

3rd International Conference on

Neurological Disorders and Brain Injury

April 18-19, 2017 London, UK



Suresh Kumar

Headaches, TBI and Memory Research Institute, USA

Late seizures in mTBI: A prospective study

Objective: Persistent symptomatic mild traumatic brain injury (mTBI) is a focal disease process. Almost 80% of the patients have spontaneous resolution after mTBI, but 5 to 10% who have persistent mTBI disease presented to our clinic with persistent symptoms. The study was conducted on this group of patients with symptoms after mTBI for more than one month. Abnormal EEG results increase with persistent symptoms as the focal abnormalities increase due underlying focal shear brain cell injury. Aim of this study is to study predictor of late complications of seizure after episodes mTBI.

Method: A perspective study of patients presented to a TBI clinic for five years was conducted. On initial visit after neurological evaluation and detail questioning about the history of the mTBI and possible seizure semiology with strict inclusion criteria, a montreal cognitive assessment (MoCA) was administered to patients. Following neurological evaluation, a one-hour routine EEG as a standard protocol was performed after four weeks of the mTBI.

Results: 202 patients (105 females and 97 males with an average age of 42 years) presented and followed over three years after mTBI. Total 14 patients (6.9%) had seizures and 12 (5.9%) late seizures with average time of 22 months. 8/14 (57%) patients experienced complex-partial seizures and 6/14 (42%) encountered partial seizures episodes. 11/14 (78%) had recurrent seizure episodes while three patients had single episodes. 111/202 (55%) experienced transient LOC and 35/202 (12.4%) patients had abnormal focal EEG reports. 24/35 (68.6%) patients had an abnormal EEG and LOC. 12/14 (85.7%) patients had abnormal EEG results in predominantly frontal and temporal lobes, but only 10/14 (71.4%) of those also had LOC. On further analysis, LOC has a relative risk of 81.8% for future seizure episodes. Abnormal EEG is 37.14% directly correlated with seizures and 20.12% related with memory loss ($P < 0.0392$). LOC is 5.35% related with memory loss ($P < 0.0412$). The relative risk was 6.15, the patients who experienced seizures after the mTBI were six times more likely to have an abnormal EEG than those who did not experience any seizures. The sensitivity of the EEG at discovering abnormal brain wave-like activity was 85.7% with LOC group.

Conclusion: We do not have any standard protocol for recommendation and follow up after mTBI and to determine the late risk of seizure. From our study, loss of consciousness, abnormal EEG and memory loss are directly correlated with each other after mTBI and the abnormal EEG will increase the risk of late seizure in mTBI patients. Persistent symptomatic mTBI needs further testing with EEG to define future risk of seizure or increase risk of memory loss. The late risk of seizure after mTBI from this study was 6.9% and had an onset up to six years.

Biography

Suresh Kumar is a Triple Board Certified Brain Injury Specialist, Neurologist and Director of Headaches, TBI and Memory Research Institute in Southern USA. He completed his Residency training in Neurology from Louisiana State University and later board certification in Headaches Medicine & Traumatic Brain Injury Medicine. He is User Interface Software Architect; Neuro Scientist & Clinician operating research based clinical practice. He has helped more than 50 patients with memory impairment after TBI and mild to moderate dementia under Regain Memory 360 protocol approach. He has published and presented many abstracts and papers on diagnosis, treatment of mild traumatic brain injury and cognitive deficit.

neuroheadachecenter@gmail.com