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Letter to the Editor

Anti-NMDA-receptor encephalitis presenting with catatonia in a middle aged male

1. Introduction

Anti-*N*-methyl-D-aspartate (NMDA) receptor encephalitis is an autoimmune encephalitic syndrome, with specific pattern of presentation, course, and outcome (Dalmau et al., 2011). The clinical presentations were shown to differ with age, gender and race (Viaccoz et al., 2014; Basheer et al., 2017). Considering the low prevalence of this condition, reporting of cases in various age groups, different gender and race, are important to understand this condition better, and thus this report.

2. Case report

A 47-year-old married male, plumber by profession, living in United Arab Emirates (UAE) for > 29 years, with no family history or personal history of psychiatric or neurological disorders, with normal intellectual development presented to us with one and a half month duration of illness. It was characterised by memory disturbances, worries regarding future, agitation, disorientation, posturing, bowel and bladder incontinence, progressing to functional deterioration. He was admitted in a psychiatric hospital at UAE in a semi comatose state, where he was treated with antipsychotics and Electroconvulsive therapy (ECT), but transferred to the medical department when he stopped eating. His medical evaluation, including blood parameters, MRI Brain, EEG were unremarkable and was treated with ceftriaxone and acyclovir for meningo-encephalitis. He was also started on sodium valproate and lorazepam. Considering no improvement family bring him back from UAE and came to the emergency department of our hospital.

At presentation to our centre, he was conscious, had difficulty in recall and identifying people, and had irrelevant speech. He also showed catatonic symptoms of posturing, waxy flexibility and mutism. There was hypertonia in all four limbs without involuntary movements but had normal motor power. We made a presumptive diagnosis of organic catatonia due to a neurodegenerative disease with probable autoimmune aetiology, after ruling out other differential diagnosis such as Schizophrenia with drug induced Parkinsonism or Neuroleptic malignant syndrome, SSPE and Wilsons disease with appropriate evaluation. He was started with Tab. Lorazepam and latter psychiatric evaluation showed depressive symptoms, for which Tab. Sertraline was also added.

MRI brain (T2W and FLAIR) images, CSF analysis and EEG, repeated at our centre, were within normal limits. Thyroid antibody and antinuclear antibodies (ANA) were also normal. In view of persisting neurological symptoms, we sent CSF sample for anti-NMDA receptor antibody which came as positive. Search for occult malignancies were negative. He was initiated on immunotherapy with steroids and showed gradual improvement in catatonic symptoms.

3. Discussion

This report illustrates the case of a middle aged male admitted following an abrupt onset of memory disturbances, behavioural and psychiatric symptoms and catatonia. Poor response to psychiatric treatment including electroconvulsive therapy and persistence of catatonic symptoms with prominent memory disturbances led the medical team to suspect autoimmune aetiology. NMDA receptors maintain synaptic plasticity and their disruption results in seizures, memory deficits, behavioural problems, motor and autonomic symptoms (Hughes et al., 2010). Anti-NMDAR encephalitis is an autoimmune disorder with a complex presentation. This encephalitis is a multistage illness that progress from memory deficits, psychosis, seizures, and language disintegration to a state of unresponsiveness with catatonic features (Ryan et al., 2013). Roughly 80% of the patients are females, with the majority presenting during early adulthood.

There are only few clinical studies regarding the complete clinical symptoms and biological abnormalities in men with NMDA receptor antibodies encephalitis. One past study described the clinical pattern, evolution, and outcome of the disease in thirteen male patients in a cohort of NMDA receptor antibodies encephalitis patients (Viaccoz et al., 2014). Prodromal states were present in 54% of patients and prodromal symptoms include head ache, infectious-like diseases, vertigo and bilateral fluctuating scintillating scotoma without hemianopsia. 61.5% of the sample initially presented with seizure, 23% with cognitive dysfunction and the rest with psychiatric symptoms. The cognitive dysfunction experienced were confusion associated with speech disturbances. The psychiatric symptoms experienced were delusions, hallucinations and suicidal attempt. 50% of the sample showed abnormal MRI, 92% showed signs of inflammation in the initial CSF analysis and 83% showed initial EEG abnormalities. When compared to female patients of the cohort, there was significant differences in the prevalence of comorbid tumours, which were more prevalent among females, behavioral and psychiatric features as the first symptoms among female and less prevalence of seizures at onset among females (Viaccoz et al., 2014).

Our patient differ from the past cases in having no prodromal symptoms, memory disturbances as the initial symptom, normal MRI, CSF and EEG. Furthermore, our case had prominent catatonic features, which to the best of our knowledge, not reported among middle aged male patients with NMDA receptor encephalitis.

Catatonia is a motor dysregulation syndrome with varied aetiologies presenting with various organic and psychiatric disorders (Mythri & Mathew, 2016). To restrict catatonia to non-organic disorders might deny patients with neurological disorders appropriate catatonia management. Therapeutic approaches to catatonia are mainly symptomatic. High dose benzodiazepines are recommended initially and in case of resistance or a life threatening condition electroconvulsive therapy is

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recommended. Treatment of the causal organic disorder is also warranted. Our case responded poorly to both benzodiazepines and electroconvulsive therapy, but responded well to immunotherapy.

This case report emphasise the importance to search for a medical condition in catatonic syndrome of middle aged males to avoid sever neurological sequelae or death associated with NMDA receptor encephalitis.

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Conflict of interest

No conflicts of interest.

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