

Study of the electro-clinical features and outcome of benign childhood epilepsy with centrotemporal spikes in an epilepsy centre, Kathmandu

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Background and objective: Benign childhood epilepsy with centrotemporal spikes (BCECTS) or Rolandic epilepsy is a common benign childhood epilepsy with a genetic etiology, characteristic diagnostic clinical and EEG features. The purpose of this study was to review the incidence, electroclinical features, and outcome of Rolandic epilepsy in children referred to an epilepsy centre in Kathmandu.

Methods: Four hundred and sixty eight children below 16 years of age referred from all over Nepal from November 1997 to March 2006 were studied. Data included seizure description by eyewitness; physical examination, interictal EEGs and neuro-imaging findings, at presentation and during follow up.

Results: Out of 345 children with epilepsy, Rolandic epilepsy constituted 20 (5.8%). None was diagnosed by the referring doctors. Nine children (45%) had family history of seizures including 2 siblings with Rolandic epilepsy. Age of seizure onset ranged from 2 to 10 years with a peak between 5 to 8 years. Seventy percent of the children were males. All had normal neurodevelopment and normal neuro-imaging findings. Majority (90%) presented with 2-6 seizures. Seizures were only nocturnal in 8 (40%), only upon awakening in 4 (20%) and diurnal in 3 (15%). Five children (25%) had both nocturnal and diurnal seizures. Hemifacial seizure onset was reported in 13 children (65%), hemiconvulsions in 2 (10%) and generalized seizures in 5 (25%). None reported oral sensory symptoms. Background EEG activity was normal in all. Epileptiform activity in EEG was present in 100% of cases. This consisted of focal paroxysms of high amplitude diphasic sharp waves and spikes in clusters. In 75%, the sharp waves occurred in centro temporal region. Accentuation of EEG abnormality in sleep occurred in 17 children (85%).

Of the 15 children with follow up of 1-8 years, 7 (46%) were seizure free off medication for more than one year and 5 (33%) were seizure free for more than one year on medication. Carbamazepine was the most frequently used antiepileptic drug. One patient on carbamazepine developed 'continuous spikes and waves during slow wave sleep' in EEG without concomitant cognitive or seizure frequency deterioration which reversed after switching over to clobazam.

Discussion and Conclusions: Relatively Lower incidence of Rolandic epilepsy in our study (5.8%) as compared to western studies (8-13%) was probably due to the higher incidence of symptomatic epilepsies caused by infective diseases of the brain like neurocysticercosis and tuberculosis in the local population. Knowledge of the characteristic clinical and EEG features of Rolandic epilepsy can help physicians dealing with pediatric epilepsy to confidently diagnose this common childhood epilepsy and predict its benign outcome to the guardians. It will also avoid the expensive diagnostic investigations like CT/MRI in resource limited countries like Nepal.

References

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