influence of family, educational, and hospital supports, and identify areas of unmet need. PARTICIPANTS AND METHODS: PBTS (N=56,M_{age}=18.12,range=10–25) completed questionnaires on academic accommodations. Medical chart reviews provided diagnosis and treatment information. A subset of families, who did not significantly differ from the larger sample on demographics, completed qualitative interviews (N=25). Three coders identified themes separately for parents and survivors and reached consensus (kappa's > .78) using thematic content analysis. RESULTS: Families emphasized the role of family support, including providing individualized help, setting up a structured learning environment, and suggesting metacognitive strategies. Parents also emphasized how they have adjusted their expectations. At school, 53% reported an individualized education plan. Formal accommodations (e.g., modified coursework, small group instruction, extra time) were helpful, yet some noted barriers, including embarrassment and lack of follow-through. Survivors emphasized the value of informal accommodations. Families described unmet needs related to connecting with other survivors, navigating community and educational resources, and transitioning to adulthood. CONCLUSIONS: PBTS seem to rely on systems-level supports to mitigate neurocognitive effects. Future work should strengthen communication between systems and adult transition services.

QOL-05. TUMOR LOCATION IS LESS LIKELY INFLUENCE ON COGNITIVE DYSFUNCTION IN CHILDREN

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INTRODUCTION: Though several factors are known to influence on long-term cognitive function in children with brain tumor, the impact of tumor localization to specific cognitive function was not well known. Here we investigated the influence of local brain resection by surgery on postoperative cognitive outcome in school-aged children. METHODS: Participants were seven pediatric patients who underwent craniotomy for tumor resection in our hospital (mean age, 13.9 years). Their diagnosis were WHO grade 1 or 2 glioma (n=6) and hemangioma (n=1). Tumor were mainly located in following regions; frontal, n=2; parietal, n=2; temporal, n=3 (These lesions included hippocampus or were located very close to it). Temporal assessments for cognitive function of several functional domains were performed according to tumor location until post-op 1 year. Based on MRI, we estimated cognitive dysfunctions and compared them to observational symptoms. RESULTS: Preoperative cognitive function was normal in all patients. Cognitive dysfunctions estimated from resected area were as follows (cumulative total number); memory or working memory disorder, n=4; visuospatial cognitive disorder, n=3; disorder of processing speed, n=2; facial or topographical agnosia, n=2; Gerstman syndrome, n=1. Just after surgery, cognitive function was declined in two functional domains of two patients, which were only 16.7% of estimated deficit from resected region. They recovered completely until 3 months postoperatively, and returned to school without any deficits. CONCLUSIONS: In pediatric lower-grade tumor, focal cognitive symptom was unlikely to be induced by local resection.

QOL-06. QUALITY OF LIFE IN MEDULLOBLASTOMA SURVIVORS IN WESTERN MEXICO

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BACKGROUND: Treatment of children with medulloblastoma (MB) can lead survivors to lidiate with long term sequelae and affect their quality of life (QoL). This study evaluates QoL in long term MB survivors. DESIGN/METHODS: Clinical files of MB survivors from 1997 to 2016 were retrospectively analyzed. QoL was defined by Schipper Criteria in a five dimensional evaluation: clinical data, physic effects of treatment, academic develop, functional state and self welfare report. RESULTS: Clinical data: Twenty eight survivors were identified, mean age at review was 18 years, median follow up was 106 months. Functional state: Last visit Karfnosky/lansky were 90 to 80% in 25% of patients. Physic effects of treatment: Cerebellar Mutism or ataxia were present in 25% of cases. Two patients required external dispositives. Audiometry detected an auditive tonal decrease in 25% of cases. An endocrine disfunction was present in 46% of cases, 32% required hormone replacement and 28% having short size. Renal damage without dialysis was detected in 7% and 10% had a transient tubulopaty. One case had bilateral amaurosis and 14% uses glasses. Three patients had a life partner. One female has offspring and two males had azoospermia. Academic development: While 90% attends to school, 35.7% complained of learning difficulties and 18% needed special education. Self welfare report: Difficulties in social environment were described in 21% and 14% still feeling sick during years. CONCLUSIONS: Survivors of MB had adverse physical effects, followed by academic development, functional state and self welfare report and all this has a negative impact in their QoL.

