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Letter to the Editor / Editöre Mektup

Diagnostic Confounding: Is it Absence Epilepsy or ADHD?

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Dear Editor,

Attention deficit and hyperactivity disorder (ADHD) is a neurodevelopmental disorder defined by symptoms of inattention, impulsivity, and hyperactivity, which lead to disabilities in many functional activities (1). Childhood absence epilepsy (CAE) is characterized by a sudden stopping in motion, staring without moving, loss of awareness, and changes in the state of consciousness (2). Absence seizures may be seen in children with ADHD or may exhibit symptoms similar to inattentiveness of ADHD (1). Thus, the differential diagnosis between ADHD, predominantly the inattentive type, and CAE can be challenging (3). In this paper, we report a case of absence epilepsy where the child was misdiagnosed with ADHD and initiated methylphenidate.

The patient was an 11-year-old girl who experienced thoughtfulness, forgetfulness, and inattentiveness. Her symptoms started approximately two years ago and increased gradually. She could not concentrate on homework and eventually could not function well in school. There was no physical illness, trauma, or drug use in her history. During her first examination at a pediatrics clinic, pediatricians thought that she might be exhibiting a kind of inattentiveness and forwarded her to a child and adolescent psychiatrist. When she was admitted to a child and adolescent psychiatry clinic, she was diagnosed with ADHD and methylphenidate 20mg/day was initiated. However, she did not benefit from the medication. After a while, she was referred to our clinic for the same problems. Upon her first psychiatric evaluation, we also reached an ADHD diagnosis and increased her methylphenidate dose to 30mg/day. One month later, on her second evaluation, she did not benefit from the dose increment, conversely, her symptoms had worsened. The patient's history was detailed and we learned that she experienced staring episodes that usually lasted 5-6 seconds. She frequently stopped whatever she was doing during the episodes and then continued with her activities. Her parents also mentioned that the episodes occured 3 to 5 times a day. After obtaining this information, we stopped her methylphenidate intake and consulted the patient to a pediatric neurology clinic to investigate for CAE. Her neurologic examinations, blood tests, and

brain MRI were found to be normal. However, her EEG analysis showed 3Hz spike and slow wave complexes bilaterally and symmetrically. Thus, the patient was diagnosed with CAE and valproate 30mg/kg/day was initiated gradually. On follow-up visits up until 12 months later, she had not experienced any episodes since initiating valproate. The patient's parents noted that her attention also improved in class and her grades had increased significantly without stimulant therapy.

ADHD and CAE have similarities in symptom presentation. Inattentiveness is one of the core symptoms of ADHD and it is also a common symptom in children with CAE who suffer frequent seizures (1,3). In addition, staring is amongst the most frequent symptoms of CAE while being characteristic feature of ADHD (4). On the other hand, both ADHD and absence seizures may coexist in a patient at the same time and antiepileptic medications may lead to attention difficulties, irritability, and hyperactivity (1). Thus, the differential diagnosis between ADHD, especially the inattentive type, and CAE can be confounded by the overlap in symptoms that are related to both conditions. In this context, our case was misdiagnosed with ADHD in several admissions and received inappropriate medication: methylphenidate.

The diagnoses of ADHD and CAE are strongly based on behavioral descriptions of the patients. There is no laboratory test for ADHD, and the diagnosis is dependent on family and school assessments, behavioral history, and clinical observation. Although, EEG assists the diagnosis of CAE, the description of the events is very important for diagnostic accuracy, especially when the EEG is unremarkable (1,4). As seen in our case, the detailed medical history and comprehensive descriptions of the patient's symptoms allowed us to consider a CAE diagnosis.

Differentiating between ADHD and CAE is of vital importance, as the misdiagnosis may cause a delay for proper treatment or lead to inappropriate medication regimens for each condition (3). This is more critical in children, when early diagnosis and appropriate management can significantly improve behavioral problems, social interaction, and academic performance (5). The key points for the early diagnosis and treatment may include a detailed medical history, regular evaluations, and increased clinical awareness. In addition, clinicians may reconsider the diagnosis and conduct further evaluations when the patients have given inadequate responses to treatment, as we did.

In conclusion, this case was reported in order to bring attention to the diagnostic confounding of ADHD and CAE and to warn clinicians to be careful about differentiation between these two conditions.

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