

Heart failure in older breast cancer patients linked to medication

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Heart failure is a relatively common complication in older women with breast cancer, but the risk is even higher in those patients treated with adjuvant trastuzumab (Herceptin), Yale School of Medicine researchers report in the current issue of the *Journal of the American College of Cardiology*.

The researchers conducted this study because older women who are at higher risk of decreased heart function, were often excluded from randomized clinical trials of trastuzumab, which is used to treat [breast tumors](#) that over-express human [epidermal growth factor receptor-2](#) (HER-2). Past clinical trials in younger, healthier women showed improved survival, but also increased [heart complications](#) linked to trastuzumab, especially when combined with a frequently used therapy called anthracycline chemotherapy.

"We observed an even higher risk of heart failure or cardiomyopathy after trastuzumab therapy than those in past clinical trials," said lead author Jersey Chen, M.D., assistant professor of cardiology at Yale University School of Medicine and a member of the Yale Cancer Outcomes, Public Policy, and Effectiveness Research (COPPER) Center at Yale.

The Yale COPPER team examined the association between the use of adjuvant trastuzumab and anthracycline therapy and heart failure and cardiomyopathy, the most serious cardiotoxic complications, in 45,536 female [Medicare beneficiaries](#) with early-stage breast cancer. The use of trastuzumab has increased over time from 2.6% of the women who received any adjuvant therapy in 2000 to 22.6% in 2007.

The team found that compared with patients who received no [adjuvant chemotherapy](#) or trastuzumab; use of trastuzumab was associated with a 14% higher adjusted incidence rate for heart failure or cardiomyopathy over three years. Patients who received both trastuzumab and

anthracycline had a 23.8% higher rate, and those treated with anthracycline chemotherapy alone had a 2.1% higher rate of [heart failure](#) or cardiomyopathy events over three years.

"Further study is needed to fully understand the benefits and risks of trastuzumab when they are used in the real-world population," said Cary Gross, senior author of the study and director of the COPPER Center.

More information: *J Am Coll Cardiol* 18231 Vol. 60, No. 25

Provided by Yale University

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