump inhibitors are often used to treat dyspepsia, or indigestion, in the absence of ulcers, inflammation or severe GERD. "That proton pump inhibitors relieve dyspepsia is without question, but at what cost (and I do not mean

financial)? Five studies in this issue of the Archives help to answer this question."

The studies find that:

- Use of proton pump inhibitors appears modestly associated with the risk of total fractures in [postmenopausal women](#). Shelly L. Gray, Pharm.D., M.S., of University of Washington, Seattle, and colleagues studied 161,806 women between ages 50 and 79 in the Women's Health Initiative Study. Over eight years of follow-up, they found no decrease in bone mineral density or increase in risk of hip fractures, but an increased risk of spine and forearm or wrist fractures in addition to total fractures.
- Daily proton pump inhibitor use is associated with an estimated 74 percent increase in infection with *Clostridium difficile*, report Michael D. Howell, M.D., M.P.H., of Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, and colleagues in an analysis of more than 100,000 patients discharged from hospitals in a five-year period. In another report, Amy Linsky, M.D., of Boston Medical Center, and colleagues studied about 1,200 patients being treated for *C difficile* and found a 42 percent increased risk of recurrence if proton pump inhibitors were used.
- High-dose proton pump inhibitors do not appear to be associated with reduced rates of additional bleeding, surgical intervention or death in patients with bleeding ulcers when compared with regular proton pump inhibitor therapy. Chih-Hung Wang, M.D., and colleagues at National Taiwan University Hospital and National Taiwan University College of Medicine, Taipei, performed a meta-analysis of seven randomized trials published

before August 2009 and involving 1,157 patients. The results did not change when other factors, including severity of recent hemorrhage and the method of medication administration, were considered.

- Implementing standardized guidelines based on medical evidence appeared to be associated with reductions in prescriptions for proton pump inhibitors at one facility, report Patrick S. Yachinski, M.D., M.P.H., and colleagues at Massachusetts General Hospital and Harvard Medical School, Boston (and now of Vanderbilt University Medical Center, Nashville). Among a group of 942 patients, the number of inpatients receiving proton pump inhibitor prescriptions decreased from 27 percent before guidelines to 16 percent after, and prescriptions at discharge decreased from 16 percent to 10 percent.

"Harm will result if these commonly used medications are prescribed for conditions for which there is no benefit, such as non-ulcer [dyspepsia](#)," write Deborah Grady, M.D., M.P.H., of University of California, San Francisco, and San Francisco Veterans Affairs Medical Center, and Rita F. Redberg, M.D., M.Sc., also of University of California, San Francisco, and editor of the Archives, in another editorial.

The articles are part of the journal's new series, "Less Is More," highlighting areas where measures of health are worse when patients receive more health services. "Evidence suggests that providing excessive health care service is most likely to occur in situations in which there is not strong evidence to document the benefit and harms of the service," they write. "The Archives aims to address this deficit by publishing articles that provide evidence that performing 'more' of certain health care activities results in 'less' health."

More information: Arch Intern Med. 2010;170[9]:747-748, 765-771,

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