

Estrogen-suppressing drugs substantially reduce breast cancer deaths

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A class of hormonal drugs called aromatase inhibitors substantially reduce the risk of death in postmenopausal women with the most common type of breast cancer, a major study of more than 30,000 women shows.

The research underlines the importance of [aromatase inhibitors](#) in the treatment of oestrogen receptor (ER)-positive breast cancer - and shows they reduce risk of death by significantly more than the older hormonal treatment tamoxifen.

The study, published in *The Lancet* today (Friday), is relevant to [postmenopausal women](#) with ER-positive breast cancer, which accounts for over 80 per cent of cases which occur after the menopause. Each trial had used both aromatase inhibitors and tamoxifen at various times during the course of treatment.

In the study, researchers from the Aromatase Inhibitors Overview Group - chaired by Professor Mitch Dowsett at The Institute of Cancer Research, London and The Royal Marsden NHS Foundation Trust - collaborated with colleagues at the Clinical Trials Service Unit at The University of Oxford, to combine the results from 31,920 women in nine clinical trials.

The study was funded by Cancer Research UK and the Medical Research Council and conducted under the umbrella of the Early Breast Cancer Trialists Collaborative Group.

Aromatase inhibitors suppress the synthesis of oestrogens and are taken by postmenopausal women with hormone-sensitive (ER-positive) breast cancer. They have previously been reported to reduce the risk of recurrence more effectively than tamoxifen, but improvements in survival had not been demonstrated.

The current study showed that taking aromatase inhibitors for five years reduced the risk of

postmenopausal women with ER positive breast cancer dying of their disease by 40 per cent within 10 years of starting treatment, compared with no hormonal treatment. This compares with the 30 per cent reduction achieved by taking tamoxifen for five years.

Current clinical guidelines reflect the uncertainty in when to use aromatase inhibitors or tamoxifen in the course of treatment - but the new study could help clarify these recommendations.

Study lead author Professor Mitch Dowsett, Head of the Academic Department of Biochemistry and of the Centre for Molecular Pathology at The Royal Marsden and The Institute of Cancer Research, London, said:

"Our global collaboration has revealed that the risk of postmenopausal women with the most common form of breast cancer dying of their disease is reduced by 40 per cent by taking five years of an aromatase inhibitor - a significantly greater protection than that offered by tamoxifen.

"Aromatase inhibitors remove only the tiny amount of oestrogen that remains in the circulation of women after the menopause - but that's enough to have a substantial impact on a wide range of ER-positive tumours, despite their extraordinary differences at the molecular level.

"But aromatase inhibitor treatment is not free of side-effects, and it's important to ensure that women with significant side-effects are supported to try to continue to take treatment and fully benefit from it."

Professor Paul Workman, Chief Executive of The Institute of Cancer Research, London, said: "The evidence on aromatase inhibitors has been accumulating for well over a decade, but it has taken this huge and complex study to make sense of all the data, and provide a firm basis for clinical

guidelines.

"It tends to be the discovery of new treatments that grabs the headlines, but it is just as important to maximise the benefit patients get from existing treatments, through major, practice-changing studies like this."

Professor Ian Smith, Head of the Breast Unit at The Royal Marsden, said: "The Royal Marsden is particularly pleased at this major advance for women with breast cancer everywhere, as we were the main team involved in the development of letrozole, one of the most effective of the aromatase inhibitors. This drug is now widely used around the world and it is gratifying to think of how many thousands of lives have been saved with it over the years."

The study is published in *The Lancet* alongside another major breast cancer study of a different drug type - called bisphosphonates - led by researchers at Oxford and the University of Sheffield and also funded by Cancer Research UK and the Medical Research Council.

Commenting on both studies, Nell Barrie, Cancer Research UK's senior science information manager, said: "These two studies give further evidence that aromatase inhibitors and bisphosphonates - both currently available treatments - help prevent breast cancer coming back in women who have been through the menopause. Both these studies, supported by Cancer Research UK, highlight how improvement in cancer treatment is made through painstaking hard work and the collection of many years of data, before clear trends start to emerge.

"Bisphosphonates help keep bones healthy, and these results show they reduce the chance of breast cancer returning in the bones in post-menopausal women. Aromatase inhibitors block the body's ability to make oestrogen, which can fuel the growth of breast cancer, and these results confirm that they can help to stop the disease from returning after treatment."

The Institute of Cancer Research (ICR) and The Royal Marsden played a leading role in earlier as

well as the current clinical trials that demonstrated the effectiveness of aromatase [inhibitors](#) in [breast cancer](#), and in identifying and validating biomarkers to determine who could benefit. These studies supported the recommendation by NICE that the drugs should be first-line hormone treatment for certain women after surgery.

The study follows on from another recent study led by Professor Dowsett which indicated that women with high levels of the oestrogen receptor might benefit from extended treatment with hormone therapy - which usually stops after five years.

Provided by Institute of Cancer Research

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