Receptor Status Change Portends Poor Survival

BY FRAN LOWRY
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CHICAGO — Two retrospective studies presented at the annual meeting of the American Society of Clinical Oncology show that changes in hormone- and HER2-receptor status are indeed possible between primary and recurrent breast cancer lesions, and that survival outcomes are severely compromised when they occur.

In one study, Dr. Robyn MacFarlane of the University of British Columbia, Vancouver, reported that 30 of 160 patients (19%) had changes in estrogen-receptor (ER), progesterone-receptor (PR), or human epidermal growth factor receptor 2 (HER2)–receptor status when their relapsed or metastatic tumor was compared with their primary tumor.

In the second study, Dr. Cornelia Liedtke of the Westfälische Wilhelms-Universität Münster (Germany) reported that change in receptor status was associated with a much shorter survival after recurrence, as compared with no change.

In her study, 176 patients with triple-negative breast cancer had recurring tumors with the same receptor status as their primary tumors. They had a mean overall survival of 43 months, compared with just 16 months for 55 patients whose original triple-negative tumors converted to positive receptor status when they recurred.

Dr. MacFarlane said she and her coauthors were prompted to conduct their study by three earlier reports that suggested a significant proportion of relapsed lesions may have changes in hormone-receptor and HER2-receptor status from the original tumor.

When the researchers analyzed their tissue samples, they found changes—from positive to negative and vice versa—in ER-, PR-, and HER2-receptor status. None of the changes was related to treatment of the primary tumor, Dr. MacFarlane reported.

"These changes have implications for selection of treatment options of relapsed breast cancers, and we think that the findings illustrate the need for a rebiopsy, if feasible, at the time of relapse or recurrence to determine if there has been any change in the hormone-receptor and HER2-receptor status," she said.

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DR. GOSS

Dr. Liedtke, a fellow at the University of Texas M.D. Anderson Cancer Center, Houston, and her coinvestigators performed a retrospective chart review of 789 patients enrolled in M.D. Anderson's institutional breast cancer database between 1982 and 2006.

The researchers identified 231 patients who had triple-negative breast cancer (defined as no ER, PR, or HER2 expression). Of these triple-negative patients, 55 developed non–triple-negative tumors (defined as positive for at least one ER, PR, or HER2 receptor) at recurrence. These patients' overall survival was significantly worse than that of their counterparts who recurred with triple-negative status tumors.

In a discussion of the studies, Dr. Paul E. Goss commended Dr. MacFarlane and Dr. Liedtke for introducing a topic of extreme importance to physicians who care for breast cancer patients. Dr. Goss, professor of medicine at Harvard Medical School and director of breast cancer research at Massachusetts General Hospital, both in Boston, noted that both studies showed about a 20% rate of migration of receptors from primary to recurrent lesions, and that this change meant a worsening of outcome.

He asked that clinicians in the audience start to collect metastatic biopsies prospectively. "We need planned metastatic biopsies in ongoing clinical trials. I would ask you to rigorously persuade patients to allow biopsies of their recurrent tumors, so that we can correlate biologic findings to response to treatments and clinical outcomes," he said.

Neither Dr. MacFarlane nor Dr. Liedtke reported any conflicts of interest.

Dr. Goss disclosed relationships with Novartis, Pfizer Inc., AstraZeneca Pharmaceuticals LP, and GlaxoSmithKline Inc. ■