

Breast Density Reduction Predicts Tamoxifen's Preventive Effect

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Initially published in 2002, IBIS-1 was one of the first trials examining tamoxifen in breast cancer prevention, following more than 7000 patients over eight years. Tamoxifen, a hormonal agent that blocks the effects of estrogen, has been used for decades for the treatment and prevention of hormone-positive breast cancer. However, many women at high risk do not take the drug for prevention due to several reasons, including side effects.

The most recent analysis from IBIS-1, reported Saturday afternoon at SABCS, found that tamoxifen could reduce breast density, a risk factor for breast cancer that is found in up to 10 percent of all women. Although dense breast tissue has been known to be a predictor of risk for developing breast cancer in the past 10 to 20 years and typically raises the risk up to four-fold, it hasn't been used regularly as a risk factor.

Researchers found that tamoxifen reduced density in about 46 percent of the women in the tamoxifen arm, amounting to a 52 percent decrease in the risk of breast cancer, which was more than the control arm. The control arm is important because breast density naturally decreases as a result of normal aging. Additionally, a reduction in breast density of 10 percent or more served as a predictive marker to the preventive effect of tamoxifen.

A subset-analysis also found that women with atypical hyperplasia, or precancerous cells, particularly benefited from tamoxifen, in addition to women with lobular carcinoma in situ, a non-invasive type of breast cancer.

What was equally interesting, noted the researchers, was that the changes in breast density occurred within 12 to 18 months. Jack Cuzick, PhD, who presented the study at SABCS, said this is the first time a biomarker has been found to predict benefit from treatment in the preventive setting, and hopes it can be used broadly.

After 18 months, women who do not appear to have a density reduction on tamoxifen could move on to another prevention strategy. These results may also improve compliance, especially if a patient is able to see a visible reduction in a risk factor after just one year.

There are other approved breast cancer prevention drugs, including Evista (raloxifene), but Cuzick was hesitant to theorize whether it also carried the same benefit, calling for further studies with other drugs. And because tamoxifen is also used as a treatment for hormone-positive breast cancer, there is also a

question of whether breast density reduction has possibilities as a predictor of treatment efficacy. Cuzick says there is currently no direct evidence of this, but studies addressing this question would be useful.

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