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Breast cancer in young age (≤ 40 years): The University of Tennessee Medical Center at Knoxville 10 year experience

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Young age at diagnosis of breast carcinoma (BC), triple negative ER/PR/HER2 phenotype, and non-Caucasian race have all been reported to have a negative impact on patient outcome. We evaluated the prognostic value of ER/PR/HER2 subtypes, pathologic tumor characteristics, and TNM stage on overall survival (OS) of young Caucasian female patients (≤ 40 y/o) with invasive BC from our institution over a 10 year period (1/1/1998-7/1/2008), and analyzed the type of therapy received (last follow-up day 8/1/2013). Eighty ≤ 40 y/o patients (6.3% of study population) had complete ER/PR/HER2 data and were divided into five-ER/PR/HER2 groups per 2011 St. Gallen International Consensus Panel classification system. The effect of ER/PR/HER2 subtype on OS was measured using a Kaplan-Meier curve. A multivariate Cox regression was used when ER/PR/HER2 subtype was controlled for grade and TNM stage. 41% of patients were ER+/PR+/HER2- subtype, 31% ER+/PR+/HER2+ or ER-/PR-/HER2+, and 28% ER-/PR-/HER2-. The majority presented with grade 3 invasive BC (67.5%) and TNM stage II (50%). Only 17% had negative lymph nodes. 50% underwent modified radical mastectomy, 29% had breast conserving surgery, 46% had radiation, 82% received adjuvant chemotherapy and 80% of ER+ patients received hormonal therapy. Patients with ER+/PR+/HER2- subtype had significantly better OS than ER-/PR-/HER2- or ER+/PR+/HER2+ ($p=.035$) in a univariate analysis. However, when ER/PR/HER2 subtype was controlled for TNM stage and grade, only TNM stage was a significant predictor of OS ($p<0.001$). These results are in concordance with our previously published data on the effects of ER/PR/HER2 on OS, and will be compared/contrasted to results from literature.

Biography

Daniel Snyder received his Bachelor of Science degree in Biology at Tennessee Technological University in Cookeville, TN in 2010, and earned his Medical degree from Lincoln Memorial University-DeBusk College of Osteopathic Medicine in Harrogate, TN in 2014. Currently, he is a PGY-1 resident in the Anatomic and Clinical Pathology Residency Program at the University of Tennessee Medical Center in Knoxville, Tennessee. His research interests include breast cancer, biomarkers, and patient outcomes.

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