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EDİTÖRE MEKTUP / LETTER TO THE EDITOR

Autoimmune anti-NMDA receptor encephalitis

Otoimmün anti-NMDA reseptör ensefaliti

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Dear Editor,

We would like to draw the attention of our readership to an uncommon, yet easily missed diagnosis of Anti-NMDA receptor encephalitis in a young woman. This 19-year-old woman presented with agitation, hallucinations, and status epilepticus. Contrast brain magnetic resonance imaging (MRI) was unremarkable. Electroencephalography (EEG) (Figure 1) was suggestive of encephalitis. An extensive battery of investigations revealed positive serum/CSF anti-NMDA (N-methyl-D-aspartate) receptor antibodies; no tumour was found. Another EEG was done after 4 months (Figure 2) and this revealed the so-called extreme delta brush waves; the patient had prominent cognitive and behavioural abnormalities at that time.

In 2007, Dalmau and colleagues[1] were the first to characterize autoimmune NMDA receptor encephalitis. These anti-bodies result in a relative hypo-function of the neuronal NMDA receptors ending in a multitude of severe psychiatric disturbances and global alteration in consciousness. Recovery and relapse may follow and a late phase of profound behavioural changes and cognitive dysfunction may ensue. A varieties of EEG findings have been found, but none of them is specific. Because of its resemblance to the normal infantile delta brush, Schmitt and co-workers[2] coined the term "extreme delta brush" (EDB) to describe a novel EEG finding in those patients. They had concluded that this EDB was not found in other specific neurological diseases. In addition, the EDB was detected in 30.4% of patients on continuous EEG monitoring. Schmitt and co-workers suggested that EDB pattern may reflect a more severe disease and perhaps a gloomy prognosis. According to VanHaerents et al, it is unclear whether EDB is a persistent patter or should resolve with successful treatment; in addition, it is unclear whether there is a relationship between these antibodies and the persistence of EDB.

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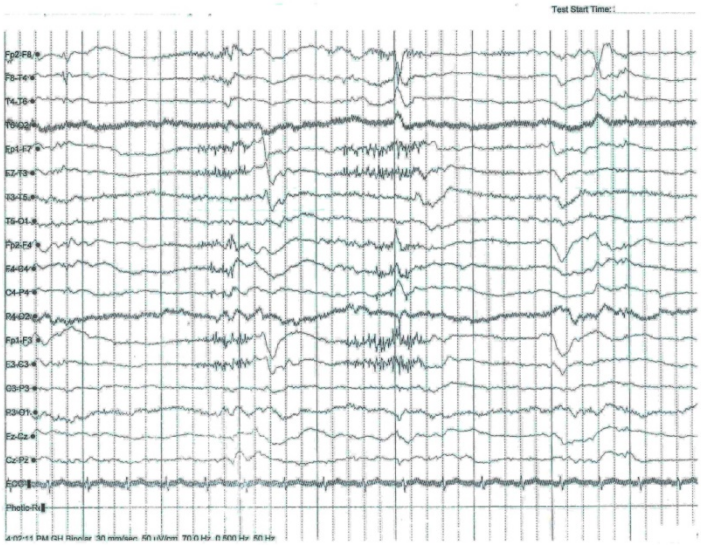

Figure 1. Portable EEG trace of the patient, which was done at the ICU; vertical bipolar montage, 10-20 system, 20 minutes duration. The background activity is well-organized but composed of diffuse low-voltage beta rhythm. There are bilateral independent periodic (every 3 seconds) spike-wave discharges at the anterior quadrant (temporal and frontal). There is periodic polymorphic slowing (of a delta theta range) at the same areas (not shown here in this trace). The patient developed status epilepticus after a few-days' history of hallucinations and aggression. The patient was treated as a case of viral encephalitis. An extensive battery of investigations confirmed the diagnosis of autoimmune anti-NMDA receptor encephalitis. No tumour was found.

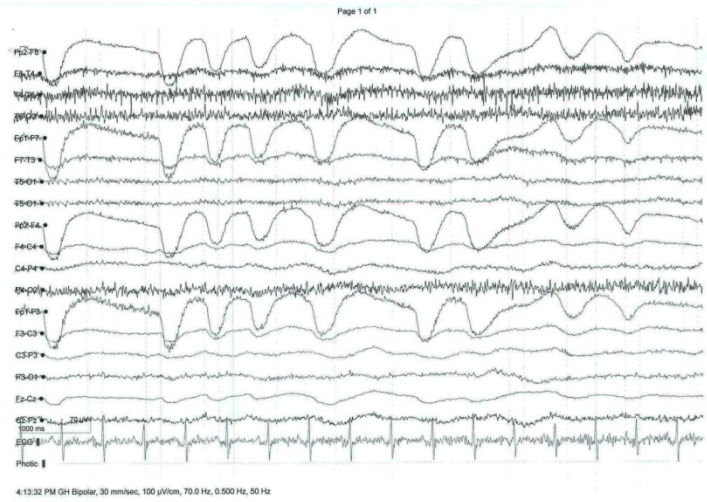

Figure 2. EEG of the patient, which was done after 4 months at the EEG lab; vertical bipolar montage; 10-20 system, 20 minutes duration. The patient had profound neurobehavioral and cognitive abnormalities at that time but there were no seizures. The background activity was composed of diffuse fast beta rhythm. Epileptiform discharges were not found. There are bi-frontal, synchronous, and relatively non-rhythmic delta waves (1 Hz) superimposed on fast beta waves; the so-called extreme delta brush. Superficially, these may look like blinking potentials on a background of artefacts.