1099 Time to Revise the Consensus Statement Guidelines for the Use of Accelerated Partial Breast Irradiation Off Protocol?


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Purpose/Objective(s): The American Society for Radiation Oncology (ASTRO), Groupe Européen de Curiethérapie-European Society for Therapeutic Radiology and Oncology (GEC-ESTRO), American Society of Breast Surgeons (ASBS) and American Brachytherapy Society (ABS) consensus statement (CS) guidelines for the use of accelerated partial breast irradiation (APBI) off protocol were applied to patients treated with this technique on the ASBS MammoSite Registry Trial to determine potential differences in clinical outcome based on classification criteria.

Materials/Methods: Patients were classified based on the four CS guidelines (“suitable,” “cautionary,” and “unsuitable” for the ASTRO CS, “low risk,” “intermediate risk,” and “high-risk” for the GEC-ESTRO CS, “suitable” and “unsuitable” for the ASBS CS, and “acceptable,” “relative contraindications,” and “absolute contraindications,” for the ABS CS). Patients were not classified by CS grouping if data required for categorization was missing. Rates of ipsilateral breast tumor recurrence (IBTR), regional nodal failure (RNF), distant metastases (DM), disease-free survival (DFS), cause-specific survival (CSS), and overall survival (OS) were assessed.

Results: Of the 1449 cases treated, 1093 (75.4%) could be classified by the ASTRO CS groupings, 1355 (93.5%) by the GEC-ESTRO CS groupings, 1157 (79.8%) by the ASBS CS groupings, and 1395 (96.3%) by the ABS CS groupings. At a median follow-up of 60 months, the 6-year actuarial rates of IBTR, RNF, DM, DFS, CSS, and OS were as follows: 4.6%, 0.8%, 2.9%, 83.1%, 98.3%, and 90.4%, respectively. These rates were not significantly different between any of the groupings outlined in the four sets of CS guidelines. Univariate analysis of factors included in the four CS guidelines indicated that negative estrogen receptor status was the only factor predictive of IBTR (OR 4.215, p = 0.0001) and showed a trend of predicting for RNF (OR 4.200, p = 0.0514) among patients with invasive breast cancer (IBC). Larger tumor size and negative estrogen receptor status both predicted for DM (OR 2.992, p < 0.0001 and OR 7.431, p < 0.0001, respectively) among patients with IBC. Among patients with DCIS, only age at diagnosis < 50 years and close-positive margins predicted IBTR (OR 7.042 (p = 0.0151) and OR 6.263 (p = 0.0218), respectively.

Conclusions: Neither the ASTRO, GEC-ESTRO, ASBS, nor ABS CS guidelines differentiated a subset of patients with significantly worse 6-year actuarial rates of IBTR when treated with the MammoSite breast brachytherapy catheter to deliver APBI. Since other groups have also confirmed our findings, consideration should be made to revise these guidelines.


1100 Black Race is Associated with Higher Risk of Locoregional Recurrence after Breast-conserving Therapy in Patients with Triple Negative Breast Cancer

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Purpose/Objective(s): Triple negative breast cancer (TNBC) carries a higher risk of locoregional recurrence (LRR) when compared to other molecular subtypes; however, features that predict for LRR within TNBC patients have not been reported. We evaluated the effect of race, among other variables, on LRR rates in women with TNBC.

Materials/Methods: Patients with Stage I – III TNBC diagnosed from 1999 to 2006 and treated with breast conserving surgery were identified from a prospectively maintained database (n = 589, median age 54). Seventy-eight percent received adjuvant chemotherapy and 85% received whole breast radiation. Race was categorized as self-identified Black (Black, 18%) vs. white/other (non-Black, 82%). Fifty-two percent were Stage I, 45% Stage II, and 3% Stage III. LRR was defined as biopsy-proven recurrence in the ipsilateral breast or regional nodes. Kaplan-Meier methods and the log-rank test were used to assess the univariate association between race, disease, and treatment variables and LRR. A Cox proportional hazards model was used for multivariate analysis.

Results: At a median follow-up of 55 months, there have been 44 LRRs (7%, 32 in-breast, 12 nodal). Median time to LRR from the time of definitive surgery was 17 months. The 5-year LRR-free survival rate was 79% in Black patients and 95% in the non-Black group (p < 0.0001). Compared to non-Black patients, Black women had larger tumors, higher nodal stage, and were more likely to receive chemotherapy (p < 0.05 for each). There was no difference in receipt of RT or use of a boost dose between the two groups (p = 0.566 and p = 0.823, respectively). Black race and lymphovascular invasion were positive predictors of LRR (p < 0.05 for each). After adjusting for stage, age, lymphovascular invasion and receipt of RT, Black race was strongly associated with LRR in multivariate analysis (HR = 3.8; 95% CI 1.94 to 7.45; p = 0.0001).

Conclusions: Despite higher use of chemotherapy and equal receipt of radiation, Black women with TNBC have higher LRR rates compared to non-Black patients. The distinct biology of TNBC in Black women as well as strategies for improving local therapy following breast conserving surgery should be explored.