

MAGNETIC RESONANCE IMAGING (MRI) FINDINGS IN EPILEPTIC CHILDREN AND ITS RELATION WITH CLINICAL AND DEMOGRAPHIC FINDINGS

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Introduction: Epilepsy is an important disease with a cumulative incidence of 3% all over the life and more than half of them are started from childhood. In this study we surveyed MRI findings in epileptic children and its relation with clinical and demographic findings in order to find better diagnostic and treatment modalities for these children in the future.

Materials and methods: In this cross sectional study, we investigated consecutively all 1 to 15 year-old epileptic children who referred to the pediatric neurology outpatient clinic from July 2004 to July 2010. Patients with acute cerebral insult were excluded from the study.

Results: Two hundreds children enrolled to investigation. There were 85(42.5%) girls and 115 (57.7%) boys, aged 1 to 15 years (mean: 7.7 ± 4 years). Abnormal MRI was seen in 57(28.5%) patients. The most frequent abnormal MRI finding was brain atrophy (10%). Abnormal MRI findings had significant relation with abnormal EEG, age, positive family history for epilepsy, dysmorphic appearance, and abnormal physical exam. There was not a significant relation with sex, type of seizures (generalize or partial), failure to thrive and underlying diseases.

Conclusion: Considering 98% EEG abnormality in these epileptic children, benign nature of MRI findings in most of our cases, the high price of MRI and the small minority of patients who benefit from active intervention as a result of MRI, we suggest to use EEG for confirmation of epilepsy and perform MRI for patient with abnormal physical exams, focal neurologic deficits or focal EEG abnormalities.