

ANALYSIS OF EEG CHANGES IN PATIENTS WITH NEURALLY MEDIATED SYNCOPE

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Rationale:

Neurally-mediated syncope is a common cause of transient loss of consciousness (TLOC). It is well established that convulsive movements often accompany syncopal events. Basic diagnostic workup of TLOC includes electroencephalogram (EEG). Misinterpretation of the EEG and the association of a TLOC with involuntary motor activity often leads to the wrong diagnosis of epilepsy. EEG during syncope shows either a 'slow-flat-slow' or a 'slow' pattern. However, it is difficult to monitor the EEG during a tilt table test, therefore the two tests are done separately. The aim of this study was to assess changes in EEG in patients with vasovagal syncope.

Methods:

81 patients who were confirmed via tilt table testing to have neurally-mediated syncope were enrolled in the study. EEG with 5 minutes hyperventilation (HV) was performed in patients with syncope, and in 90 healthy age and sex matched controls.

Results:

During HV, more abundant and pronounced delta-theta activities were found in patients than in control subjects. Delta-theta activities were found in 48.5% of patients (vs. 11% of controls, $p < 0.001$). Generalized slow activity was found in 41.3% patients, while focal slow activity was found in 7.2% patients. Slow activities consisted mainly of bilateral synchronous high amplitude delta activity. No interictal epileptiform discharges were found.

Conclusion:

EEG in patients with neurally mediated syncope shows pronounced "pseudoparoxysmal" slowing during HV. These distinctive EEG changes should not be confused with interictal epileptiform discharges. Further studies are needed to confirm these findings and clarify its pathophysiology.