**Influence of Intellectual Disability on Health-Related Quality of Life in a Surgical Sample of Children with Drug Resistant Epilepsy**

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**Objectives**: Intellectual disability (ID) is highly comorbid with epilepsy, present in 21-40% of children. While children with epilepsy and comorbid ID appear to benefit from early surgical intervention, a related literature suggests that cognitive problems are an important determinant of the child’s health-related quality of life (HRQL) as well as a driving force behind deterioration overtime. Despite the fact that HRQL is recognized as a key measurement for evaluating treatment efficacy, no studies to date have examined the impact of epilepsy and comorbid ID on post-surgical change in HRQL. It is currently unknown whether children with ID will achieve similar gains in HRQL after epilepsy surgery compared to those with normal intelligence.

**Method**: Patients (*N* = 118, 58% male) underwent resective epilepsy surgery between 1996 and 2016 at the Hospital for Sick Children in Toronto, Ontario. All patients completed a neuropsychological assessment during evaluation for surgical candidacy (baseline) and were additionally assessed one-year following surgery (follow-up), as part of routine care. HRQL was assessed using the Quality of Life in Childhood Epilepsy Questionnaire (QOLCE-76). Full scale intelligence quotient (FSIQ) was assessed using the age-appropriate version of the Wechsler Abbreviated Scale of Intelligence. Intellectual disability (ID) was operationalized as a binary variable with levels of no ID (FSIQ ≥ 70) versus ID (FSIQ < 70). Surgical outcome was quantified using the Engel Epilepsy Surgery Outcome Scale. To examine pre- and postoperative HRQL in children with and without comorbid intellectual disability, linear mixed effects modelling was conducted. Clinically important change in HRQL at the individual level was also examined utilizing a standard error of measurement (SEM)-based criterion, and estimates were stratified by ID status.

**Results**: A significant main effect of ID on HRQL was found, indicating lower overall HRQL scores for children with ID compared to those with normal intelligence (b = -10.34, SE = 4.86, *p* = .036). A main effect was also found for time, signifying higher HRQL scores for children with and without comorbid ID at 1-year follow-up compared to baseline, (b = 6.61, SE = 1.35, *p* < .001). Further, there was a significant time by surgical outcome interaction (b = -4.77, SE = 2.34, *p* = .044), where seizure-free patients reported higher HRQL at 1-year follow-up compared to those with continued seizures (*p* = .001), while patient groups did not differ at baseline (*p* = .055). Both time by ID and time by ID by surgical outcome interactions did not reach significance. There were no differences between patients with and without comorbid ID in terms of meaningful clinical change in HRQL at the individual level.

**Conclusions**: Results of the current study suggest that children with ID can expect to achieve similar gains in HRQL after epilepsy surgery compared to those with normal intelligence, indicating that comorbid ID alone should not exclude a patient from evaluation for surgical candidacy. This poster will discuss the important implications of these findings for improving prognostication, informing presurgical counselling, and identifying targets for perioperative interventions.