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The Clinical Characteristics and Outcomes of Infantile Seizures in the First Year of Life: A Single-Center Study
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Abstract
Background: Epilepsy has a high incidence among infants during their first year of life, yet the prognosis can vary significantly. Although considerable research has been conducted on infantile spasms, studies examining infantile-onset epilepsy, excluding infantile spasms, remain limited, particularly concerning the factors influencing outcomes. Therefore, our study aims to elucidate seizure control, developmental outcomes, and prognostic factors in infants with epilepsy during their first year of life, within a single-center study in Malaysia. Methods: We retrieved data from patients who experienced seizures before age 12 months and were followed for over two years, using electronic patient records at Hospital Raja Perempuan Zainab II in Kelantan, a state in Malaysia's east coast. We retrospectively reviewed these records and assessed clinical outcomes based on the last follow-up. Results: Of 75 patients, 61 (81.3%) achieved good seizure control or remission. At the last follow-up, 24 (32%) exhibited developmental delay, whereas 19 (25.3%) displayed abnormal neuroimaging. Patients with abnormal background electroencephalographic (EEG) activity, as well as abnormal radiological findings, were more likely to experience poor seizure control and unfavorable developmental outcomes ($P < 0.05$). Conclusions: Our study underscores that most infants with epilepsy can achieve seizure remission. However, poor seizure control and developmental delay are associated with abnormal EEG background and characteristics, as well as neuroimaging abnormalities. The management of infantile-onset epilepsies may necessitate substantial resources and precise interventions to enhance overall outcomes. © 2023 Elsevier Inc.

Author Keywords
Developmental outcome; First-year seizures; Infantile epilepsy; Prognostic factors; Seizure control

Index Keywords
agyria, Article, brain atrophy, child, corpus callosum agenesis, cortical dysplasia, developmental delay, ECG abnormality, encephalomalacia, family history, female, generalized seizure, gliosis, hippocampal sclerosis, human, infant, infantile epilepsy, major clinical study, Malaysia, male, monotherapy, neuroimaging, prognosis, remission, retrospective study

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