Clinical Research and New Technology

Positive or Indeterminate Margins after Breast Conservation Surgery Increase Chance of Tumor Recurrence

Patients with positive or indeterminate margins after breast conservation surgery are at risk for higher ipsilateral breast tumor recurrence (IBTR) rates than patients with negative pathologic margins, according to a study published in the May 2004 issue of *Cancer*.

The study evaluated the effect of the pathologic margin status on IBTR rates in a cohort of women with lymph node-negative breast carcinoma treated with conservation surgery radiotherapy.

The study found that the crude five-year rates of IBTR for women with negative margins, indeterminate margins, and positive margins were 3.1 percent, 6.9 percent, and 11.9 percent, respectively. For women with negative margins, the 5-year and 10-year actuarial rates of freedom from IBTR were 96 percent and 92 percent, respectively compared with 88 percent and 75 percent, respectively, for women with positive margins. Furthermore, women younger than 35 years of age at the time of diagnosis were found to have the highest risk of IBTR regardless of margin status.

For more information, see *Cancer*. 2004; 100(9):1823-32.

Presence of Gene Mutation Linked to Drug Effectiveness in Lung Cancer

A mutation in the epidermal growth factor receptor (EGFR), a gene that codes for an enzyme in the tyrosine kinase family of proteins and is involved in NSCLC, increases the likelihood that the drug gefitinib (Iressa™) will show a beneficial response, according to researchers at the National Cancer Institute and three other institutions. Prior to this study, gefitinib had been shown to cause tumor regression in certain patients but researchers had not been able to predict which patients would be responsive to the drug. With this discovery, doctors will be able to select those lung cancer patients who could most benefit from gefitinib and may identify additional patients with other types of cancer who may respond to similar treatments.

While this type of drug sensitivity was shown earlier for the drug imatinib (Gleevec™), which is most effective against certain leukemias and gastrointestinal stromal tumors that possess specific genetic mutations, this is the first demonstration of a targeted therapy in a common adult malignancy.

For more information, see *Science.* 29 April, 2004. Published at: *www.sciencemag.org/cgi/content/abstract/1099314.*

Proteomics Shows Promise in Colon Cancer Chemoprevention Study

Using new technology associated with the study of proteins, or proteomics, scientists at the National Cancer Institute (NCI) have made a step toward predicting which people with familial adenomatous polyposis (FAP), an inherited condition that often leads to colon cancer, will respond to the prevention drug celecoxib. Published in the April 15, 2004 issue of the journal *Cancer Research*, this study is the first to report using proteomics techniques to find a possible predictor of response in a chemoprevention trial.

In addition to predicting who responded to celecoxib, NCI scientists also used the proteomics technique to look at how protein patterns in each patient changed after being given the drug. They found that of thousands of possible proteins, only a few protein peaks were changed significantly in all patients following administration of celecoxib. NCI researchers are now trying to identify these proteins to learn more about how the drug works.

Although the technique has not been tested enough to be used in the clinic to identify those with FAP who will respond to celecoxib, the scientists are refining the technique for possible future clinical use.

For more information, see *Cancer Res*. 2004; 64(8):2904-9.

Phase III Trial of Xyotax for Patients with Ovarian Cancer

Cell Therapeutics, Inc., (Seattle, Wash.) and the Gynecologic Oncology Group (GOG) have signed a clinical trials agreement under which the GOG will sponsor and conduct a Phase III clinical trial of Xyotax™ (CT-2103) in patients with ovarian cancer.

The trial will investigate the safety and efficacy of Xyotax, administered over approximately 10 minutes once a month for 12 months, compared to no maintenance therapy, to prolong progression-free survival (PFS) and overall survival (OS) in women with ovarian cancer who have achieved a complete remission following standard front-line chemotherapy. The Phase III trial is expected to enroll approximately 1,500 patients.

A standard formulation of Taxol® will also be investigated as a third treatment arm. The study will assess potential differences in toxicity, tolerability, and patient quality of life between treatment groups. These differences will constitute secondary endpoints of the trial.

Results of this study were published in the July 2003 issue of the *Journal of Clinical Oncology*.

For more information, go to *www.cticseattle.com*.