



# CLINICAL PROFILE AND OUTCOME OF FILIPINO PATIENTS WITH ANTI-N-METHYL-D-ASPARTATE RECEPTOR ENCEPHALITIS ADMITTED IN A PEDIATRIC TERTIARY HOSPITAL FROM JANUARY 2011 TO DECEMBER 2018

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**Background:** There is an increasing number anti-NMDAR encephalitis in the country and data about Filipino children is lacking. In the past decade, anti-NMDAR encephalitis has been increasingly diagnosed in the Philippines.

**Objective:** This single center retrospective observational study aims to describe the clinical profile and treatment outcomes of thirty Filipino children diagnosed with anti-NMDAR encephalitis over an 8 year period (January 2011 to December 2018).

**Methods:** In-patient and out-patient records of patients were reviewed. Demographics, clinical features, treatment, outcome, and predictors of full recovery were analyzed.

**Results:** The median age at diagnosis was 13.35 years with a slight female predominance (56.7%). The most common neuropsychiatric symptom at onset was seizure (50%) in children less than 6 years of age, and behavioral changes in adolescents. No tumor was detected in all. EEG, CSF analysis, and neuroimaging findings were abnormal in 96.7%, 26.7%, and 32.1%, respectively. Out of the 30 patients, 27 (90%) were given treatment. There was no significant difference among the types of treatment utilized however, the combination of methylprednisolone and intravenous immunoglobulin had a higher probability of recovery compared with methylprednisolone alone (Crude OR 3.056 [95%CI 0.475 to 19.657] vs 0.444 [95%CI 0.073 to 2.708]). Predictors of good outcome include early initiation of treatment ( $p=0.0012$ ) and the use of combination therapy ( $p=0.0235$ ). The average time to initiate treatment is 25.25 days for the good outcome group ( $n=20$ ). Treatment failure and relapse rates for 22 patients with long term follow up is 9.1% and 4.8%, respectively. The median time to full recovery is 80 days.

**Conclusion:** Demographics of Filipino children in this study does not differ much with data across the globe. Early initiation of treatment and use of combination MP+IVIG predict better outcome.

**Recommendations:** Large scale studies will be helpful in formulating strategic clinical approach to diagnosis and treatment of children with anti-NMDAR encephalitis in the Philippine setting.

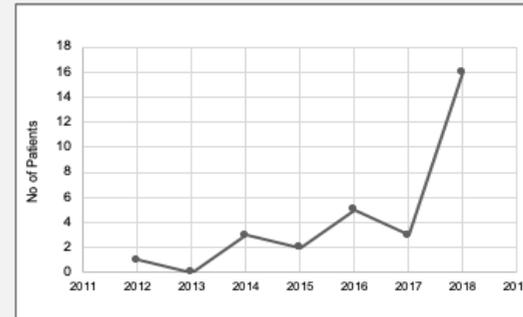


Figure 1. Trend in the diagnosis of anti-NMDA receptor encephalitis in PCMC.

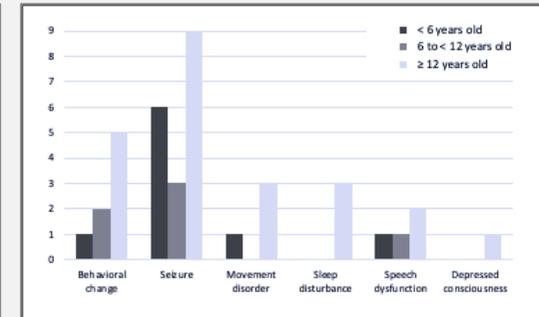


Figure 2. Distribution of neuropsychiatric symptoms at onset according to age group.

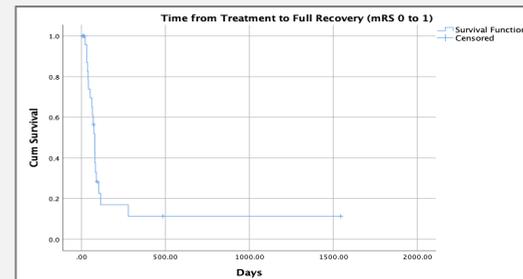


Figure 3. Kaplan-Meier survival curve of days from treatment to reaching mRS 0 to 1. The median length of time to full recovery is 80 days [95% CI of 65.4 to 94.5 days].

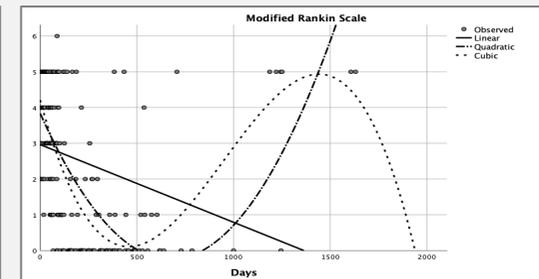


Figure 4. Temporal evolution of mRS during neurological examinations ( $n=263$ ) of Filipino children afflicted with ANRE. The temporal profile of patients treated for ANRE shows that at the start, patients have a high mRS. Most patients have full recovery but some do not improve. The cubic model has the best correlation ( $R$  Square = 0.504,  $p<0.001$ ) compared to linear ( $R$  Square = 0.080,  $p<0.001$ ) and quadratic ( $R$  Square 0.434,  $p<0.001$ ) models.