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Clinical and Pathologic Factors In Breast Cancer Patients with Bone Metastases Undergoing Surgery for Pathologic and Impending Fractures

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SKMC Class of 2021

SI Abstract - CTR

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Clinical and Pathologic Factors in Breast Cancer Patients with Bone Metastases Undergoing
Surgery for Pathologic and Impending Fractures

Emily Bochner, Dr. Wm. Kevin Kelly, Kerith Wang, Benjamin Leiby, and Ayako Miura

Introduction: Metastatic lesions to bone carry a poor prognosis. Bone lesions can be responsible for significant morbidity in patients, including pathologic or impending fractures that may require emergent surgical evaluation.

Objective: We evaluated the clinical and pathologic features associated with breast cancer patients with bone metastases who underwent surgery for pathologic or impending fractures.

Methods: A retrospective chart review of 20 breast cancer patients with bone metastases who underwent surgery from the Bone Biorepository Bank at Sidney Kimmel Cancer Center was performed. We evaluated their clinical and pathologic characteristics and performed Fisher's Exact Testing to explore potential associations.

Results: 90% and 15% of patients received systemic chemotherapy and bone directed radiation prior to surgery, respectively. The average time between diagnosis to surgery was 6.21 years and the average patient age was 63 years. 60% of the tumor specimens demonstrated medium or high

tumor burden. Similarly, 70% of the tumor specimens demonstrated a medium or high stromal proliferative response. On Fisher's Exact Test, while both stromal proliferative response and tumor burden trended towards an association, this was not found to be statistically significant.

Discussion: Breast cancer patients undergoing surgery for boney metastasis were noted to have a wide range of ages and time from diagnosis to surgery. While there was a higher percentage of patients with tumors of high and medium tumor burden and stromal proliferative response, this trend was not found to be statistically significant. Future studies with larger sample sizes are required to determine the relationship between these features.