Accelerated Partial Breast Irradiation:
Efficacy and Outcomes

Elfrida Bauer, BA, RN, OCN®, CBCN®, and Joanne L. Lester, PhD, CNP, AOCN®

Local therapies to treat newly diagnosed breast cancer include a lumpectomy with radiation therapy or a mastectomy. The 20-year data from studies about the safety and efficacy of lumpectomy with full-breast radiation therapy support the safety of this regimen and its role to decrease the risk of ipsilateral recurrence and increase long-term survivorship of women with breast cancer. Accelerated partial breast irradiation (APBI) provides radiation therapy to the tumor bed but spares the remaining breast tissue. APBI accelerates the time required to complete the therapy regimen, with a range of one intraoperative session to five consecutive days compared to five to seven weeks. Several techniques exist to administer APBI, including the insertion of a balloon into the lumpectomy space. Of interest is the widespread use of APBI in community and academic settings that has preceded outcomes of large, randomized clinical trials. Because of selection bias in a number of small, single-institution, nonrandomized studies, published data are of limited value to ensure APBI as a standard of care.

Elfrida Bauer, BA, RN, OCN®, CBCN®, is a clinical nurse in the Division of Radiation Oncology at MD Anderson Cancer Center at Presbyterian in Albuquerque, NM, and Joanne L. Lester, PhD, CNP, AOCN®, is a senior researcher in the Department of Psychology at The Ohio State University in Columbus. The authors take full responsibility for the content of the article. The authors were participants in the *Clinical Journal of Oncology Nursing (CJON)* Writing Mentorship Program. Lester received honorarium for her role as a mentor in the *CJON* Writing Mentorship Program. The content of this article has been reviewed by independent peer reviewers to ensure that it is balanced, objective, and free from commercial bias. No financial relationships relevant to the content of this article have been disclosed by the independent peer reviewers or editorial staff. Bauer can be reached at ebauer@mdanderson.org, with copy to editor at CJONEditor@ons.org. (Submitted September 2013. Revision submitted January 2014. Accepted for publication January 29, 2014.)

Key words: breast cancer; radiation therapy; surgery; ethical issues

Digital Object Identifier: 10.1188/14.CJON.556-566

Breast-conserving surgery with adjuvant radiation therapy (RT) remains a hallmark improvement in breast cancer management (Fisher et al., 2002). Decades of randomized trials provide sound evidence that breast-conserving therapy does not compromise mortality (Fisher et al., 2002; Shah, Vicini, Wazer, Arthur, & Patel, 2013) and that it may reduce long-term morbidity compared to mastectomy (Jagsi & Haffty, 2013). Randomized clinical trials demonstrate that whole breast irradiation (WBI) provides a significant decrease in the risk of ipsilateral or same-side recurrence (Fisher et al., 2002).

Accelerated partial breast irradiation (APBI) is an innovative treatment modality following breast-conserving surgery (Jagsi & Haffty, 2013). APBI modalities reduce the number of RT fraction days (e.g., hypofractionation) and overall volume of radiated breast tissue compared to WBI (Murphy & Sacchini, 2013). This article compares APBI to WBI and discusses the types of APBI and their side effects, criteria to evaluate appropriateness for treatment, and related nursing considerations.

Radiation Therapy for Breast Cancer

The absence of adjuvant RT following breast-conserving surgery can result in increased risks of breast cancer recurrence or metastatic disease (Barry, Ho, & Morrow, 2013). The extended time period required for adjuvant WBI can be problematic for women, including time off from work, childcare responsibilities, transportation challenges, financial concerns, age, mobility, or access to care issues. These difficult situations have received increased attention given the evidence that APBI may be as effective as WBI (Jagsi & Haffty, 2013) and perhaps provide an alternative to barriers without sacrificing outcomes.

Research confirms that breast-conserving surgery plus WBI is equal to a mastectomy for mortality risks (Fisher et al., 2002). WBI significantly decreases the risk of recurrent disease in the affected breast (Chafe et al., 2013) as compared to breast-conserving surgery without RT. Long-term side effects of WBI include skin dryness and breast firmness; cosmesis generally improves over time (Jagsi & Haffty, 2013).