

Evaluation of electroencephalographic parameters in predicting the possibility of seizures in patients with ischemic stroke

Abstract

Background: Seizures have been recognized as the second most important brain disorder after stroke.

Aim: Therefore, we decided to conduct a study with the aim of investigating electroencephalography (EEG) parameters in predicting the possibility of seizures in people with ischemic stroke.

Materials and methods: This study is a descriptive analytical study in which 220 patients with a history of ischemic stroke were included in the study. EEG was obtained from the patients one week after the seizure and the patient information checklist was completed. In this checklist, age is relative, sex is male and female, stroke location is based on vascular area, stroke volume is based on vascular territory, and strip changes are designed based on slowing, sharp, spike, and epileptic discharge. The data was analyzed by SPSS v.22 software and a significance level of 0.05 was considered.

Results: 220 people participated in this study, 100 women (45.5%) and 120 men (54.5%) with an average age of 47.6 ± 20.64 years. Electroencephalography findings were normal in 179 people (81.4%), 41 people (6.18%) were abnormal. 130 people (59.1%) had moderate stroke (NIHH<15%), 59 people (26.8%) had severe stroke (NIHH=20-15), and 31 people (14.1%) had very severe stroke. 21 people (9.5%) had focal seizures and 8 people (3.6%) had generalized seizures. A significant relationship was observed between stroke volume, age and seizure type with electroencephalography findings (pvalue < 0.05).

Conclusion: EEG findings can be used as a guide for prognosis for ischemic stroke and seizures. A normal EEG in patients with a history of ischemic stroke portends a better prognosis regarding the occurrence of seizures, while an abnormal EEG means a poor prognosis.

Keywords: Ischemic stroke, Seizure, Electroencephalography, Epilepsy.