demic success within families and the care team. While all the patients took applications, none of the patients completed the on-site interviews, finding them overwhelming. Even at the 3- and 6-month follow-ups following the first event, the survivors continued to be at varying levels of application completion; no one who was previously unemployed attained new employment. This improved after pre-event meetings were held with survivors to participate in resume building and interview preparation. Currently, two survivors obtained employment and are still employed at 1 year and five survivors were able to advocate for their disabilities services in college with help of a non-profit legal assistant.

QOL-36. USE OF CANNABINOIDS IN THE PEDIATRIC CENTRAL NERVOUS SYSTEM TUMOR POPULATION

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BACKGROUND: Cannabinoids, including cannabidiol (CBD) and tetrahydrocannabinol (THC), are a class of compounds found in marijuana. Numerous studies in adults have examined cannabinoid use in management of cancer-related symptoms such as nausea, anorexia, and pain. Less is known about the use in the pediatric oncology population. METHODS: A prospective observational study has been ongoing since 2016 at Children's Hospital Colorado to evaluate cannabinoids' impact using PedsQL™ modules on quality of life of pediatric patients with central nervous system (CNS) tumors who are 2–18 years old. Laboratory assessments of T-cell activity and pharmacokinetics of CBD, THC and associated metabolites are in process. Diaries with exploratory information on cannabinoid use patterns are being collected. RESULTS: Thirty-three patients (14:19; male:female) have been enrolled with a median age of 6.4 years (range, 2.9–17.7 years). The most common tumor type in enrolled patients is embryonal tumors (13/33; 39%). Nine (27%) patients have low-grade glial/glioneuronal tumors, and eight (24%) had high-grade/diffuse midline gliomas. The remaining patients had ependymoma or craniopharyngioma. The median time on cannabinoids is 9 months. Most (n=20) patients have used oral products with CBD and THC. One patient continues on cannabinoid therapy in follow up. Preliminary immune function analyses identified impaired neutrophil superoxide anion production and chemotaxis in patients taking cannabinoids at early time points on therapy. CONCLUSIONS: Families of children with various CNS tumors are pursuing cannabinoid therapy for both antitumor and supportive care purposes. Analysis of the impact of cannabinoids on patients' quality of life is ongoing.

QOL-37. USE OF COMPUTERIZED NEUROPSYCHOLOGICAL MEASURES TO ASSESS COGNITIVE MORBIDITY IN CHILDREN UNDERGOING ACTIVE RADIATION THERAPY

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Cognitive late effects of brain tumors and related treatments are well-established; however, limited information regarding changes in cognition during radiation therapy (RT) is available. Recent advances in computerized neuropsychological assessments for monitoring of acute and late treatment effects have been developed, though the feasibility of using these tools in a population undergoing active RT has limited empirical evidence. This study investigated performance of pediatric patients with brain tumors actively undergoing RT on the NIH Toolbox (N = 10; M age = 11.29 ± 3.35 years; 86% Caucasian; 86% female). Given significant individual variability, one-sample proportion tests were calculated to assess whether the proportion of patients with performances >1 standard deviation below the mean significantly differed from normative expectations. Of the 12 participants that were enrolled in the study, 10 completed the NIH Toolbox during active RT. Compared to normative expectations, a greater proportion of participants undergoing active RT exhibited deficits on measures of processing speed, working memory, and response inhibition (p=<.01). Differences between participants and normative expectations were not seen on measures of visual memory and vocabulary (p=>.05). Seventy-seven percent of recruited participants completed computerized assessment during active RT, suggesting reasonable feasibility within the small cohort recruited. Consistent with the literature regarding late effects of RT, performance on computerized measures of cognitive functioning mediated by processing speed and aspects of executive functioning were lower for patients undergoing active RT. Further investigation will focus on clarifying the trajectory of deficits across treatment course and comparing computerized measures to traditional neuropsychological measures.

QOL-38. USE OF COMPUTERIZED NEUROPSYCHOLOGICAL MEASURES TO ASSESS COGNITIVE MORBIDITY IN SURVIVORS OF CHILDHOOD BRAIN TUMORS

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Treatment of central nervous system (CNS) tumors in pediatric populations is associated with significant cognitive morbidity. Documentation of neuropsychological deficits is vital to treatment and educational planning. We investigated the feasibility and utility of a computerized neuropsychological measure (NIH Toolbox Cognitive Battery) in differentiating individuals who received tumor treatment from healthy controls. Participants included pediatric CNS tumor survivors (N = 85; Mean Age = 13.47; SD = 4.76) at least 1-year post-completion of treatment and healthy sibling controls (N = 20; Mean Age = 10.2; SD = 3.21) who completed the NIH Toolbox. Ninety-eight percent of the participants enrolled completed the computerized tasks. The overall logistical regression model, with NIH Toolbox tests as predictors, was statistically significant [$\chi 2$ (7, N = 105) = 26.176; p < .001] and improved correct group classification from 81% to 82.9%. Picture Sequencing (β = -0.059; Wald = 6.942; p = .008) and Flanker (β = -0.083; Wald = 7.473; p = .006) were both statistically significant and negatively predictive of membership in the treatment group. For each 1 unit increase in standard score on measures of working memory and inhibition, odds of membership in the treatment group decreased by 6.2% and 8.7%, respectively. Consistent with the literature, worse performance on computerized measures of cognitive functioning mediated by executive functioning was correlated with a history of brain tumor treatment. Further investigation will focus on comparing computerized neuropsychological tools to traditional comprehensive neuropsychological evaluations and clarifying the trajectory of these deficits across recovery.

QOL-40. THE IMPACT OF TASK COMPLEXITY ON INFORMATION PROCESSING SPEED AND NEURAL COMMUNICATION IN PAEDIATRIC BRAIN TUMOUR SURVIVORS

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Paediatric brain tumour survivors (PBTS) experience slower information processing speed (IPS) that contributes to difficulty performing tasks of minimal (MC) and greater complexity (GC), and is related to aberrant neural communication. It is still unknown whether deficient IPS exists during *increasing* complexity. We aim to determine if PBTS experience deficient IPS and neural communication relative to typically developing children (TDC) during an increasingly complex visual-motor reaction time (RT) task. During magnetoencephalography recording, participants (n=58, 12.69 ±3.24 years) pressed a button with their left or right thumb after an arrow pointing in the corresponding direction appeared on a screen. During two MC conditions, the arrow pointed in a single direction. During a GC condition, the arrow alternated direction randomly. Mean RT >3SD and signal artifacts were removed prior to analyses. The phase lag index (PLI) estimated neural communication between 90 cortical sources. Linear regression and Network Based Statistics assessed group differences in mean RT and the PLI. PBTS demonstrated increased RT relative to TDC during the GC condition (p=0.04, M_{PBTS}=354.00s, M_{TDC}=326.00s). Group differences in mean RT during MC conditions and the PLI during all conditions were not detected (p>0.05). These results suggest PBTS experience slower IPS during GC. Reduced IPS is thought to contribute to difficulty recruiting cognitive resources needed to perform more complex tasks. Subtle deficits in neural communication may underlie slower IPS. The weighted PLI is superior to the PLI when estimating small differences in neural communication. We will now use the weighted PLI to assess task-related neural communication.

QOL-41. CARDIAC DYSFUNCTION IN MEDULLOBLASTOMA SURVIVORS TREATED WITH PHOTON IRRADIATION

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BACKGROUND: Medulloblastoma is an aggressive central nervous system (CNS) tumor that occurs mostly in the pediatric population. Treat-