

Psychiatric Symptoms in a Patient with NMDA Receptor Encephalitis

Paudel L¹, Samadarshi S², Limbu S³, Sharma R⁴, Chalise P¹, Pradhan SN⁵

1. Lecturer, Dept. of Psychiatry, KMC, Kathmandu, Nepal 2. Consultant Psychiatrist, Provincial Hospital Surkhet, Karnali Province 3. Assistant Professor, Dept. Of Psychiatry, BPKIHS, Dharan, Nepal 4. Asst. Professor, Dept. of Psychiatry, KMC, Kathmandu, Nepal 5. Professor, Dept. of Psychiatry, KMC, Kathmandu, Nepal

E-mail *Corresponding author : lunapaudel88@gmail.com

Abstract

Anti N methyl D aspartate receptor (NMDA-R) encephalitis is an autoimmune disorder that encompasses various psychiatric and neurological symptoms. Psychiatric manifestations are often the presentation of the disease that often delay or mislead the diagnosis. Complex psychiatric symptoms, seizures, autonomic instability, abnormal movements, behavioral changes and impaired cognitive functions are present during the course of illness. Prodromal psychiatric symptoms often confuse the physicians and even patient initially seeks psychiatric consultation. Here we present a case of 19 years female who presented with initial psychiatric symptoms that progressed to seizure, autonomic instability, abnormal movement and other encephalitic symptoms.

Keywords: Anti NMDA-R encephalitis, psychiatric manifestations, seizures,

INTRODUCTION

Anti NMDA-R encephalitis is an autoimmune disease involving antibodies against NR1 subunits of NMDA receptors.¹ Dalmau et al and Maneta et al described the staged presentation of disease that comprises of prodromal phase, middle phase with prominent psychiatric symptoms and late phase with prominent physical symptoms.² It is identified as second most common cause of autoimmune encephalitis and is more frequent than other paraneoplastic encephalitis.³ Majority of diagnosed cases are females approximating 80% and 40-65% of the patients are 18 years old or younger.^{4,5} Psychiatric symptoms are frequent initial presentations with approximate 77% patients seeking the help of psychiatrists first.^{2,4} Psychiatric symptoms early in the course are followed by neurological involvement, protracted cognitive and behavioral symptoms.⁶ We present a case of 19 years female who presented with psychiatric symptoms initially but later was diagnosed with NMDA-R antibodies.

CASE - HISTORY

19 years female, Newar by caste from Putalisadak, Kathmandu was brought and

admitted to psychiatric ward through emergency with history of staring spells, disturbed sleep and altered behavior for 7 days. Patient had history of restlessness, verbigeration, self-mumbling, decreased appetite and poor self-care. Behavioral changes included staring at one instance to being agitated and restless at other. Behavior like holding parents' hands and rubbing them against her breasts and even masturbating ignoring the presence of parents during ward course were noted. Behaviors were never explained by patient. Mental state examination showed patient uncooperative with increased psychomotor activity, staring at instances to mumbling to self. Patient uttered few words and repetition of words were noted too. Affect was inappropriate with impaired judgement. Psychiatric evaluation was made till her stay in psychiatric ward with diagnosis of acute and transient psychotic disorder. Patient developed hypothermia (91°F) on seventh day of admission. Patient even had 3 episodes of generalized tonic clonic seizure and was transferred to intensive care unit under supervision of department of medicine. Patient developed fever with maximum temperature recorded being 102°F. Patient was managed in

the line of meningoencephalitis. During her stay in the intensive care unit she developed aspiration pneumonia and was even kept under ventilation. She developed Steven Johnson's syndrome (drug induced ~phenytoin) post extubation. Patient even developed persistent lip smacking movements, had disorientation and agitation during the course. CSF NMDA-R antibodies were detected approximate 1 month after her admission in the hospital.

DISCUSSION:

Case presented above shows various features of anti NMDA-R encephalitis and initial presentations were psychiatric symptoms which physicians should be aware of. Prevalence of anti NMDA-R encephalitis is 1/1.5million people. A Dutch retrospective study shows that psychiatric symptoms were present in 80-100% patients with the disease and the patients initially seen by psychiatrists were 70-80%. Majority of the patients were females and they presented at an early age.^{7,8} Confusion, behavioral changes, psychosis, depressive and anxiety symptoms, seizures are early features followed by movement disorder, persistent pyrexia and other symptoms of autonomic dysfunction.⁶ Confusion of cases among psychiatrists and neuro-physicians occurs till appropriate diagnosis is made as in above case. Prevalence of anti NMDA-R encephalitis is 1/1.5million people. Psychiatric symptoms often slow down the diagnosis. The disease is potentially reversible if diagnosed early.² Confirmation of diagnosis requires positive serum or CSF sample screening for antibodies against NMDA receptor subunit. Brain imaging scans have been reported to be normal in 70% cases. First line therapy includes immunotherapy. Treatment targets both the cause and clinical consequences. Use of sedatives, antipsychotics and mood stabilizers are indicated for psychiatric symptoms.⁹ Studies show relapse in 12-24%¹⁰, mortality of ~7%³ at 24 months. Dysfunction of NMDA receptors play significant role in both psychotic and affective disorders. For patients who present to a psychiatrist with new onset psychosis or mania, history of illness and other clinical data should serve as a guide as to whether CSF and serum analysis is necessary for detection of antibodies.³ Initial neuro-psychiatric symptoms should be

dealt carefully and differential diagnosis of anti NMDA-R encephalitis should be kept in mind that too in young females. Finding of anti NMDA-R encephalitis in our setting with initial neuropsychiatric symptoms evokes the need of multidisciplinary approach in the evaluation and management of such cases.

Consecutive follow up of the patient showed mild depressive symptoms on mental state examination which was addressed through counseling. Patient was seizure free and under anticonvulsants. Mental state examination showed no any abnormalities.

CONCLUSION:

Psychiatric symptoms are common presentation with anti NMDA-R encephalitis. These symptoms can present initially and lead to misdiagnosis. Course of disease should be observed carefully and early search of anti NMDA-R antibodies can be helpful in management. Careful history taking, proper neurological examination and watchful course can guide to proper diagnosis and management of such cases.

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