

## Cancer Advances: Radiation to the Left Side of the Chest and Trastuzumab (Herceptin) Associated With Heart Problems in Some Breast Cancer Patients

Posted online August 14, 2006 on [www.jco.org](http://www.jco.org) [1]

Two new studies have shown that therapies commonly used to treat women with breast cancer may cause heart disease or impair heart function, particularly in women who have other risk factors for heart disease or cardiac problems before treatment begins.

In the first study, researchers found that 28% of women with metastatic breast cancer who received the drug trastuzumab (Herceptin) for a year or more experienced impaired heart function that could be reversed with heart medications. Seventeen percent of the women developed a decline in heart function that did not cause any symptoms, while another 11% had impairment that caused symptoms such as shortness of breath. Women who had impaired heart function before beginning therapy were more likely than those with healthy hearts to experience problems related to trastuzumab.

In the second study, researchers showed that women with early-stage breast cancer who received radiation therapy to treat cancer in the left breast (the side of the chest where the heart is located) were more likely than those who received radiation to the right breast to develop heart disease within 20 years of treatment. However, radiation therapy to the left side did not increase the risk of dying from a heart-related problem.

The researchers compared heart disease occurrence and death rates between 477 women with right-sided early-stage breast cancer and 484 women with left-sided breast cancer who were treated with modern radiation oncology techniques between 1977 and 1994, and were followed for up to 20 years. The overall rate of death from a heart-related problem was similar between the two groups.

However, more women who received radiation to the left side of the chest developed coronary artery disease (25% versus 10%) or had a heart attack (15% versus 5%). Among women who received radiation to the left side of the chest, those who had high blood pressure before therapy were at most risk for developing heart disease associated with treatment.

### What Does This Mean for Patients?

The findings of the first study indicate that women who receive trastuzumab should have their heart function evaluated (with either an echocardiogram or a MUGA scan) prior to treatment, and those with impaired heart function should be monitored particularly closely throughout therapy. Women who experience heart-related symptoms (shortness of breath, chest pain, chest pressure, or leg swelling) while on trastuzumab therapy and those who have other risk factors for heart problems (such as high blood pressure or family history) should tell this information to their doctors.

The results of the second study suggest that women who receive radiation therapy to the left side to treat breast cancer should be especially vigilant in having an annual physical examination that includes testing of blood pressure and cholesterol. These women should report any symptoms (such as chest pain or chest pressure, particularly if caused by physical exertion) to their doctors. They should also be aware that these problems may not arise for more than ten years after completing treatment.

### Helpful Links

[www.plwc.org/breast](http://www.plwc.org/breast) [2]

#### Links:

[1] <http://www.jco.org/>

[2] <http://www.cancer.net/patient/Cancer+Types/Breast+Cancer>