

Lasofoxifene reduces breast cancer risk in postmenopausal osteoporotic women

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Lasofoxifene statistically reduced the overall risk of breast cancer, as well as ER positive invasive breast cancer in postmenopausal women with low bone density, according to a study published online in *The Journal of the National Cancer Institute*.

Lasofoxifene is a SERM, or selective [estrogen receptor](#) modulator, that, like tamoxifen, blocks the effects of estrogen in breast tissue. Another SERM, raloxifene, has been shown to reduce [breast cancer](#) risk. In the Postmenopausal Evaluation and Risk-Reduction with Lasofoxifene (PEARL) trial, a double-blind, placebo-controlled, randomized trial, 8556 postmenopausal women with low bone density and normal [mammograms](#) were randomly assigned to two doses of lasofoxifene—either .25 or .50 milligrams of it per day, or placebo.

Lasofoxifene was shown to reduce the risk of estrogen receptor positive breast cancer, but to determine whether lasofoxifene reduced the risks of ER positive invasive breast cancer and total breast cancer, Andrea Z. LaCroix, Ph.D., of the Fred Hutchinson Cancer Research Center, analyzed these effects of lasofoxifene in all 8556 women overall and across baseline characteristics influencing cancer risk, including age, body mass index, Gail score, and levels of serum sex hormones. The 8556 women in the trial were between the ages of 59 and 80, and had osteoporosis. The researchers found that the women taking 0.5 milligrams of lasofoxifene, compared to the placebo, had a statistically significantly reduced risk of total breast cancer by 79%; the risk of ER positive breast cancer was also reduced by 83%. Furthermore, there was

a 32% reduction in coronary events, and a 36% reduction in strokes. Vertebral fractures also decreased by 42%, and non-vertebral fractures, by 24%.

The authors say the risk reduction for breast cancer with lasofoxofene was similar to that reported for tamoxifen and raloxifene. At the same time, lasofoxifene did not pose a risk for other cancers, unlike tamoxifen, which is associated with an increased risk of endometrial cancer and other gynecological safety concerns. Raloxifene has also been used less frequently because of its perceived insufficient spectrum of benefits.

Lasofoxifene may therefore have more potential benefits than the other SERMS: "The spectrum of activity for lasofoxifene, including the clinically and statistically significant reductions of non-vertebral fractures, stroke, and serious heart events, makes it an attractive option, particularly for use in [postmenopausal women](#) with osteoporosis or higher estradiol levels," the authors write.

They also point out some limitations of the study, namely the small number of incident breast cancer cases, the lack of follow-up data after five years, and the lack of comparative data on the efficacy of lasofoxifene to reduce stroke and other coronary events and fractures compared to other SERMS.

In an accompanying editorial, Victor G. Vogel, MD, of the Geisinger Medical Center, compared the results of the PEARL trial to those in the STAR trial (Study of Tamoxifen and Raloxifene). Women in the former were on average nine years older, and as a probable consequence, they had higher rates of venous thromboembolism.

However, the reductions in breast cancer incidence, and the stroke event rate with lasofoxifene were particularly "dramatic," Vogel writes, adding

that lasofoxifene may represent the long-awaited "tipping point" in breast cancer chemoprevention.

"We need more complete information about the long-term effects of lasofoxifene on both beneficial and unfavorable outcomes, but the early data regarding its risks and benefits are encouraging," Vogel writes.

Provided by Journal of the National Cancer Institute

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