Electroencephalographic Findings in Children with Attention Deficit Hyperactivity Disorder

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Abstract

Objective: The relationship between cognitive functions, EEG findings and epilepsy in patiens with ADHD is controversial. The aim of this study is to determine the frequency of EEG abnormality and its relationship with clinical findings of children with ADHD.

Methods: A total of 434 children's sleep and/or awake EEG who received the diagnosis of ADHD were taken regardless of seizure history.

Results: A total of 21.9% epileptic and 15.2% nonepileptic discharges were detected in EEG. Epileptic discharges were found to bemore common in the attention deficit type of ADHD, in righ[illegible]type [illegible] the [illegible]

Resultc:

Average verbal WISC-R values were detected to be 79.6 ± 18.89 (36-116), the average performance values were 85 ± 19.82 (29-133) and the average total values were 81.1 ± 18.66 (43-126) in 190 patients who had a reviewed WISC-R test at the frst application before treatment. T e results of WISC-R values were compared with clinical seizures and EEG fndings in patients and no statistically signifcant diference were found in terms of verbal, performance and total values. However verbal, performance and total values of WISC-R were signifcantly lower in.

especially in terms of clinical seizures and interictal epileptic discharges on EEG. Clarke et al. [20] examined EEG findings according to subtypes of ADHD cases and determined a high rate of theta activity and lower rate alpha activity in the combined type than the inattentive type. Theta/alpha and theta/beta ratios were found to be different among the groups. A high rate of theta activity determined in ADHD subjects in the literature is thought to be a deviation of development [20]. Absolute alpha and beta with relative delta ratios are changes reflecting maturation with age.

Awake EEG were evaluated in the vast majority of studies on ADHD and EEG. Silvestri et al. [21] evaluated the polysomnography video and identified interictal epileptic discharges in

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