Eeg Profile & Yield in Evaluation of First Non-Febrile Seizures in Children-First Observational Study in Qatar

Abdulhafeez Mohamed Khair

MBBS.CABP.MHPE.MRCPCH Clinical Fellow-Pediatric Neurology, Hamad Medical Corporation, QA
Email: drabboody@hotmail.com

Introduction
Seizures are among the most common neurological disorders in the pediatric age group. Up to 10% of children might experience at least one episode suggestive of seizure activity in their life. It is thought that 5% of all medical attendances to emergency department are related to seizures. Whether the first non-febrile seizure is the kick start of long term epilepsy is always a question that physicians & families encounter. Ordering Electroencephalogram (EEG) for children with first non-febrile seizure is a subject of continuous debate.

Objectives
To collect demographic background data for children (1 month to 14 years) who presented with the first non-febrile seizure, To determine the prevalence & pattern of EEG abnormalities in Children (1 month to 14 years) with first non-febrile seizure, To estimate the possible yield of EEG in first non-febrile seizure as possible predictor of seizure recurrence or future epilepsy, and To collect possible evidence sufficient to make a recommendation for the use versus abandoning use of routine EEG in children with first episode of non-febrile seizure.

Methods
In a retrospective observational study around (400) children who were admitted with first non-febrile seizure to the Pediatric Emergency Centers (PECs) and their seizure were defined using the international league against epilepsy (ILAE) between January 2012 to December 2013 were studied. EEG was requested for 76 patients. Their EEG were reviewed and interpreted by pediatric neurology consultants. Patients’ demographic data and EEG records are then analyzed.

Results & Conclusion
Epileptic seizure should be diagnosed clinically and EEG is just a helpful tool. Utility of EEG is debatable in childhood first non-febrile seizure. EEG is helpful but interpretation should be individualized. EEG alone is not very good predictors of seizure recurrence or overall prognosis. Larger scale studies with longer follow up are needed.

Learning points
This is the first epidemiological study in Qatar in regard to children with epilepsy. It has given almost matching results in regard to background factors & yield of diagnosis in this small country with unique population constituents. This study however has formed the first step towards establishing pediatric epilepsy database project in Qatar. Recruiting of more patients & follow up studies are the future visions of this study.