QOL-07. CORTICAL VOLUME AND THICKNESS IN ADULT SURVIVORS OF CHILDHOOD POSTERIOR FOSSA TUMORS

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PURPOSE: A brain tumor treatment including cranial radiotherapy has previously been associated with long-term neurocognitive sequelae. Since underlying neurological mechanisms remain inconclusive, we investigated cortical features in childhood posterior fossa tumor survivors. METHODS: T1-weighted MRI (MPRAGE, resolution=.98x.98x1.2mm) was acquired to investigate the cortical structure in adult survivors of childhood infratentorial tumors (n=19, 15males) (16.4–34.8 years old, >2years after treatment). These scans were compared to age- and gender- matched controls. Supratentorial cortical volume and thickness were investigated using voxel-based morphometry (VBM) and surface-based morphometry (SBM), respectively. We compared patients and controls, irradiated (n=13) versus non-irradiated patients, and investigated the age at radiotherapy (peak level: p<.001). RESULTS: Lower GM volumes were encountered in multiple brain areas of patients compared to controls, with the largest clusters in the right and left occipital fusiform gyri. Irradiated patients showed lower GM volumes then non-irradiated patients in the superior and middle frontal gyri, the right supramarginal gyrus and precunues. Age at radiotherapy was associated with GM volume in the inferior frontal gyrus. SBM yielded larger cortical thickness in patients in the left precuneus, inferior temporal and fusiform gyrus. The opposite effect was only marginally significant, in the left temporal lingual gyrus. Age at radiotherapy was not associated with cortical thickness, but radiotherapy was associated with lower thickness of the left pars opercularis. CONCLUSION: Widespread differences in cortical volumes and thickness were observed in posterior fossa tumor survivors. Both radiotherapy and age at radiotherapy could be suggested as risk factors for long-term cortical development.

QOL-09. WHOLE-BRAIN WHITE MATTER NETWORK CONNECTIVITY IS DISRUPTED BY PEDIATRIC BRAIN TUMOR TREATMENT

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INTRODUCTION: Treatments for pediatric brain tumors (PBT) are neurotoxic and lead to long-term deficits that are driven by the perturbation of underlying white matter (WM). It is unclear if and how treatment may impair WM connectivity across the entire brain. METHODS: Magnetic resonance images from 41 PBT survivors (mean age: 13.19 years, 53% M) and 41 typically developing (TD) children (mean age: 13.32 years, 51% M) were analyzed. Image reconstruction, segmentation, and node parcellation were completed in FreeSurfer. DTI maps and probabilistic streamline generation were completed in MRtrix3. Connectivity matrices were based on the number of streamlines connecting two nodes and the mean DTI (FA) index across streamlines. We used graph theoretical analyses to define structural differences between groups, and random forest (RF) analyses to identify hubs that reliably classify PBT and TD children. RESULTS: For survivors treated with radiation, betweeness centrality was greater in the left insular (p < 0.000) but smaller in the right pallidum (p < 0.05). For survivors treated without radiation (surgery-only), betweeness centrality was smaller in the right interparietal sulcus (p < 0.05). RF analyses showed that differences in WM connectivity from the right pallidum to other parts of the brain reliably classified PBT survivors from TD children (classification accuracy = 77%). CONCLUSIONS: The left insular, right pallidum, and right inter-parietal sulcus are structurally perturbed hubs in PBT survivors. WM connectivity from the right pallidum is vulnerable to the long-term effects of treatment for PBT.

QOL-11. COMPARISON OF TREATMENT BURDEN RATING SCALES ON NEUROCOGNITIVE OUTCOMES IN A MIXED SAMPLE OF PEDIATRIC BRAIN TUMOR SURVIVORS

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BACKGROUND: Predicting neurocognitive outcomes in pediatric brain tumor (PBT) patients is challenging. Rarity of PBT makes inclusion of detailed risk factors (e.g., treatment modality, intensity, individual complications) difficult when sample sizes are small. The Neurological Predictor Scale (NPS) summarizes complications and treatment factors associated