Acid Blockers & Dementia: Link Suggested, But Unproven

By Gil Ross — February 16, 2016

Study results recently published in JAMA Neurology [1]

suggest that regular use of proton pump inhibitors could increase the risk of dementia among those who use them regularly and are 75 years of age or older.

The study was entitled "Association of Proton Pump Inhibitors With Risk of Dementia," and led by Britta Haenisch, PhD, and colleagues, of the German Center for Neurodegenerative Diseases in Bonn.

Proton pump inhibitors, or PPIs, were introduced in the 1980s to fight acid-related upper GI conditions such as peptic ulcer, reflux esophagitis and GERD: gastro-esophageal reflux disease. They all reduce acid production in the stomach by close to 100 percent. Surveys and studies have shown that approximately 2-3 percent of the American population over age 65 use PPIs on a long-term basis, and that the number is growing.

The PPIs include lansoprazole (Prevacid), esomeprazole (Nexium), and omeprazole (Prilosec), all manufactured by AstraZeneca. (They should not be confused with the other commonly used class of acid reducers, "H-2 blockers," such as Zantac and Pepcid, among others.)

In the study, investigators collected data from a large German health insurance firm, spanning the years 2004 to 2011, on nearly 74,000 people aged 75 or older. Their data analysis included diagnoses and drug prescriptions. The authors found that 2,950 patients regularly used PPIs, which was defined as at least one PPI prescription in each quarter of an 18-month interval. Results indicated that regular use of PPIs was associated with a 44 percent increased risk of dementia, compared to non-use of the medications.

The findings, however, do not necessarily represent a cause-and-effect link.

Dr. Haenisch remarked that "to evaluate cause-and-effect relationships between long-term PPI use and possible effects on cognition in the elderly, randomised prospective clinical trials are needed."

This is so because many other factors might produce an apparent link between PPIs and dementia, including poly-pharmacy among seniors, the known link between PPI use and obesity.
and generally poorer health, and higher rates of both smoking and alcohol excess.

She also pointed out that "the underlying mechanism by which PPIs might influence cognition is yet to be determined. For example, some of the drugs may cross the blood-brain barrier and interact with brain enzymes, or they may be associated with vitamin B12 deficiency, which may promote neurological damage. In the meantime, she warned that "clinicians should follow guidelines for PPI prescription, to avoid overprescribing ... and inappropriate use." One study found that 70 percent of older Americans using PPIs long-term were being over-medicated.

In an accompanying editorial [2], Lewis H. Kuller, MD, DrPH, of the University of Pittsburgh, observed that the possible association of the use of PPIs and the risk of dementia is a very important issue given the very high prevalence of pharmacological drugs long-term use in elderly populations that have a very high risk of dementia.

Still, even a 44 percent increase in dementia among PPI users over 75 is not a cause for all older people on those drugs to stop taking them. Such a statistical analysis is not powerful enough to change prescribing habits. As was said, a randomized prospective controlled trial would be necessary to show a true cause-and-effect relationship. If you're taking a PPI drug, discuss the need for it with your doctor.

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