

Analysis of Her 2 positive Breast Cancer Cases in GBMC Tumor Registry
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The Tumor Registry at GBMC accessions more cases of breast cancer on an annual basis than any other hospital facility in Maryland. In addition, the active involvement in clinical trials by oncologists at GBMC places us among the leaders in treatment of breast cancer nationally.

One of the most significant advances in cancer treatment over the past 3 decades has been the development and approval of trastuzumab (Herceptin) for treatment of breast cancer. This agent, directed against the growth factor receptor, Her 2-neu, dramatically improved response rates and duration of response for women with metastatic Her 2 positive breast cancers. More recent studies (and FDA approval) confirmed the value of this agent as adjuvant therapy for women with resected early stage Her-2 positive cancers, decreasing risk of recurrence by nearly 50%.

We reviewed all GBMC cases of Her-2 positive breast cancers, in 2009 and 2004-05 for comparison with all breast cancer cases in the NCDB for the index year of 2003. Cases were identified by Her-2 staining of 3+ We now recognize that determination of gene amplification is a better predictor of response to trastuzumab. However, this additional information was not easily available in our database for the years evaluated. A score of 3+ by immunostain, however, is a reasonable approximation of gene amplification status.

Knowing that the presence of Her-2 in breast cancer usually portends a worse prognosis, it is surprising that our Her-2 positive patients fared as well or better than patients in the National Cancer Database which included not just Her-2 but all patients, most of which had a better prognosis overall. Given the relatively small numbers of patients, it is not surprising that our Her-2 positive patients generally mirrored the usual distribution by stage and age. We identified 78 Her 2 positive patients in 2004-05 and 59 cases in 2009. These numbers are less than the expected 20-25% incidence of Her 2 among new breast cancers. The lower numbers in our population are undoubtedly due to policies that initially limited testing for her 2 to patients in whom it would potentially affect treatment decisions. Her 2 was not required as a data element by NCDB until 2010.

The rapidly changing understanding of the importance of the Her-2 surface marker for both prognostic and therapeutic implications has altered the treatment paradigm for this subset of breast cancer, between 2004 and the present time. This paradigm shift explains the very different treatment approaches in 2004 compared to 2009. In 2009, only 10% of patients had surgery alone and 90% received surgery radiation and chemo, with or without hormonal therapy depending upon hormone receptor status. Our data comparison is also complicated by the fact that trastuzumab was considered a “biologic modifier” in 2004-2005 (hence referred to as “other”) but was re-classified as “chemo therapy” by 2009.

We look forward with hope and great anticipation to the identification of other markers, to better define additional subsets of breast cancer to further refine our treatment approaches and improve overall prognosis. Our participation in clinical trials assures that we will continue to be at the forefront of treatment interventions for these new discoveries.