

Marchionni L, Wilson RF, Wolff AC, et al. Systematic review: gene expression profiling assays in early-stage breast cancer. *Ann Intern Med.* 2008; 148(5):358-369.

Gene expression technologies show great promise to improve predictions of prognosis and treatment benefit for women with early-stage breast cancer. More information is needed on the extent of improvement in prediction, characteristics of women in whom the tests should be used, and how best to incorporate test results into decision making about breast cancer treatment.

Jones S, Holmes FA, O'Shaughnessy J, et al. Docetaxel with cyclophosphamide is associated with an overall survival benefit compared with doxorubicin and cyclophosphamide: 7-year follow-up of US Oncology Research Trial 9735. *J Clin Oncol.* 2009;27(8):1177-1183.

The authors previously reported that four cycles of docetaxel/cyclophosphamide (TC) produced superior disease-free survival compared with four cycles of doxorubicin/cyclophosphamide (AC) in early breast cancer. With longer follow-up, a regimen consisting of four cycles of TC was superior to standard AC (disease-free survival and overall survival) and was tolerable in both older and younger patients.

Gnant M, Mlineritsch B, Schippinger W, et al. Endocrine therapy plus zoledronic acid in premenopausal breast cancer. *N Engl J Med.* 2009; 360(7):679-691.

The addition of zoledronic acid to adjuvant endocrine therapy improves disease-free survival in premenopausal patients with estrogen-responsive early breast cancer.

Fong PC, Boss DS, Yap TA, et al. Inhibition of poly(ADP-ribose) polymerase in tumors from BRCA mutation carriers. *N Engl J Med.* 2009;361(2):123-134.

The inhibition of poly(adenosine diphosphate [ADP]-ribose) polymerase (PARP) is a potential synthetic lethal therapeutic strategy for the treatment of cancers with specific DNA-repair defects, including those arising in carriers of a BRCA1 or BRCA2 mutation. Olaparib has few of the adverse effects of conventional chemotherapy, inhibits PARP, and has antitumor activity in cancer associated with the BRCA1 or BRCA2 mutation.

Smith BD, Arthur DW, Buchholz TA, et al. Accelerated partial breast irradiation consensus statement from the American Society for Radiation Oncology (ASTRO). *Int J Radiat Oncol Biol Phys.* 2009;74(4):987-1001.

Accelerated partial breast irradiation is a new technology that may ultimately demonstrate long-term effectiveness and safety comparable to that of whole-breast irradiation for selected patients with early breast cancer. This consensus statement is intended to provide guidance regarding the use of accelerated partial breast irradiation outside of a clinical trial and to serve as a framework to promote additional clinical investigations into the optimal role of accelerated partial breast irradiation in the treatment of breast cancer.

Vogel VG, Costantino JP, Wickerham DL, et al. Update of the National Surgical Adjuvant Breast and Bowel Project Study of tamoxifen and raloxifene (STAR) P-2 trial: preventing breast cancer. *Cancer Prev Res (Phila Pa).* 2010;3(6):696-706.

This report presents an updated analysis with an 81-month median follow-up. The results have important public health implications and clarify that both raloxifene and tamoxifen are good preventive choices for postmenopausal women with elevated risk for breast cancer.

Dowsett M, Cuzick J, Wale C, et al. Prediction of risk of distant recurrence using the 21-gene recurrence score in node-negative and node-positive postmenopausal patients with breast cancer treated with anastrozole or tamoxifen: a TransATAC study. *Lancet Oncol.* 2010;11(3):266-274.

This study confirmed the performance of the recurrence score in postmenopausal hormone receptor-positive patients treated with tamoxifen in a large contemporary population. It demonstrated that the recurrence score is an independent predictor of distant recurrence in negative and node-positive hormone receptor-positive patients treated with anastrozole, adding value to estimates with standard clinicopathologic features.

Bartlett JM, Munro AF, Dunn JA, et al. Predictive markers of anthracycline benefit: a prospectively planned analysis of the UK National Epirubicin Adjuvant Trial (NEAT/BR9601). *Lancet Oncol.* 2010; 11(3):266-274.

The NEAT/BR9601 trial showed benefit for addition of anthracyclines to cyclophosphamide, methotrexate, and fluorouracil (CMF) as adjuvant treatment for early breast cancer. This report investigates prospectively predictive biomarkers of anthracycline benefit including HER2 and TOP2A. In women with early breast cancer receiving adjuvant chemotherapy, the most powerful predictor of benefit from anthracyclines is Ch17CEP duplication. In view of the location of HER2/TOP2A on chromosome 17, Ch17CEP dupli-

tion might explain the inconsistencies in previous studies of factors predicting benefit from anthracyclines.

Holmes MD, Chen WY, Li L, et al. Aspirin intake and survival after breast cancer. *J Clin Oncol*. 2010;28(9):1467-1472.

Among women living at least 1 year after a breast cancer diagnosis, aspirin use was associated with a decreased risk of distant recurrence and breast cancer death.

Pal SK, Mortimer J. Triple-negative breast cancer: novel therapies and new directions. *Maturitas*. 2009;63(4):269-274.

The focus of this review is directed towards novel targeted strategies for triple-negative breast cancer (TNBC). Recent trials have shown the poly(ADP-ribosyl)ation polymerase (PARP) inhibitors BSI-201 and olaparib to be highly effective in TNBC and BRCA1/2-positive disease, respectively. Efforts to assess the role of antiangiogenic agents such as bevacizumab and sunitinib in TNBC are ongoing. Preclinical studies provide a signal of potential activity with use of heat shock protein 90 (Hsp90) and Src inhibitors in this breast cancer subtype.