

# fact sheet

WHAT IT MEANS FOR YOU — A SERIES OF FACT SHEETS FOR PATIENTS ABOUT RESEARCH RESULTS

## The Trastuzumab (Herceptin®) Studies: What it Means for You

*This fact sheet is of particular interest to newly diagnosed breast cancer patients who have HER2 positive tumors.*

The results from two large clinical trials (see back for details) studying the use of Herceptin in the adjuvant (after surgery) setting for patients with HER2 + tumors were recently analyzed together. Both studies compared standard treatment (Adriamycin® and Cytoxan® followed by Taxol® (AC -T), to standard treatment plus Herceptin (AC followed by TH followed by H for the rest of the year) and found that patients who received Herceptin did significantly better than patients who received standard treatment only. Another study, called the HERA trial, compared the use of Herceptin for 1 or 2 years to no Herceptin following different standard chemotherapies and found that patients receiving Herceptin did significantly better than those who did not receive Herceptin.

### You may want to consider discussing treatment with Herceptin with your doctor, if you:

- have been newly diagnosed with invasive breast cancer
- have a HER2 positive tumor, determined by FISH test (positive) or IHC test (3+)
- had lymph nodes removed (axillary dissection) that were positive for cancer
- have lymph nodes that tested negative for cancer but are at high risk for recurrence (estrogen receptor (ER) positive with a tumor larger than 2 cm or ER negative with a tumor larger than 1 cm)
- have a HER2 positive tumor, have positive lymph nodes or at high risk for recurrence, finished standard treatment less than 6 months ago and have no current or past cardiac disease

### You are not a candidate for treatment with Herceptin if you:

- have current or past cardiac disease
- score below normal on one of two tests for heart function: Muga scan or left ventricular ejection fraction (LVEF)

- have a HER2 negative tumor, determined by FISH test (negative) or IHC test (0, 1+ or 2+)

### The most dangerous side effect to occur in 3 to 4% of women who received Herceptin on this study was cardiotoxicity or damage to the heart. Damage that can be caused by receiving Herceptin with or following chemotherapy is:

- a decrease in your heart's ability to pump blood; measured by one of two tests: Muga scan or echocardiogram (both measure left ventricular ejection fraction or how efficient your heart pumps blood)
- congestive heart failure

### Recommendations if you and your doctor decide to add Herceptin to your treatment:

- have your heart function tested before treatment, after treatment with AC, and after treatment with Taxol

### There are many questions that were not answered by the three Herceptin studies.

#### We do not know:

- Whether patients should take Herceptin one or two years? Results from the HERA trial should be available within the next 2 or 3 years and should be helpful in answering this question.
- Should patients take Herceptin with Taxol or after Taxol? There is some preliminary evidence that Herceptin with Taxol may be more effective but researchers are not sure if this is true.

## Background

**US Trials: B31 and N9831** — The results from two large clinical trials the National Surgical Adjuvant Breast and Bowel Project (NSABP) B31\* and the North Central Cancer Treatment Group (NCCTG) N9831\*\* were recently analyzed together. The joint interim analysis was based on data from 3,351 patients. Each of the studies was a randomized, controlled trial that evaluated the combination of anthracycline (Adriamycin) and cyclophosphamide (Cytoxan) (AC) followed by paclitaxel (Taxol) chemotherapy, with or without Herceptin, using different treatment schedules of paclitaxel in women with HER2 positive breast cancer. Herceptin had been found previously to be effective for patients with HER2+ breast cancer that spread to other parts of their bodies (metastatic). Researchers wanted to know if Herceptin would be effective and safe in newly diagnosed patients with HER2+ breast cancer.

**World Trial: HERA (HERceptin Adjuvant Trial)** — The HERA trial is a phase III randomized clinical trial investigating the use of Herceptin for 1 or 2 years versus no treatment (observation) after a range of chemotherapies. An interim analysis comparing 1 year of Herceptin to observation indicated that patients receiving treatment did significantly better than the observation group.

## Trial Results

### US Trials: B31 and N9831

- Disease free survival (how long patients live without having a recurrence) was 87% for the Herceptin group and 75% for the standard group at 3 years. At 4 years the DFS was 85% vs. 67%. This was a 52% reduction in the risk of disease recurrence.

- Overall survival (how long patients live after their diagnosis) was 94% for the Herceptin group and 92% for the standard group at 3 years. At 4 years the OS was 91% vs. 84%. This was a 33% reduction in the risk of death.
- There was an increase in serious cardiac events, most commonly congestive heart failure (weakening of the heart muscle) of approximately 3 to 4% in the Herceptin plus chemotherapy arms compared to the chemotherapy alone arms.

### World Trial: HERA

- Disease free survival at two years was 86% in the 1 year Herceptin group and 77% in the observation group. This represents a 46% reduction in the risk of cancer recurring in patients on Herceptin.
- Overall survival at two years was 96% in the 1 year Herceptin group and 95% in the observation group. This difference is not statistically significant, however as the data matures an overall survival benefit may be found.
- Patients in the 1 year Herceptin group had an increase in serious cardiac events of approximately 3-4% compared to the observation group.

## Mechanism of Action

Breast cancer cells in HER2 positive (HER2+) breast cancer have too many copies of the HER2 gene. The HER2 gene makes a growth receptor that sits on the surface of the cancer cell and receives signals to grow. When cells have too many growth receptors, they receive many signals to multiply and grow. The drug Herceptin blocks the growth receptors and the signal to grow is kept from telling the cell to multiply.

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\*NSABP-B-31: Phase III Randomized Study of Doxorubicin and Cyclophosphamide Followed By Paclitaxel With or Without Trastuzumab (Herceptin) in Women With Node-Positive Breast Cancer That Overexpresses HER2

\*\*NCCTG-N9831: Phase III Trial of Doxorubicin and Cyclophosphamide (AC) Followed by Weekly Paclitaxel With or Without Trastuzumab as Adjuvant Treatment for Women With HER-2 Overexpressing or Amplified Node Positive Breast Cancer

## References

Herceptin Plus Chemotherapy Improved Disease-Free Survival And Overall Survival In Adjuvant Setting For Early-Stage Her2-Positive Breast Cancer Patients <http://www.gene.com/gene/news/press-releases/display.do?method=detail&id=8429>

Herceptin® Combined With Chemotherapy Improves Disease-Free Survival for Patients With Early-Stage Breast Cancer <http://www.cancer.gov/newscenter/pressreleases/HerceptinCombination2005>

Herceptin delivers improvement in disease-free survival for women with early-stage HER2-positive breast cancer <http://www.medicalnewstoday.com/medicalnews.php?newsid=24488>

Herceptin® - New Standard of Care in Early Breast Cancer <http://patient.cancerconsultants.com/news.aspx?id=34139>

Adriamycin® is a registered trademark of Pharmacia (now Pfizer).  
 Cytoxan® is a registered trademark of Bristol-Myers Squibb Oncology.  
 Taxol® is a registered trademark of Bristol-Myers Squibb Oncology.  
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