

Bone Drugs May Lower Breast Cancer Risk

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Drugs already taken by millions of healthy older women to prevent bone loss and broken hips may also protect them from [breast cancer](#), according to two observational studies that found women taking oral bisphosphonates developed about a third fewer breast cancers than other women.

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The drugs are in the class of medications that includes the brand name drug Fosamax, now available generically as alendronate.

The findings, presented Thursday at a scientific conference, are from a retrospective analysis of data from the Women's Health Initiative and a separate Israeli observational study of several thousand postmenopausal women.

Neither of the studies was a randomized clinical trial, and several top [cancer](#) doctors expressed skepticism about the findings, saying they prove only an association and may reflect the fact that women with bone problems who are most likely to take the medications have a lower breast cancer risk to begin with.

The research generated excitement at the annual San Antonio [Breast Cancer](#) Symposium even before the official presentations Thursday, because unlike other drugs that can be used prophylactically to prevent breast cancer, oral bisphosphonates are already widely used and do not cause hot flashes.

There was also a hint in the studies that the drugs may have a particular impact on curbing the kinds of [tumors](#) that are the most difficult to treat, those that are not fueled by [estrogen](#).

“With tamoxifen and raloxifene we have drugs that reduce estrogen receptor-positive tumors, but we’ve never had anything worth anything that prevented estrogen receptor-negative tumors,” said Dr. Gabriel N. Hortobagyi, who directs the breast cancer research program at the [University of Texas](#) M.D. Anderson Cancer Center.

But he said randomized controlled clinical trials were needed to prove the drugs had an effect, adding, “These are provocative data, but certainly not compelling, and not definitive.”

Other breast cancer experts agreed. “If in fact you have [osteoporosis](#) and you’re taking these drugs, it’s possible there is an added benefit,” said Dr. Eric P. Winer, a breast cancer specialist at the Dana-Farber Cancer Institute in Boston. “But at the moment, I don’t think these studies should be used as a reason to take a bisphosphonate to prevent breast cancer. As with all drugs, there are side effects and risks.”

About 10 million Americans have osteoporosis, many of them women. Last year more than 45 million [prescriptions](#) for oral bisphosphonates were filled in the United States, generating over \$4.9 billion in sales, according to IMS Health, a health care information and consulting company. The drugs have been associated with a rare but very serious side effect: bone death, or osteonecrosis, of the jaw, in which part of the jawbone dies and becomes exposed.

The new research included an analysis of data from the Women’s Health Initiative, which included 151,592 postmenopausal women followed on average for 7.8 years, among them 2,216 who happened to be taking oral bisphosphonates at the beginning of the study.

After adjusting for different risk factors among those who were or were not taking the drugs, the analysis determined there were 32 percent fewer new breast cancers among users of oral bisphosphonates. There were 3.29 cancers per 1,000 women taking the drugs over the course of a year, compared with 4.38 cancers per 1,000 women not taking the drugs.

Dr. Rowan T. Chlebowski, the study's author and a researcher at Harbor-[U.C.L.A.](#) Medical Center, said the drugs may have toxic effects on [tumor](#) cells or affect pathways that disrupt cell proliferation.

The second set of findings comes from an ongoing population-based case-control study of 4,575 postmenopausal women in northern Israel that used interviews and pharmacy records to determine whether oral bisphosphonates were used before a cancer diagnosis. It found that women who used the drugs for over a year had a 29 percent relative reduction in risk for breast cancer, and that tumors that developed among users were more likely to be estrogen receptor-positive.

“We’re reporting an association,” said study author Dr. Gad Rennert of the Technion-Israel Institute of Technology. “If the story is right and true — and I’ll repeat this 100 times, because in science you never know, I think it is but I can’t guarantee it — it’s quite meaningful.”

He said the research is bolstered by [a study published in The New England Journal of Medicine earlier this year](#) that reported premenopausal breast cancer patients who had infusions of a bone-loss drug called zoledronic acid were a third less likely to have a recurrence and metastases than women who did not get it. Users of the drug were also less likely to develop a new cancer in the opposite breast.

Bisphosphonates are already widely used in the management of breast cancer patients to counter bone loss associated with hormonal therapy and to decrease pain and bone complications in advanced cancer, and recent reports have suggested the drugs’ effects on bone appear to inhibit the spread of cancer to the bone and improve survival.

But experts warn there is ample reason for caution in interpreting the new studies. Older women who take oral bisphosphonates generally do so because they have low bone mineral density, so they are at increased risk for bone loss and fractures. But women with low bone mineral density may be at lower risk for developing breast cancer in the first place; their bone problems are believed to stem from lower estrogen levels, and breast cancer risk increases with higher lifelong exposure to estrogen.