

Bisphosphonate Use Protects Against Contralateral Breast Cancer

December 12, 2011

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Bisphosphonates are commonly prescribed to prevent and treat bone loss, but a growing body of evidence suggests that bisphosphonates may also have direct and indirect antitumor effects.

A few previous studies have observed a lower risk of developing a first primary breast cancer associated with bisphosphonate use. Recently, postdoctoral fellow Genevieve Monsees and colleagues from the Public Health Sciences Division conducted a population-based nested case-control study to examine the relationship between bisphosphonate use and risk of contralateral breast cancer among women with a first, primary estrogen receptor-positive(ER+) breast cancer. Compared to the risk of being diagnosed with a first primary breast cancer for women in the general population, breast cancer survivors have a two to six times greater risk of developing a second primary breast cancer in their opposite-side breast.

In a total sample of 1013 women (351 cases with contralateral breast cancer and 662 unilateral breast cancer controls), those who had ever used bisphosphonates for 6 months or longer following their first breast cancer diagnosis had nearly a 50% lower risk of contralateral breast cancer compared with women who had never used bisphosphonates. A longer duration of bisphosphonate use, as well as current use, were associated with a further reduced risk. Alendronate was the most commonly used agent, used by 88% of bisphosphonate users.

With more research bisphosphonate therapy could become a feasible strategy for reducing the risk of a second primary breast cancer among ER+ breast cancer survivors. The potential antitumor effects of these agents outside of the adjuvant setting will be an interesting area for further investigation.

[Monsees GM, Malone KE, Tang MC, Newcomb, PA, Li CI.](#) 2011. Bisphosphonate use after estrogen receptor-positive breast cancer and risk of contralateral breast cancer. *Journal of the National Cancer Institute*, Epub ahead of print, doi: 10.1093/jnci/djr399.



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