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EFFECTIVENESS OF PERAMPANEL FOR PATIENT WITH DRUG-RESISTANT AUTOIMMUNE EPILEPSY (CLINICAL CASE)

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INTRODUCTION

In 2017 the International League Against Epilepsy (ILAE) recognized form of epilepsy directly caused by autoimmune disorder with seizures as a core symptom. For epilepsy to meet this classification, evidence of autoimmune-mediated CNS inflammation should be present. Treatment of autoimmune epilepsy involves combination of immunotherapy with antiepileptic drugs.

CASE REPORT

A 49-year-old woman presented with a 1-year history of short-term memory loss, fatigue, seizures lasting for up to 10-12 seconds, accompanied by senses of fear, anxiety and déjà vu, few seconds of disturbed consciousness and abnormal behavior: aggressiveness, irritability. Initial T2 MRI showed no abnormalities.

First EEG revealed epileptiform activity in the right fronto-temporal region (Figure 1).

The patient was prescribed with 1200 mg/day of oxcarbazepine. Side effects (drowsiness, diplopia) resulted in patients decision to reduce dose down to 900 mg/day. After six months the patient was present with significant memory impairment, daily seizures lasting for about 10-15 seconds, accompanied by impaired consciousness and speech, wrist automatisms. Seizures were followed by senses of fear and panic.

Second T2 MRI showed bilateral signal increase in temporal lobes (Figures 3,4).

Second EEG revealed continuous epileptiform activity (Figure 2).

Immunological tests for tumor-binding and paraneoplastic antibodies, autoimmune encephalitis autoantibodies were negative.

CSF analysis showed normal white blood cell count and protein levels.

The patient was diagnosed with ***autoimmune epilepsy***.

