Aromatase inhibitors increased risk of heart disease in postmenopausal women with breast cancer

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Postmenopausal women who take aromatase inhibitors as a treatment for breast cancer may be at an increased risk for developing cardiovascular disease, according to the results of a meta-analysis.

These data, presented at the 33rd Annual CTRC-AACR San Antonio Breast Cancer Symposium, indicate that women presenting with breast cancer treatment who have risk factors for cardiovascular disease should be considered for a shorter duration of use of aromatase inhibitors.

"It appears that aromatase inhibitors have a significant increase in cardiotoxic side effects, such as heart attack, angina and heart failure," said Eitan Amir, M.D., a senior fellow in the division of medical oncology and hematology at the Princess Margaret Hospital, Toronto, Canada.

Because some cancers, especially breast cancers, require estrogen to grow and spread, drugs that block estrogen production are often used to treat the disease. Tamoxifen blocks the effect of estrogen in breast tissue , whereas aromatase inhibitors prevent the production of estrogen.

Each class of drugs also have related adverse effects. For example, although tamoxifen blocks estrogen production in breast tissue, it has the opposite effect in uterine tissue. Previous research has shown that extended use of tamoxifen results in a small increase in the risk for

endometrial cancer and venous thrombosis.

On the other hand, in December 2008, the Food and Drug Administration added a warning label to anastrozole, an aromatase inhibitor, which indicated potential increased risk for heart disease. For this reason, Amir and colleagues conducted a meta-analysis to determine if this increased risk for heart disease occurred with the use of any aromatase inhibitor.

The researchers examined data from seven large randomized clinical trials that compared tamoxifen with aromatase inhibitors in postmenopausal women with early-stage breast cancer.

Data from the analysis confirmed that any duration of use of an aromatase inhibitor was associated with a 20 percent higher probability of developing cardiovascular disease. However, use of aromatase inhibitors also resulted in a reduced risk for venous thrombosis and endometrial carcinoma.

As a secondary analysis, they determined if switching from treatment with tamoxifen to aromatase inhibitors had any effect on mortality or adverse effects. Results showed that the risk for serious adverse effects were similar when aromatase inhibitors were used as an initial treatment compared with switching to aromatase inhibitors after treatment with tamoxifen.

"However, it appears from the data — and this is strictly hypothesis-generating — that if a woman switches from one drug to another, there is a reduction in the risk from death from causes other than breast cancer," Amir said. "This potentially suggests that there may be side effects that build up the longer a woman is on a certain drug, but switching drugs may reduce the side effects."