Neuroleptic Malignant Syndrome-Induced Posterior Reversible Encephalopathy Syndrome Successfully Treated with Electroconvulsive Therapy

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Background

- Posterior Reversible Encephalopathy Syndrome (PRES) is characterized by headaches, seizures, altered mentation, and visual changes, associated with neuroimaging findings in the posterior cerebral white matter.
- It can be precipitated by many causes including elevated blood pressures.[1]
- Neuroleptic Malignant Syndrome (NMS) is a serious, life-threatening adverse effect associated with exposure to a dopamine blocking agent in the previous 72 hours. NMS is often associated with autonomic instability including malignant hypertension.[2]
- PRES has been linked as a precipitant of catatonia.[3]
- We present, to our knowledge, the first case of NMS-induced PRES with resultant malignant catatonia which resolved after ECT.

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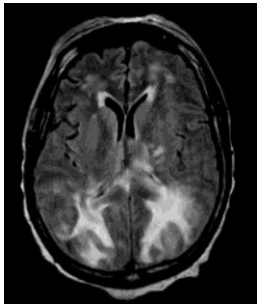
Case description

- Patient is a 29 year old female with a history of Asthma and Schizophrenia who presented to the Intensive Care Unit (ICU) from an outside hospital (OSH).
- Patient had been psychiatrically hospitalized receiving oral Risperidone augmentation of a Paliperidone long-acting injectable for decompensation of Schizophrenia.
- Patient became altered requiring transfer to OSH where Patient became unresponsive with autonomic instability and hypertension.
- MRI revealed PRES.
- On admission to ICU Patient presented with a Bush Francis Catatonia Rating Scale of 30. Despite 48 mg total daily doses of Lorazepam, the patient developed malignant catatonia
- The catatonia resolved after 18 ECT treatments and lorazepam augmentation.
- Course was complicated briefly by ECT delirium which resolved after delaying single ECT session.

Discussion

- Hypertension from NMS resulted in PRES
- It is possible patients with NMS develop PRES, though mental status changes are attributed to NMS and further neuroimaging is not completed.
- First reported case of NMS-induced PRES
- First reported case of malignant catatonia associated with PRES
- Etiology of the catatonia remains unclear.
- While this is the first-reported case with this clinical picture, the ECT series is in line with prior cases of ECT for NMS and for catatonia in PRES.
- The catatonia remitted after 18 treatments.
- The only other case of ECT treating catatonia in the setting of PRES required 18 treatments, as well as lorazepam.[3]
- A previous case series of ECT for NMS demonstrated response within 4.2 treatments with patients requiring nearly 18 sessions on average for remission of catatonia.[4]
- The duration of ECT treatment is longer than the typical index series for other psychiatric illnesses.
- These factors suggest patients with neurologic abnormalities associated with catatonia may require a longer series of ECT.

Figure 1[5]: Example of PRES



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