ELECTROENCEPHALOGRAPHY

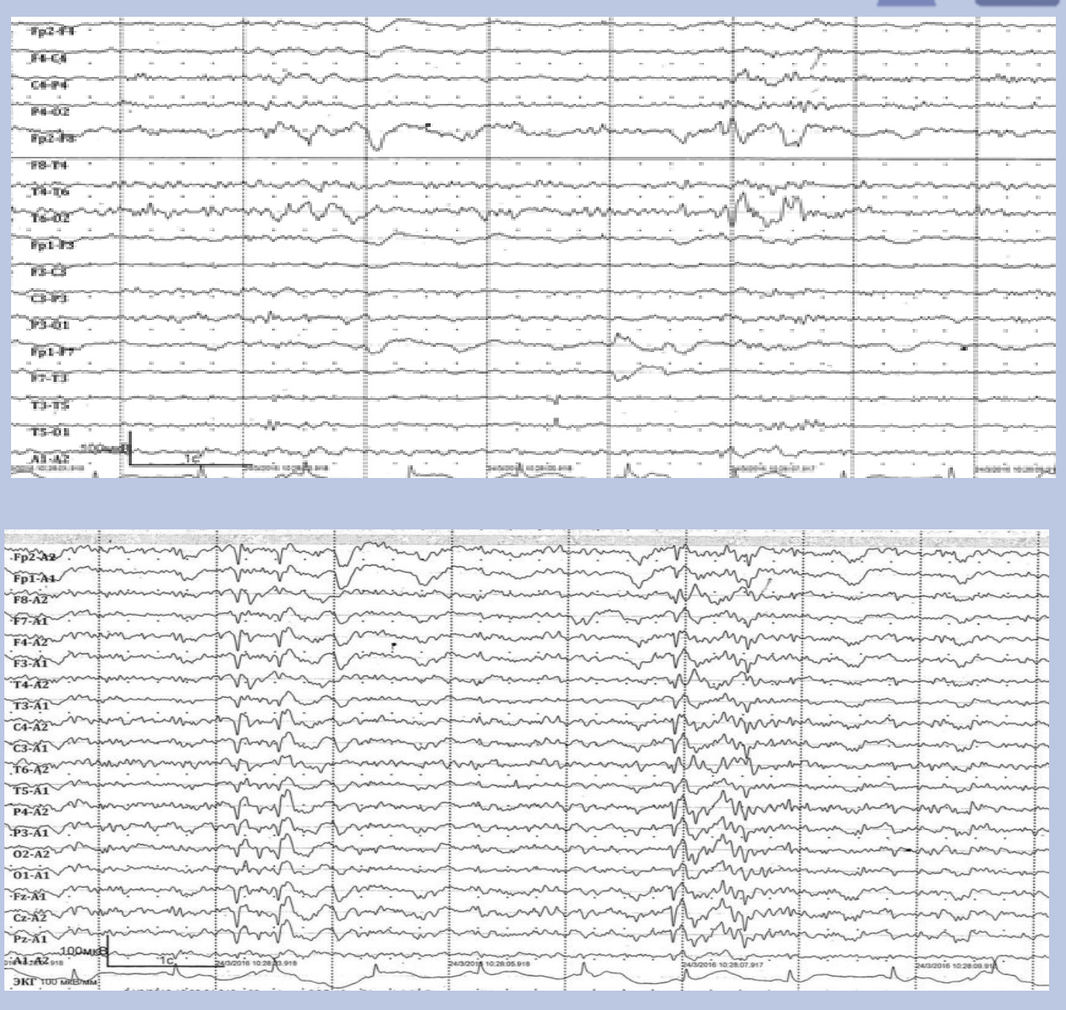
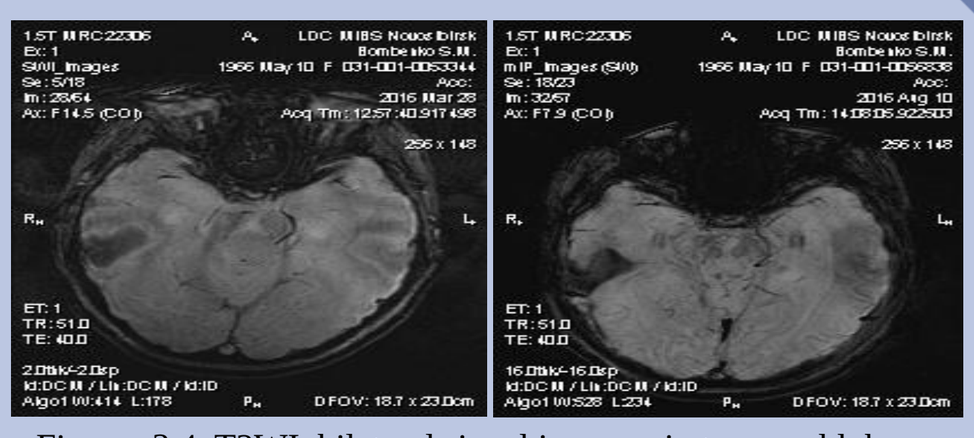


Figure 1,2. Epileptiform activity in the right fronto-temporal region.

MAGNETIC RESONANCE IMAGING



Figures 3,4. T2WI, bilateral signal increase in temporal lobes

TREATMENT

The patient was treated with methylprednisolone, valproic acid at 1500 mg/day. There was no reported seizures for the last 7 months. Resumption of seizure frequency was up to 4 per month (1-2 minutes).

Perampanel (PRM) was prescribed at 6 mg/day. The development of drowsiness and remission of epileptic seizures to the present has been noted. Cognitive functions have improved.

DISCUSSION

The clinical picture and changes in MRI related to ongoing immunotherapy are characteristic of autoimmune epilepsy [Höftberger R., 2015; Quek A.M.L., 2018].

Probably, the effectiveness of PRM is due to the nonselective antagonistic mechanism of action on AMPA receptors (AMPARs) [Rektor I., 2013].

Thus, the medicament can be effective in patients with drug-resistant autoimmune epilepsy with AMPAR antibodies and in some cases of seronegative limbic encephalitis.

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