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23 Tamoxifen Effects on Cognition and Language in Women with Breast Cancer

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Objective: Cognitive changes following adjuvant treatment for breast cancer (BC) are well documented particularly following chemotherapy. However, limited studies have examined cognitive and/or language functions in chemotherapy-naive women with BC taking tamoxifen (TAM). While there is some compelling evidence TAM affects cognitive and language domains, language has not been studied beyond semantics (i.e., content of language), which is just one aspect of language. Using ambulatory cognitive assessment, we investigated the trajectory of cognitive and language changes during early period of adjuvant endocrine treatment (tamoxifen) in women with BC at two time periods (pre-treatment and two months after treatment begins).

Participants and Methods: Four women with BC (mean age = 62.25 years, SD = 8.38) and 18 cognitively healthy age-matched controls (mean age = 59.77, SD = 7.45) completed 3 cognitive tasks using smartphones, during a short time period (5 days) and repeated at two time periods. Symbol search, dot memory and color dots tasks were used to measure the cognitive constructs - processing speed and working memory. Response times were recorded in milliseconds. To determine language ability, language samples were collected at two time periods, where the participants described two stories from two wordless picture books and samples were assessed using core lexicon analyses.

Results: Wilcoxon-signed rank test was computed to identify cognitive and linguistic changes during early period of TAM administration in women with BC at two time periods. No significant within group or between group differences were seen on the cognitive and language tasks at the two time periods, however, a trend for decline in performance was seen in some BC participants across different tasks.

Conclusions: This is the first study to our knowledge to use ambulatory cognitive assessment method and study discourse-level language function during this early period (pre-treatment and 2 months post-TAM). Findings from the current study advance our understanding of trajectories of cognition and language changes during the initial course of adjuvant endocrine treatment for women with BC with ER+ tumors. Using a measurement-burst design and ambulatory cognitive assessment, we were able to apply better precision measurement to identify distinct cognitive constructs affected by adjuvant endocrine treatment. In addition, insight into changes in discourse ability are impactful for numerous reasons: (1) better understanding of how adjuvant endocrine therapy impacts communication and (2) discernment into language domains that may require early behavioral intervention.

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24 Adaptive Functioning and Academic Achievement in Survivors of Childhood Acute Lymphoblastic Leukemia

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Objective: Executive functioning (EF) and socioeconomic status (SES) are associated with functional outcomes (adaptive functioning and academic achievement) in healthy controls and pediatric populations with executive dysfunction. However, these relationships have yet to be investigated in survivors of childhood acute lymphoblastic leukemia (ALL), a population with EF impairment resulting from disease and treatment characteristics. The objective of this study was to examine the associations of functional outcomes with EF and SES