Double Trouble: Neuroleptic Malignant Syndrome (NMS) Clouding Initial Presentation of Anti- NMDA-Receptor Encephalitis (ANRE)

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OBJECTIVE: To report a unique case of anti-N-methyl-D-aspartate encephalitis (ANRE) where the initial presentation of encephalitis was clouded by neuroleptic malignant syndrome (NMS).

BACKGROUND: Encephalitis is one of the most challenging syndromes for physicians to manage. Disease onset is acute, symptoms progress rapidly, and previously healthy individuals become quickly, and possibly permanently, disabled. ANRE is a potentially life-threatening autoimmune encephalitis disorder associated with antibodies to NRI/NR2B heteromers of the NMDA receptor. The disease is commonly seen in females and is associated with a lack of clinical response to steroids. The patients have altered mental status, rigidity, autonomic instability and fever.

DESIGN/METHODS: We describe a 27-year-old African American woman with no history of psychiatric disorders who presented with acute onset of bizarre behavior at the workplace.

RESULTS: She was admitted to the county psychiatric facility and was diagnosed with bipolar disorder. She was started on valproate and received (quetiapine (90/90mg) for agitation. Her condition deteriorated and she was transferred to a medical intensive care unit (MICU). She developed increased agitation and seizures, was intubated, and transferred to the medical intensive care unit (MICU) and was intubated. Haloperidol was continued, and levetiracetam and benzodiazepines were used for seizure control. Due to a lack of clinical response to steroids, the patient developed neuroleptic malignant syndrome (NMS). Laboratory workup showed mild leukocytosis (11,600/µL), significantly elevated CK (105,000U/L, Fig.1) and decreased liver functions (AST- 769 U/L, ALT-109 U/L). Suggestive of NMS. CSF findings were as shown in Table 1 and were remarkable for nystagmus. The patient was admitted to the internal medicine ward and received intravenous fluids with improvement in CK levels and creatinine. She subsequently developed wide temporal association of worsening of clinical features and laboratory  

CONCLUSIONS/RELEVANCE: 

 Alteration of mental status, muscle rigidity, elevated CK as well as dysautonomia which are seen in NMS have also been described with ANRE.

 A close temporal association of worsening of clinical features and laboratory parameters after haloperidol, very high levels of CK and elevation of transaminases not previously described with ANRE makes us suspect that this patient had NMS in addition to the ANRE.

 While clinical and laboratory features of ANRE can mimic NMS, patients with ANRE are also at risk of developing concurrent NMS as they may be treated with neuroleptics for behavioral abnormalities.

 Presence of NMS in patients with ANRE can mislead clinicians resulting in delayed diagnosis and treatment of ANRE.

 Clinicians need to have a high degree of suspicion for ANRE when female patients with no psychiatric history present with new onsets of psychiatric symptoms.

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References:
3. Strawn JR, Kocic CE, Grady DT, Caroff SN, Mohamad Chmayssani, M.D. 1; Venkata Bandi, M.D. 2; Deborah Forst, M.D. 2; Joseph Kass, M.D. 1; David Friedman M.D. 1; Yogeshwar Kalkonde, M.D., M.Sc 1

Given the presence of new onset psychosis in a female patient without prior psychiatric history and a clinical presentation resembling encephalitis, ANRE was suspected. A repeat lumbar puncture was obtained, and CSF was sent for anti-NMDA receptor antibodies. The patient was treated for clinical seizures with anti-seizure medication. Given the presence of new onset psychosis in a female patient without prior psychiatric history and a clinical presentation resembling encephalitis, ANRE was suspected. A repeat lumbar puncture was obtained, and CSF was sent for anti-NMDA receptor antibodies. The patient was treated for clinical seizures with anti-seizure medication. Given the presence of new onset psychosis in a female patient without prior psychiatric history and a clinical presentation resembling encephalitis, ANRE was suspected. A repeat lumbar puncture was obtained, and CSF was sent for anti-NMDA receptor antibodies. The patient was treated for clinical seizures with anti-seizure medication. Given the presence of new onset psychosis in a female patient without prior psychiatric history and a clinical presentation resembling encephalitis, ANRE was suspected. A repeat lumbar puncture was obtained, and CSF was sent for anti-NMDA receptor antibodies. The patient was treated for clinical seizures with anti-seizure medication. Given the presence of new onset psychosis in a female patient without prior psychiatric history and a clinical presentation resembling encephalitis, ANRE was suspected. A repeat lumbar puncture was obtained, and CSF was sent for anti-NMDA receptor antibodies. The patient was treated for clinical seizures with anti-seizure medication. Given the presence of new onset psychosis in a female patient without prior psychiatric history and a clinical presentation resembling encephalitis, ANRE was suspected. A repeat lumbar puncture was obtained, and CSF was sent for anti-NMDA receptor antibodies. The patient was treated for clinical seizures with anti-seizure medication. Given the presence of new onset psychosis in a female patient without prior psychiatric history and a clinical presentation resembling encephalitis, ANRE was suspected. A repeat lumbar puncture was obtained, and CSF was sent for anti-NMDA receptor antibodies. The patient was treated for clinical seizures with anti-seizure medication. Given the presence of new onsets of psychiatric symptoms.