

# Osteoporosis drug may be associated with irregular heartbeat

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Alendronate, a medication used to prevent fractures in women with osteoporosis, may be associated with an increased risk of atrial fibrillation, a type of abnormal heart rhythm, according to a report in the April 28 issue of *Archives of Internal Medicine*.

Other recent studies have reported atrial fibrillation as an unexpected adverse effect of bisphosphonates, a class of drugs that includes alendronate and other medications that affect the body's calcium levels, according to background information in the article. Atrial fibrillation occurs when the atria, the smaller upper chambers of the heart, begin to beat irregularly and rapidly.

Susan R. Heckbert, M.D., Ph.D., of the University of Washington and Group Health, Seattle, and colleagues studied 719 women with confirmed atrial fibrillation that began between 2001 and 2004 and 966 control women who were the same age but did not have atrial fibrillation.

More patients with atrial fibrillation than control patients had ever used alendronate (47 or 6.5 percent vs. 40 or 4.1 percent). After adjusting for other risk factors, having taken alendronate was associated with a higher risk of atrial fibrillation compared with never having taken any bisphosphonate. The researchers estimate that approximately 3 percent of new atrial fibrillation cases in this population may be attributed to alendronate use.

Bisphosphonates may disrupt the function of regulatory proteins, trigger inflammation and cause small decreases in blood calcium and phosphate levels, any of which could affect the chambers of the heart known as atria and therefore alter the heartbeat, the authors note. "More information is needed about whether bisphosphonates could have effects on atrial tissue in the long term through these or other mechanisms that favor the initiation or persistence of atrial fibrillation," they

write.

"In conclusion, all drugs have benefits and adverse effects," the authors continue. "When new information becomes available about a previously unrecognized benefit or adverse effect, physicians and patients must reweigh the current knowledge about benefits and risks in making treatment decisions for each patient. The benefits of fracture prevention in patients at high risk for fracture will generally outweigh the possible risks of atrial fibrillation. However, it is important to carefully weigh the benefits against the possible risk of atrial fibrillation in women who have only modestly increased fracture risk and in women who have risk factors for atrial fibrillation, such as diabetes mellitus, coronary disease or heart failure."

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