

timeframes. Seizures began at age 5. He is prescribed Vimpat and Lamictal. vEEG during admission revealed right temporal-onset seizures. Neuropsychological assessment was conducted in English based on parent report; however, expressive language testing revealed significantly higher performance in Spanish (average) compared to English (exceptionally low). Subsequently, a bilingual provider was consulted, and supplemental Spanish verbal reasoning and verbal memory measures were administered.

Results: The patient's neuropsychological profile captured a significant difference between English and Spanish verbal abilities. WISC-V Similarities scaled scores (ss) were 5 and 11 in English and Spanish, respectively. Vocabulary scaled scores were 8 and 15 in English and Spanish, respectively. Regarding verbal memory, list learning was below average in English (ss = 5), but low average in Spanish (ss = 6). Contextual verbal memory was only administered in Spanish; scores were average (ss = 10). Verbal Fluency administered in English was low (phonemic fluency ss = 5, categorical fluency ss = 6). fMRI verbal tasks were performed in English and revealed left-sided language lateralization.

Conclusions: In pre-surgical epilepsy evaluations of bilingual children, consideration of language is essential. Assessment of language dominance is a minimum requirement in bilingual families, followed by full bilingual evaluation if necessary. In this case, starkly different conclusions regarding lateralization and localization may have been made if the child had not been evaluated in both languages. In English, a significant split between verbal and non-verbal cognition was apparent, possibly suggesting involvement of the dominant left hemisphere. With Spanish testing, this split disappeared, with high average verbal skills. While a growing proportion of children in the US are bilingual, bilingual assessments are not commonly conducted in pre-surgical epilepsy evaluations. In fact, very little work has been done examining language functioning in bilingual epilepsy patients, particularly in children. With both epilepsy-and language-related factors at play in a developing brain, we encourage closer attention to these issues, particularly in the context of neurosurgical procedures.

Categories: Epilepsy/Seizures

Keyword 1: bilingualism/multilingualism

Keyword 2: diversity

Keyword 3: epilepsy / seizure disorders - surgical treatment

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34 Executive Function as a Protective Factor for Post-Surgical Quality of Life in Unilateral Epilepsy Surgery

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Objective: Many epilepsy syndromes are medically refractory, leading patients to be referred for surgical work-up to control their seizures and improve their quality of life (QOL). Although surgical treatments may reduce or stop seizures, many patients continue to present with declines in mood and/or cognition post-operatively. In addition, pre-operative QOL of patients with medically refractory epilepsy is impacted by executive function (EF). The present study aims to investigate the relationship between post-operative mood/QOL and pre-operative EF in adults with epilepsy. It was hypothesized that mood would remain stable or decline post-operatively; pre-operative EF would be a protective factor for mood decline and QOL.

Participants and Methods: The sample consisted of 47 adult patients (57.4% female; Age, M= 34.02(11.59)) with medically refractory epilepsy at the UCSF Epilepsy Center. Participants were included if they received surgical treatment for their epilepsy (42.6% right anterior temporal lobectomy [ATL], 46.8% left ATL, 2.1% laser ablation, 6.4% responsive neurostimulation, 2.1% multiple surgical interventions) and received both a pre- and post-surgical neuropsychological evaluation. Most patients were right-handed (95.7% right). Mood and QOL were assessed from pre- and post-operative evaluations using the Beck Depression Inventory- Second Edition (BDI-II), Beck Anxiety Inventory (BAI), and Quality of Life in Epilepsy- 31 (QOLIE-31). Executive function was assessed using the Trail Making Test, and

the Delis-Kaplan Executive Function Scale (D-KEFS) subtests Color-Word Interference (CW-I) and Verbal Fluency.

Descriptive statistics were obtained for each of the measures listed. A paired sample t-test was conducted between time A and B to determine whether mood and QOL were significantly different. Two multiple regressions were conducted. One analysis for post-operative depression and QOL respectively with pre-operative EF.

Results: At time A, both anxiety and depression were minimal (BDI M= 17.8, SD= 10.34; BAI M= 13; SD= 8.94). QOL was borderline clinically significant (QOLIE M= 37.46, SD= 9.74). Depression at time B was positively correlated with depression at time A ($r[45]= 0.316$, $p= 0.035$).

A paired sample t-test indicated that depression and QOL were significantly different at time A and time B ($t[44]= 2.04$, $p= 0.047$; $t[31]= -3.34$, $p= 0.002$), with improved scores post-operatively. Anxiety was not significantly different across time points ($t[39]= 1.20$, $p= 0.238$).

Multiple regression analyses indicated that pre-operative depression and EF did not predict post-operative depression ($F(5,27)= 1.62$, $p= 0.189$). Pre-operative EF (CW-I Inhibition-Switching), but not pre-operative depression, predicted post-operative QOL ($F(4(24)= 3.13$, $p= .03$, $R^2= .343$).

Conclusions: Results were somewhat discrepant from prior research in that depression and QOL improved post-surgically. Notably, while the observed change in depression was statistically significant it was not clinically significant according to literature (Doherty et al., 2021). Pre-surgical inhibitory control predicted QOL, illustrating that EF may serve as a protective factor post-surgically. The present study did not include a measure of seizure freedom classification post-operatively, therefore, future studies should investigate how seizure freedom classification impacts the relationship between mood, QOL, and cognitive outcomes.

Categories: Epilepsy/Seizures

Keyword 1: epilepsy / seizure disorders - surgical treatment

Keyword 2: executive functions

Keyword 3: quality of life

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35 MoCA performance as an indicator of NSAb positivity in focal epilepsy: A preliminary analysis

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Objective: Researchers are increasingly finding that the presence of neuronal surface antibodies (NSAb) may account for a larger percentage of outpatient epilepsy cases than previously thought (Elisak et al., 2018; Brenner et al., 2013). However, systematic NSAb screening is not included in standard epilepsy care (Kambadja et al., 2022). The Montreal Cognitive Assessment (MoCA; Nasreddine, 2005) is one of the most commonly used screening tools among physicians (Judge et al., 2019) across various neurological conditions, and has previously been validated in populations with autoimmune encephalitis (Hebert et al., 2018). Because patients with NSAb associated epilepsy often present with cognitive dysfunction (Greco et al., 2006), a MoCA is often administered as part of standard clinical care. The present analysis compared MoCA performance profiles in epilepsy patients with and without the presence of serum NSAbs. We explored what specific cognitive profile, as defined by the MoCA, may predict NSAb positivity.

Participants and Methods: Forty-eight epilepsy patients were enrolled through an outpatient epilepsy clinic or during non-intensive or elective hospital stays. Participants were eligible if they met one of three diagnostic categories: focal epilepsy of unknown cause ($n = 33$), lesional focal epilepsy ($n = 5$), or generalized epilepsy ($n = 4$). All participants signed consent, underwent a comprehensive interview, which included MoCA testing, and serum NSAb testing paralleling standard clinical practice. Mann-U Whitney tests were run to compare overall