

Evaluation of brain MRI findings in patients presenting with seizure with normal neurological examination to ardabil alavi hospital cilinic during the year 2020-2021

Abstract

Background: Imaging is an important application in the diagnosis and treatment of patients with seizures and epilepsy. Imaging is more important in patients with unexplained seizures. CT scan and MRI are used together in different situations. MRI is the imaging tool of choice in diagnosing patients with seizures and epilepsy.

Aim: The aim of this study was to evaluate the MRI findings of patients with seizures with normal neurological examination referred to Alavi Hospital.

Materials and Methods: Patients with seizures referred to Alavi Hospital in Ardabil, who underwent normal neurological examinations and underwent brain imaging, were included in the study. Imaging reports related to them were carefully studied and their changes were recorded in pre-prepared checklists. Data collection was based on pre-prepared checklists, based on which information about age, gender, Family history, EEG findings, neurological examinations (intelligence, motor, plantar reflex and tendon reflexes, etc.) and MRI findings were obtained through clinical history and information in the case file. The patient was collected.

Results: A total of 100 patients referred to Ardabil Alavi Center were diagnosed with seizures along with normal neurological examinations. The mean age of patients was $7.46 + 32.62$ years. The minimum age was 11 and the maximum was 58. Forty-six (46%) of the patients were male. A family history of seizures was reported in 45 cases (45%). EEG findings were normal in 62 cases (62%) of people with seizures. According to the radiologist, 20 cases (20%) of abnormalities were reported on MRI, of which 7 were tumor lesions, 5 were developmental lesions, 4 were vascular lesions, 1 was infectious lesions and 3 were other unclassified lesions. The pathological findings reported in the patient's brain imaging were not significantly related to age ($P = 0.332$), gender ($P = 0.547$) and family history ($P = 0.615$). Electroencephalogram findings were not significantly associated with pathological findings in brain imaging of patients with seizures.

Conclusion:Brain imaging covers the false negatives of the electroencephalogram to some extent, and performing both modalities simultaneously improves the diagnosis of underlying problems in seizure patients.

Keywords: Seizure-Epilepsy-MRI-EEG