

DRUG TREATMENTS TO PREVENT BREAST CANCER

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A recent article in Lancet reviewed the combined results of breast cancer prevention from epidemiologists from England, Italy and Australia of breast cancer prevention trials and updated results. The tamoxifen prevention trials showed a 38% reduction in breast cancer incidence. There was no effect on the incidence of estrogen negative cancers. Looking only at Estrogen Receptor (ER) positive breast cancers there was 48% reduction in incidence. The overall relative risk of endometrial cancer with tamoxifen was increased to 2.4 and the relative risk of venous thromboembolic events was 1.9. There was no increase so far with raloxifen.

Overall, there was no effect on non-breast cancer mortality. The only cause showing a mortality increase was pulmonary embolism (six vs. two).

The conclusion of the author is that evidence supports that tamoxifen reduces the risk of ER positive breast cancer. But, at the same time, they believe that tamoxifen should not be recommended as a preventive agent, except for women at very high risk. This conclusion is based upon the degree of reduction compared to the incidence of side effects.

In 1999, Dr. Gail published in the Journal of the National Cancer Institute the results of a workshop designed to select the best candidates for tamoxifen treatment. This model associated factors with increased risk of breast cancer as: increased patient age, early age at menarche, late age at first childbirth or nulliparity, multiple benign breast biopsies, and the presence or absence of breast cancer in the patient's mother and sisters.

Because the risks associated with tamoxifen (endometrial cancer, stroke, pulmonary embolism and deep-vein thromboembolism) increase with age, balancing the risks and benefits indicate that tamoxifen is best for younger women with an elevated risk of breast cancer. This means that only a relatively small number of women will qualify because 85% of women who develop breast cancer do not have an identifiable risk factor.

The data are too limited to support the use of raloxifen as prophylactic treatment, and a stronger position awaits the outcome of STAR trial comparing tamoxifen with raloxifen.

Additional questions remain unanswered. Will long-term follow-up reveal an incidence of tamoxifen-resistant cancers—cancers that are actually stimulated by tamoxifen? Will the incidence of estrogen receptor-negative cancers increase over time? What is the effect of tamoxifen treatment on quality of life and cognition (including the risk of Alzheimer's disease)?

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