Prognostic Value of p53 for Local Failure in Mastectomy-Treated Breast Cancer Patients

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Introduction
Randomized clinical trials have established that radiation therapy improves the local regional control and survival in selected breast cancer patients treated with mastectomy. However, only about 50% of patients will benefit from post-mastectomy irradiation and the remaining 50% still die with uncontrolled local-regional disease. Much effort has been made to identify breast cancer patients at greatest risk of local-regional failure and most likely to benefit from postmastectomy irradiation. Dr. Zellars and his colleagues examined the tumor suppressor gene p53 as a predictor of local-regional failure.

Materials and Methods
p53 levels were examined retrospectively in 1,530 breast cancer patients treated with mastectomy. In 259 patients, mastectomy was followed with adjuvant radiation therapy.

Results
After a median follow-up of 62 months, the researchers found:

- Patients with p53-positive tumors had a significantly higher recurrence rate, whether they received adjuvant radiation or not.
- In patients not treated with radiation, the local failure rate was 9.1% with p53-negative tumors and 16.5% for p53-positive tumors.
- In patients treated with radiation, the local failure rate was 9.3% with p53-negative tumors and 21.5% in p53-positive tumors.

Discussion
In this study, p53-positive breast cancers were strongly associated with an increased risk of local recurrence after mastectomy, regardless of adjuvant radiation treatment. This finding may help physicians to identify a subgroup of breast cancer patients who are at greater risk of local-regional failure and who therefore may benefit from more aggressive local management.