New Adjuvant Treatments for Breast Cancer Prove Cost-Effective

Atlanta 2007/06/25 -New adjuvant treatments for breast cancer are cost-effective at improving survival, according to two new studies. Published in the August 1, 2007 issue of CANCER, a peer-reviewed journal of the American Cancer Society, the two studies looked at the cost-effectiveness of different drugs for the management of adjuvant therapies for early breast cancer. In a Canadian economic study of estrogen receptor positive breast cancers, switching from tamoxifen to the oral steroidal aromatase inhibitor exemestane (trade name: Aromasin) extended disease free survival at a minimal cost per person. In another of study of human epidermal growth factor receptor 2 (HER2)-positive breast cancer, the addition of the anti-HER2 receptor monoclonal antibody, trastuzumab (trade name: Herceptin), is projected to improve life expectancy at a relatively low cost.

Breast cancer is a major cause of cancer mortality, second only to lung cancer as a cause of cancer death in women. The five-year survival rate for localized breast cancer has increased from 80 percent in the 1950s to 98 percent today. Mammography has led to cancers being detected earlier, when early treatments may be more effective. A greater understanding of the molecular biology of breast cancer has led to new post-surgical treatments, including hormone modulators and monoclonal antibodies. Many of these agents have led to decreased mortality and disease recurrence. As the therapeutic effectiveness of these drugs has been verified and is included in professional treatment guidelines, their cost-effectiveness is being investigated.

Cost-effectiveness is measured not just in life years (LY) gained but is adjusted also for the quality of life gained. This combination is expressed as a quality-adjusted life year (QALY). The ratio of cost to QALY is calculated to provide a quantitative estimate of the cost-effectiveness of a therapy.

A recent study showed that switching from tamoxifen to exemestane after two to three years of tamoxifen significantly improves disease-free survival compared to tamoxifen alone. Ms. Nancy Risebrough from the HOPE Research Centre, Sunnybrook Health Sciences Centre in Toronto and Dr. Nicole Mittmann from the HOPE Research Centre at Sunnybrook Health Sciences Centre in Toronto and the University of Toronto and colleagues evaluated the cost-effectiveness of switching from tamoxifen to exemestane after two to three years.

The authors found that over 7.5 years, a tamoxifen-exemestane adjuvant protocol improved disease free survival (LY and QALY) at an additional cost of Can$2,889 per patient. The incremental cost-effectiveness ratio was calculated to be Can$24,185/QALY gained, well below a recognized threshold of Can$50,000/QALY gained.

Based on three-year follow-up of a recent clinical trial, the addition of trastuzumab to adjuvant chemotherapy treatment has been projected to improve significantly the long-term survival of early HER2-positive breast cancers. Dr. Louis Garrison, Jr of the University of Washington in Seattle and co-investigators evaluated the cost-effectiveness of adding trastuzumab to standard chemotherapy.

Dr. Garrison and co-authors estimated that life expectancy would improve by three years on average with the addition of this drug due to reduced disease recurrence. Over a lifetime, the cost-effectiveness ratio was estimated to be US$26,417/QALY and over 20 years was estimated at US $34,201.

The two economic studies agree with previous cost-effectiveness studies of the similar regimens and support their clinical use. The cost-effectiveness ratios calculated for both exemestane and trastuzumab were below those of many widely used oncology treatments.

Articles: “Cost-effectiveness of Switching to Exemestane Versus Continued Tamoxifen as Adjuvant Therapy for Postmenopausal Women with Primary Breast Cancer,” Nancy A. Risebrough, Shailendra Verma, Maureen Trudeau, Nicole Mittmann, CANCER; Published Online: June 25, 2007 (DOI: 10.1002/cncr. 22824); Print Issue Date: August 1, 2007.

“Cost-Effectiveness Analysis of Trastuzumab in the Adjuvant Setting for Treatment of HER2-Positive Breast Cancer,” Louis P. Garrison, Jr, Deborah Lubeck, Deepa Lalla, Virginia Paton, Amylou Dueck, Edith A. Perez, CANCER; Published Online: June 25, 2007 (DOI: 10.1002/cncr. 22806); Print Issue Date: August 1, 2007.

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