

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

MoCA and subgroup domain performance between groups.

Results: Six patients (13%), all with focal epilepsy of unknown cause, had positive NSAb panels (LGI1: $n = 3$; GAD65: $n = 2$; CASPR2: $n = 1$). There was no significant difference in overall MoCA scores between participants with focal epilepsy of unknown cause who were antibody positive versus negative, and antibody positive versus antibody negative lesional or generalized epilepsy. However, when analyzing by MoCA subgroup, we found that antibody positive patients performed significantly worse on delayed recall than antibody negative patients with focal epilepsy of unknown cause ($Mdn = 1.5$ vs 3), $U(N_{\text{antibodynegative}}=27, N_{\text{antibodypositive}}=6) = 69.00, p = .02$. There was no significant difference in other MoCA cognitive domain tests, and delayed recall scores did not significantly differ between antibody positive patients and those with lesional focal and generalized epilepsy.

Conclusions: These preliminary findings suggest that episodic memory impairment, as measured by delayed recall on the MoCA, may predict NSAb antibody positivity among patients with focal epilepsy of unknown cause. This may relate to specific predilection of the hippocampal regions in antibody-mediated epileptogenesis and pathology.

Categories: Epilepsy/Seizures

Keyword 1: autoimmune disorders

Keyword 2: memory disorders

Keyword 3: epilepsy / seizure disorders

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36 Naming in Monolingual and Bilingual Children with Epilepsy

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Objective: Word finding or “naming” difficulty is a symptom of multiple neurological disorders; therefore, naming assessment is an integral component of neuropsychological evaluation. Prior work has found weaker second-language naming in healthy proficient bilingual youth than monolingual youth, and similar findings have been shown in adults with epilepsy. Considering the potential influences of both early onset epilepsy and bilingualism on brain development, we compared naming in English second language (ESL) and monolingual youth with epilepsy. To assess the impact of bilingualism independent of the known effects of seizure laterality (i.e., poor naming in those with left, dominant-hemisphere seizures), we excluded patients with left language dominance and unilateral seizures. We hypothesized that like other groups, naming would be weaker in ESL than in monolingual youth with epilepsy.

Participants and Methods: Participants included 84 children with seizures that could not be lateralized clinically ($n=36$), bilateral seizures ($n=20$), centrotemporal spikes ($n=3$), and those with unilateral seizures and atypical language dominance ($n=25$), ages 6-15 years old: 66 monolingual, English (mean age: 10.87 ± 2.70 years) and 18 ESL (mean age: 10.78 ± 2.88 years). Those with $FSIQ < 70$ and vocabulary $SS < 6$ were excluded to ensure English proficiency. Independent samples t-tests, multivariate ANOVA, and chi-square tests compared groups on demographic factors and test performance. All measures (FSIQ, WISC/WASI Vocabulary, letter and category fluency, Children's Auditory (AN) and Visual Naming (VN) Tests) were administered in English.

Results: Monolingual and ESL groups did not differ in: age, sex, SES, seizure type (i.e., non-lateralized, bilateral, centrotemporal spikes, or atypical language dominance), epilepsy onset age, or number of AEDs. Comparisons also showed no differences in FSIQ, vocabulary, letter fluency, or category fluency (all $ps > 0.05$). By contrast, auditory and visual naming performances were weaker among ESL patients than monolingual patients: AN accuracy, $F(1,81) = 10.89, p = 0.001$; AN tip-of-the-tongues (TOTs), $F(1,81) = 6.35, p = 0.014$; AN Summary Scores (SS), $F(1,81) = 6.17, p = 0.015$; VN accuracy, $F(1,81) = 4.66, p = 0.034$; VN SS, $F(1,81) = 4.87, p = 0.030$, with the exception of VN TOTs, which approached significance, $F(1,81) = 3.55, p = 0.063$.