

Advanced breast cancer: Benefits of Trastuzumab (Herceptin) outweigh the risk of harm

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In women with advanced (or metastatic) breast cancer, treatment with the breast cancer drug Trastuzumab (Herceptin) is associated with prolonged survival but also increases the risk of developing heart problems, a new systematic review shows. However, the review, published in *The Cochrane Library*, concludes that more women benefit from use of Trastuzumab than are harmed.

The review focuses on treatment for [women](#) with advanced stage [breast cancer](#) who have tested HER2- positive. About 1 in 5 women with breast cancer are HER2-positive. HER2 is a protein on the surface of breast cells called human epidermal growth factor receptor 2. It encourages [tumour cells](#) to grow and divide. The prognosis for HER2-positive patients is usually worse because the high levels of HER2 on their tumour cells make their cancer more aggressive.

The antibody-based drug Trastuzumab is designed to target these specific types of tumours. It has been recommended for treating women who have HER2-positive [advanced breast cancer](#) since 1998 in the US and 2002 in the UK.

The authors reviewed data from seven trials involving a total of 1,497 HER2-positive women with metastatic breast cancer, meaning their cancer could be treated but not cured. The women were given Trastuzumab in combination with other drugs, either as a first-line

treatment or later therapy, when their cancer had progressed.

Overall survival rates two years after starting the trials were higher for women who were given Trastuzumab than for those on regimens that did not include the drug. Women on Trastuzumab also gained another two to eleven months without further progression of their cancers. The drug was most effective when it was used as a first-line treatment or in combination with the chemotherapy drug class called taxanes.

"This review suggests that, for women with advanced breast cancer, Trastuzumab (Herceptin) has been linked to significant life expectancy gains," said Lorenzo Moja, one of the authors of the review, based at the Department of Biomedical Sciences for Health at the University of Milan in Milan, Italy. "We found that women survived longer and their cancer did not progress as quickly when they received Trastuzumab (Herceptin)."

However, the drug led to an increased risk of heart failure. With standard therapies, the equivalent of 300 in every 1,000 women survived at two years and only 10 developed heart problems. When Trastuzumab (Herceptin®) was added, 373 survived, but 35 developed heart problems that required immediate discontinuation of Trastuzumab. These cardiac dysfunctions were usually reversible after treatment stopped.

The review highlighted one particular drug combination associated with a higher risk of [heart problems](#). "Some of the earlier trials combined Trastuzumab (Herceptin®) with a class of drugs called anthracyclines," said Roberto D'Amico, director of the Italian Cochrane Centre, University of Modena and Reggio Emilia, Italy and co-author of the review. "This combination is not recommended in patients with [metastatic breast cancer](#)."

More information: Balduzzi S., Mantarro S., Guarneri V., Tagliabue

L., Pistotti V., Moja L., D'Amico R., Trastuzumab containing regimens for metastatic breast cancer. *Cochrane Database of Systematic Reviews* 2014, Issue 8. Art. No.:CD006242. [DOI: 10.1002/14651858.CD006242.pub2](https://doi.org/10.1002/14651858.CD006242.pub2)

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