

Prevalence and clinical characteristics of malformations of cortical development with medically intractable seizures in Tamil Nadu – A prospective study



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Abstract

Aim: To study the prevalence and clinical characteristics of cortical malformation in patients with intractable seizures.

Method: In this prospective study of 3220 epileptic patients in our epilepsy clinic between 2012&2014, 379 had intractable seizures. All of them underwent detailed clinical history, Neurological examination, EEG, CT scan, MRI brain and neuropsychological assessment to identify Malformations of Cortical Development (MCD).

Results: The mean age of onset was <5 years for Polymicrogyria (PMG), lissencephaly, Dysembryonic Neuroepithelial Tumor (DNET) and Hemimegalencephaly (HM). MCD of hippocampus, Focal Cortical Dysplasia (FCD) and Nodular Heterotopia (NH) showed average age of onset between 19 to 30 years. MCD was confirmed in 13.45% (N=51) of population. Most common type of MCDs were MCD of hippocampus -54.90% (N=28), FCD - 23.52% (N=12), NH- 7.84% (N=4), PMG -5.89 % (N=3), Lissencephaly-3.92% (N=2), DNET- 1.9% (N=1), HM-1.9%(N=1). MCD group were often associated with dual or multiple pathologies (29.4%, N=15), febrile seizure (17.64%, N=9), family history (5.88%, N=3), neurocutaneous markers (9.8%,N=5), seizure semiology change (62.74%, N=32) and clustering (58.83%,N=30). Seizure types in this population were heterogeneous. High association of complex partial seizure (62.74%,N=32) was noted with MCD group. Mean IQ Scores showed Sub average intelligence in FCD of hippocampus and other FCD, Mild mental retardation in NH, PMG, and moderate mental retardation in lissencephaly. EEG was abnormal in 64.70% (N=33) in patients with MCD.

Conclusion: we observed MCD of hippocampus can occur in isolation or in association with the other forms of MCDs. Patients with intractable seizures of CPS type had a strong correlation to isolated MCD of hippocampus. We conclude that MCD is one of the important causes of intractable seizures.

Biography

S A Venkatesan serves as an Emeritus Professor at The Tamil Nadu Dr. M.G.R. Medical University; Former Adjunct Prof. IIT Madras and Visiting Professor at Cleveland – Ohio – USA; Hershey Medical College, USA. He has been rewarded with many national & international awards like AINA AWARD-Association of Indian Neurologists in America-2001. He has presented more than 60 papers in national conferences and 25 in international conferences. He has published works include 30 papers & 15 chapters.



[5th International Conference on Central Nervous System Disorders and Therapeutics](#) | December 11, 2020

Citation: A.V. Srinivasan, Prevalence and clinical characteristics of malformations of cortical development with medically intractable seizures in Tamil Nadu – A prospective study, CNS 2020, 5th International Conference on Central Nervous System Disorders and Therapeutics, December 11, 2020, Page No-08