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Anti NMDAR encephalitis masquerading as dissociative disorder : A Case report

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Abstract:

There has been a paradigm shift in the understanding and management of anti N-methyl-d-aspartate receptor (Anti NMDAR) encephalitis since the time it was originally described in 2007. It is important for psychiatrists to be aware of this condition, as there is a growing body of literature which describes that it is associated with profound psychiatric disturbances. In the majority of patients, these psychiatric symptoms are the first to manifest, suggesting that mental health professionals may be the first to encounter the disorder. Early diagnosis and initiation of treatment influences the overall prognosis and long-term neurological sequelae. We report the case of an 18 year old girl who was referred to the psychiatry department for anxiety symptoms along with difficulty in walking, in the background of normal neurological evaluations and investigations. As her physical symptoms worsened, further detailed neurological evaluation was carried out, that confirmed a diagnosis of autoimmune encephalitis.

Keywords:

Autoimmune encephalitis, neuropsychiatric manifestations

Introduction:

Autoimmune encephalitis, a relatively new and rare disease, is characterized by brain inflammation due to circulating autoantibodies. Several types of this disorder have been described based on the specific autoantibodies directed against neuronal and synaptic surface antigens, with clinical symptoms often correlating with the associated antibody subtype. Autoantibodies are generally directed against *N*-methyl-d-aspartate receptor (NMDAR), α-amino-3 -hydroxy-5-methyl-4-isoxazolepropion acid receptor (AMPAR), leucine-rich glioma inactivated 1 (Lgi1), contactin-associated protein-like 2 (Caspr2), glutamate decarboxylase (GAD) or gamma-amino butyric acid type B receptor ($GABA_BR$). However in several patients the antibodies may be against other unidentified targets. (1) Psychiatric manifestations are common early in the course of the illness. A Dutch retrospective study reported that about 80% of patients diagnosed with anti-NMDAR encephalitis presented with psychiatric symptoms and about 60% were initially admitted in a psychiatric facility. (2) Most of these patients did not have a past psychiatric history. Of the different types, anti-NMDAR encephalitis is well known to present with psychiatric symptoms; anti-AMPAR and anti-GABA-B-R encephalitis may also have prominent early psychiatric manifestations.

Psychiatric presentations are heterogeneous and tend to fluctuate rapidly. Presentations with grandiose and paranoid delusions, visual and auditory hallucinations, bizarre behavior, agitation, fear, insomnia, confusion and short-term memory loss often lead to a diagnosis of acute psychosis, mania with psychotic features, or schizophrenia, in the absence of discrete neurological signs. Presence of obvious neurological signs like seizures or movement disorders often results in a referral to a neurologist to rule out organic causes. (3, 4) However, Lejuste et al report that in fact, half of the patients with autoimmune encephalitis with psychiatric presentations did have prior discrete neurologic symptoms which were misdiagnosed and not adequately investigated. (5) Rarely, some patients do not present with any neurological symptoms during the entire course of the disease and are therefore difficult to diagnose, though they do show a good response to immunomodulatory treatments. (6, 7)

Case Report:

Ms. A is a 20 year old year, single, female student from a middle socio-economic background from urban Andhra Pradesh. There is no family history of neuropsychiatric morbidity. She is premorbidly reported to be an anxious individual and a perfectionist. She presented with a seven month history of academic decline, altered biological

functions, worries about the future, forgetfulness, child like behavior, episodes of shouting and laughing inappropriately with fluctuating motor weakness and difficulty walking in the context of multiple psychosocial stressors. She was initially evaluated in the neurology department where she was extensively investigated; all tests including MRI brain, PET scan and EEG were normal. As no organic cause was detected that could explain her symptoms, she was referred for psychiatric evaluation. Physical examination was unremarkable except for difficulty in walking; no neurological deficits were detected. Mental state examination revealed a well built female who made and maintained eye contact. She was alert, lucid and cooperative for the interview. Her mood was dysphoric and she reported worries about her future, especially academics. In the background of stress, anxiety and depressive symptoms, the physical symptoms were considered to be dissociative in nature.

The patient was admitted for further evaluation and management. A low dose of Dosulepin was prescribed to help with sleep and anxiety symptoms. Initial sessions were utilized to establish rapport with the patient. A neurology opinion was once again sought, as there was a further deterioration in her ability to walk, along with episodes of shouting and incontinence. Once again no neurological deficits were evident. Psychological strategies were implemented, however did not elicit any benefit. As the patient began to recruit further symptoms like dysphagia and abnormal involuntary movements, she was referred once again and was admitted in the neurology ward. Further evaluation there revealed features to suggest autoimmune encephalitis and she was found to be NMDA receptor antibody positive. She continues to undergone immunomodulation and has residual neurological deficits requiring physical therapy.

Discussion:

Most patients with anti NMDAR encephalitis present to the psychiatrist with behavioral symptoms that precede the onset of neurological symptoms. As the outcome of this disorder is dependent on rapidity of initiation of treatment, early recognition is of foremost importance. However, the absence of classical neurological symptoms and normal routine investigations may delay diagnosis in some patients.

This case highlights the need to have a high index of suspicion regarding an organic illness in patients who present to psychiatry with atypical symptoms, even when routine investigations appear to be normal. Though this patient's symptoms were atypical, repeated neurological evaluations were normal; it was the change in clinical picture that prompted yet another period of evaluation and arrival at the final diagnosis. Psychiatrists must be aware of red flag signs such as atypical presentations and symptoms, unusual or inconsistent response to drugs, and marked fluctuations in the course of illness which should prompt one to look further for any underlying organic etiology.

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