models, *p*s < .05. No significant interactions were identified.
Conclusions: These findings provide additional evidence for the generalizability of the CALS and further characterize its associations with non-injury factors, which is important for better understanding aspects that contribute to recovery trajectories and outcomes after moderate to severe TBI. Given the longstanding challenges in regard to the validity of neuropsychological assessment for diverse groups, it is critical to explicitly examine cultural context when considering the clinical utility of a measure. A limitation of the current study is the utilization of broad demographic information due to limited availability of sociocultural data. Future research should examine more granular and culturally-specific variables that may impact CALS performance (e.g., educational attainment, linguistic considerations), beyond using broad-based demographic data as a proxy for sociocultural factors. Another important next step is to utilize serial administrations of the CALS to examine the impact of sociocultural factors on recovery trajectories following TBI.

Categories: Acquired Brain Injury (TBI/Cerebrovascular Injury & Disease - Child)
Keyword 1: traumatic brain injury
Keyword 2: pediatric neuropsychology
Keyword 3: test reliability
Correspondence: Angela H. Lee, Children's Hospital Colorado, angela.lee@childrenscolorado.org

32 Pediatric traumatic brain injury and the interruption of premorbid hallucinations: a case study

Diana M Ohanian[1,2], Megan Snidarich[2], Kelly King[2]
[1]University of Michigan: Physical Medicine and Rehabilitation, Ann Arbor, MI, USA. [2]University of Minnesota Medical School, Minneapolis, MN, USA

Objective: Research has shown that a small, yet significant minority of individuals with traumatic brain injuries (TBI) experience psychotic symptoms post-TBI. TBI has also been associated with earlier onset schizophrenia in individuals with a genetic risk for psychosis. The current case presents a 15-year-old female with pre-existing psychotic symptoms (auditory and visual hallucinations [AVH] and delusions) who stopped experiencing AVH a few weeks post-injury. The, at least temporary, cessation of her hallucinations raises several important questions about the neuroanatomy of pediatric psychosis and the impact of TBI on a potentially divergently developing brain.
Participants and Methods: Patient is a 15-year-old female who identifies as Hispanic (adopted, of Central American origin). Prior to her injury her developmental history was notable probable neglect prior to adoption, and her psychiatric history was notable for major depressive disorder, anxiety, chronic insomnia, and AVH. AVH were religious in nature and involved command hallucinations. AVH had been attributed to her chronic insomnia, per medical records. Participant was in a motorcycle accident with her caregiver and sustained a severe traumatic brain injury (GCS=3-8). Medical workup, including MRI, indicated a right basal ganglia hemorrhage, right thalamic hemorrhage, as well as injury of the brain stem at the pons, resulting in left-sided hemiparesis. She was ultimately diagnosed with traumatic right-sided intracerebral hemorrhage, traumatic subdural hematoma, traumatic hemorrhage of basal ganglia, traumatic encephalopathy, and a left homonymous hemianopia (left visual field cut) from her right temporal parietal injury. She received a neuropsychological evaluation 10 months post-TBI. Testing included: subtests of the WISC-V, measures of sustained attention and executive functioning, tasks of orientation and memory, and questionnaire measures assessing social-emotional, executive, and adaptive functioning. Parent and adolescent clinical interviews were conducted.
Results: Results indicated appropriate orientation, broadly intact intelligence presumed consistent with premorbid functioning, average sustained attention, and deficits in aspects executive functioning, visual-motor processing speed, and fine motor skills. Although she performed well on objective measures of memory, she reported significant long term social memory loss (e.g., difficulties remembering friends and memories of emotional connectedness) during the clinical interview. Interview and questionnaire measures also indicated continued challenges with depression and anxiety, as well as post-traumatic personality changes, tics, and symptoms of trauma. Patient reported that her hallucinations,

https://doi.org/10.1017/S1355617723002369 Published online by Cambridge University Press

both visual and auditory, stopped early in her recovery post-TBI; patient's premorbid delusions were still present post-TBI.
Conclusions: This case raises questions related to the impact of structural or axonal injury to regions or networks in the brain that may be associated with psychosis. It also adds to a minimal literature examining AVH in pediatric TBI. Using the current literature as a framework we will explore 1) the injury to this patient's thalamus as it relates to both her emotional memory deficits as well as the interruption of her AVH hallucinations, and 2) the relationship between her visual field cut and the interruption of her visual hallucinations. Overall, this case study highlights the unique nature of the developing brain both in terms of the TBI and psychosis.

