Evaluating persistent altered mental status after status epilepticus

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Autoimmune limbic encephalitis (LE)—either paraneoplastic or nonparaneoplastic—presents with neurobehavioral or focal changes. In more than 50% of patients with LE, seizures are observed.¹ ^{18}F -FDG-PET may show focal hypermetabolism, especially in the mesial temporal region, suggestive of LE.² Concomitant seizure activity must be excluded, emphasizing the role of continuous EEG (cEEG).

A 72-year-old man presented with altered mental status and was found to be in nonconvulsive status epilepticus (SE) on cEEG (figure, A). Brain MRI showed only diffuse atrophy. The SE improved with 4 antiepileptic drugs. However, the patient continued to have altered mental status. An ^{18}F -FDG-PET scan 13 days from admission showed left lateral and mesial temporal hypermetabolism consistent with LE (figure, B). Concurrent EEG showed periodic lateralized epileptiform discharges (figure, C). Subsequent antibody testing was positive for P/Q calcium channel antibodies, which have been noted in some patients as a paraneoplastic antibody associated with cerebellar ataxia syndrome and lung cancer. CT chest/abdomen/pelvis was

Figure Imaging

Periodic lateralized epileptiform discharges (PLEDs) are seen arising from the left hemisphere, maximum temporal (circle), which evolved into a left temporal seizure (arrow) (A). Hypermetabolism is seen in the left mesial temporal region and also in the left lateral temporal region on ^{18}F -FDG-PET (B), while concurrent EEG only showed PLEDs, maximally left temporal (C).

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negative for underlying malignancy. The patient was treated with Solu-Medrol and IV immunoglobulin with significant clinical improvement.

In cases of nonresolving altered mental status after treated SE, workup for LE is recommended, which may include ^{18}F -FDG-PET, especially in MRI-negative cases.^{3,4} cEEG is useful in diagnosing SE and following the electrophysiologic trend.

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