NC-05. ASSOCIATION OF NEUROCOGNITIVE AND PATIENT REPORTED OUTCOMES WITH THE PRESENCE OF RESIDUAL DISEASE FOLLOWING SURGICAL RESECTION IN Glioblastoma (GBM)

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BACKGROUND: It is hypothesized that subtotal resection (STR) is associated with worse neurocognitive function (NCF) and patient-reported outcomes (PRO) in patients with glioblastoma treated with concurrent temozolomide and radiation therapy followed by adjuvant temozolomide. METHODS: NCF [Hopkins Verbal Learning Test-Revised (HVLT-R), Trail Making Test (TMT), and Controlled Oral Word Association (COWA)] and PRO [select components of the MD Anderson Symptom Inventory-Brain Tumor questionnaire (MDASI-BT), and the European Organization for the Research and Treatment of Cancer Quality of Life Questionnaire C30/BN20 (EORTC-QLQ)] data from RTOG 0525 and the control arm of 0825 were analyzed. Changes in NCF and PRO measures from baseline to prespecified times were examined by Wilcoxon test, and mixed effects longitudinal modeling, to assess differences between STR and gross total resection (GTR). RESULTS: 427 eligible patients were analyzed with STR identified in 37%. STR patients were less likely to have a KPS of 90-100%; there were no other differences in clinical characteristics. At baseline, patients with STR had worse NCF [HVLT-R Total Recall (p = 0.0043), COWA (p = 0.0072)]; worse MDASI-BT Cognitive Factor ratings (p = 0.006); and worse EORTC-QLQ Cognitive Function scale ratings (p = 0.001). Change in test scores from baseline to 6 and 22 weeks was compared for GTR vs. STR and no difference in the magnitude of change was detected. Longitudinal multivariate analysis demonstrated STR was associated with worse NCF [HVLT-R Total Recall (p = 0.001), Delayed Recall (p = 0.011), TMT Part A (p = 0.010), and COWA (p = 0.001)]. CONCLUSIONS: STR patients had worse objective NCF and subjective cognitive complaints before therapy. During adjuvant therapy, patients with STR had worse objective NCF. No difference in select PROs was found among GTR and STR patients.