Categories: Acquired Brain Injury (TBI/Cerebrovascular Injury & Disease - Child)
Keyword 1: psychosis
Keyword 2: traumatic brain injury
Keyword 3: adolescence
Correspondence: Diana M. Ohanian, Ph.D., University of Michigan: Physical Medicine and Rehabilitation, dmohanian@gmail.com

33 Osteopontin as a Blood Biomarker for Executive Function Outcomes in Pediatric Traumatic Brain Injury

Ezra Mauer[1], Iqbal Sayeed[2], Andrew Reisner[3], Laura Blackwell[3]
[1]University of California, Berkeley, Berkeley, CA, USA. [2]Emory University, Atlanta, GA, USA. [3]Children's Healthcare of Atlanta, Atlanta, GA, USA

Objective: Executive function (EF) is a self-regulatory construct well-established as a predictor of long-term academic achievement and socioemotional functioning in children (Best et al., 2009; Diamond, 2013; Zelazo & Carlson, 2020). Traumatic brain injury (TBI) in childhood frequently results in EF deficits (Beauchamp & Anderson, 2013; Levin & Hanten, 2005). In comparison to adults (Okonkwo et al., 2013), there is an absence of viable blood biomarkers for pediatric TBI to assist in diagnosis and prognosis. Osteopontin (OPN), an inflammatory cytokine, has recently been identified as a putative pediatric TBI blood biomarker (Gao et al., 2020). However, more work is needed to establish OPN's utility in predicting functional outcomes. Thus, the present study aimed to test relations between OPN measured during the first 72 hours of hospitalization and EF 6-12 months post injury among a sample of pediatric TBI patients.
Participants and Methods: Sample consisted of 38 children (age at injury = 4.60-16.67 years, M_{age} = 10.61 years, 65.8% male, lowest Glasgow Coma Scale [GCS] score = 3-15, M_{GCS} = 9.97) with TBI whose parents completed the Behavior Rating Inventory of Executive Function, Second Edition (BRIEF-2; Gioia et al., 2015) 6-12 months post injury. Plasma OPN was measured at hospital admission, 24 hours after admission, 48 hours after admission, and 72 hours after admission. *T*-scores for each BRIEF-2 clinical scale (Inhibit, Self-Monitor, Shift, Emotional Control, Initiate, Working Memory, Plan/Organize, Task-Monitor, Organization of Materials) and composite index (Behavior Regulation Index, Emotion Regulation Index, Cognitive Regulation Index, Global Executive Composite) were used in analyses.
Results: Correlation analyses revealed large positive associations (*r*s = .50-.73, *p*s = <.001-.039) between 48-hour OPN and all BRIEF-2 scales/indices except Initiate. OPN at 24 hours positively correlated with Task-Monitor (r = .40, p = .037). Bivariate logistic regression analyses testing whether OPN predicted at least mildly elevated BRIEF-2 *t*-scores (≥60) did not yield significant associations. Additional supplementary analyses testing whether alternative injury markers - glial fibrillary acidic protein (GFAP), ubiquitin C-terminal Hydrolase-L1 (UCH-L1), S100 calcium binding protein B (S100B) - measured at all time points as well as lowest GCS score correlated with EF revealed the following: admission S100B positively correlated with Inhibit (r = .34, p = .045), 48-hour UCH-L1 negatively correlated with Initiate (r = -.49, p = .041) and Cognitive Regulation Index (r = -.48, p = .044), and 72-hour UCH-L1 negatively correlated with Initiate (r = -.47, p = .048).
Conclusions: Findings showed higher OPN at 48 hours post admission was broadly related to worse parent-reported EF 6-12 months later, with 24-hour OPN also showing limited associations. Higher levels of alternative injury markers likewise showed limited associations with EF outcomes. Null logistic regression findings may be due to few participants having

https://doi.org/10.1017/S1355617723002369 Published online by Cambridge University Press