

Evaluation of MRI findings in 198 cases of focal seizure

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Abstract

BACKGROUND AND OBJECTIVES

With the recent advances in the neuroimaging, MRI has increased substantially the ability to detect causes of seizure and to plan medical or surgical therapy.

While generalized seizure are usually well controlled by medication , 15-30% of patients with partial seizure are intractable and hippocampal sclerosis is the single most common lesion followed by perinatal hypoxia or other insult , tumors , vascular malformations , traumatic gliosis , and developmental abnormalities . The aim of this study was to investigate the MRI findings in the patients with focal epilepsy .

MATERIALS AND METHODS

In a recent cross sectional study , 198 (100 female and 98 male) patients with focal seizure who referred to one of imaging centers was evaluated .The range of age was between 1-71 years . The study was obtained on a 1.5 Tesla MRI scanner and a three dimensional T₁-weighted SPGR

sequence was first acquired with slice thickness=1.5mm and then FLAIR T2- weighted images were obtained with the slice thickness= 4mm. MRI data were transferred to PACS workstation for analysis and diagnosis .

RESULTS

From the evaluated MRI images, 127 cases (64%) had normal MRI, 21 cases (10.5 %) temporal sclerosis, 15 cases (8%) ischemia, 14 cases (7%) tumor , 8 cases (4%) gliosis, 8 cases (4%) developmental anomaly 4 cases (2%) focal atrophy and 1 case (0.5%) vascular anomaly

CONCLUSION

We concluded that although a routine MRI will exclude ominous structural substrates that require urgent treatment , subtle structural substrates such as hippocampal sclerosis which present as intractable seizure will be missed and performing dedicated MRI pulse sequences and optimization of imaging parameters are essentials

References

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