

FEATURES OF MEMORY AND ATTENTION IN PATIENTS WITH EPILEPSY

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Abstract: we examined 52 patients with various forms of epilepsy at the stage of prolonged absence of seizures. Experimental psychological research has found difficulties in addressing the non-verbal figurative form of memory. Patients found it difficult to create a pictogram sign, sometimes they replaced it with words. When reproducing drawings, patients preferred not to draw, but to write down the names of objects. A comparative assessment of violations of different types of memory revealed that memory for verbal and visual associations suffered more than direct, but less than verbal semantic. The results of the study strongly demonstrate that, despite the absence of seizures, the focus of discharge activity continues to have its disintegrating effect on the brain.

Keywords: memory, attention, epilepsy, idiopathic generalized epilepsy, cryptogenic partial epilepsy.

ОСОБЕННОСТИ ПАМЯТИ И ВНИМАНИЯ У БОЛЬНЫХ С ЭПИЛЕПСИЕЙ

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Аннотация: обследовали 52 пациента с различной формой эпилепсии на стадии длительного отсутствия припадков. Экспериментально-психологическое исследование обнаружило затруднения при обращении к несловесной образной форме памяти. Пациентам было трудно создать знак пиктограммы, иногда они заменяли его словами. При воспроизведении рисунков больные предпочитали не рисовать, а записывать названия предметов. Сравнительная оценка нарушений различных видов памяти выявила, что память на словесно-зрительные ассоциации пострадала больше, чем непосредственная, но меньше, чем словесная смысловая. Результаты исследования убедительно демонстрируют, что, несмотря на отсутствие припадков, очаг разрядной активности продолжает оказывать своё дезинтегрирующее влияние на мозг.

Ключевые слова: память, внимание, эпилепсия, идиопатическая генерализованная эпилепсия, криптогенная парциальная эпилепсия.

According to most researchers, the functions of memory and attention most often suffer from the structure of cognitive impairment in epilepsy. Cognitive mental functions carry out the process of rational cognition of the world and purposeful interaction with it. They are formed as a result of the integrative activity of the brain, providing the human ability to perceive, analyze, memorize information, share it, and also develop and implement a program of action. Cognitive functions include gnosis, thinking, memory, attention, and speech. Their disorders are the most common comorbid disorders in patients with epilepsy. In some cases, they can disable the patient more than epileptic seizures [1–4].

The aim of this study was to elucidate the features of memory and attention in patients with epilepsy.

Material and methods. 52 patients with various forms of epilepsy at the stage of prolonged absence of seizures were examined. The average age of the subjects was 36.5 ± 3.1 years. At the time of the examination, 38 people had a higher or secondary special education and worked in their specialty, 11 - were students of universities, 3 - had a disability group, of which 2 people were disabled from childhood on this disease.

In accordance with modern diagnostic criteria for epilepsy and epileptic seizures, the patients were divided into patients with cryptogenic partial epilepsy (CPE) - 29 people, symptomatic partial epilepsy (SPE) - 6, idiopathic generalized epilepsy (IGE) – 17. The average duration of the onset of the remission of the disease before the onset of the disease 7.5 ± 2.8 years. 35 patients had monomorphic seizures: abscesses – 10 people, generalized convulsive - 19, complex partial – 6. In the remaining 17 cases, the seizures were polymorphic: generalized convulsive and absences – 6 people, simple or complex partial and secondary generalized convulsive – 9 simple and complex partial without secondary generalization – 2.

Indicators of cognitive activity in patients who achieved remission of seizures were evaluated in comparison with those in 32 healthy subjects, comparable to the main group by gender, age, level of education. In the work were

used experimentally psychological, EEG, statistical research methods. All indicators were calculated according to generally accepted formulas using the statistical package “Statistica 6.0”.

Results and discussion. The study of various types of memory made it possible to distinguish a group of patients (19 people, 36.9%), in whom the volume of all types of memory did not differ from norms, of which 16 (85.3%) had a normal memory structure. In other words, associative memory for pictograms and memorization of a story were more effective than direct memorization. In all patients of this group, the duration of the disease did not exceed one year, the seizures were of the nature of simple absences (14.7%) or convulsive seizures (85.3%), the number of which before their complete remission was no more than 14. An analysis of the results of the study of memory in the remaining 33 patients showed that 3 of them reproducing from hearing the words and story found.

It was within normal limits, in 16 patients both types of memory were below normal, in the remaining 14, either memorizing words from the hearing (5 people) or remembering the story (6 people) remained within the normal range. On average, patients memorized from hearing 6.8 ± 0.41 words and 7.2 ± 0.46 semantic units of the story, and the differences between the mean values were statistically unreliable. Healthy people memorized an average of 8.9 ± 0.39 words and 12.9 ± 0.51 semantic units of text.

An experimental psychological study found it difficult to access the non-verbal figurative form of memory. It was difficult for patients to create a pictogram sign, sometimes they replaced it with words. When reproducing the drawings, patients preferred not to draw, but to write down the names of objects. A comparative assessment of violations of various types of memory revealed that the memory of verbal-visual associations (pictograms) suffered more than direct, but less than verbal semantic.

Differences between these averages from each other and the corresponding indicators in patients are statistically significant ($p < 0.05$). This is probably due to more complex mechanisms for organizing indirect types of short-term memory. It was the associative form of memory in animal experiments that was determined by the level of protein-nucleic synthesis as a result of genome modification during training [6, 7].

Thus, the results of the study convincingly demonstrate that, despite the absence of seizures, the focus of discharge activity continues to exert its disintegrating effect on the brain. Psychological testing aimed at the study of attention and memory in patients with epilepsy, in combination with EEG data serves as a diagnostic tool for the quality of disease remission, allows you to clarify the mechanisms of memory impairment in epilepsy, as well as to develop differentiated rehabilitation programs aimed at improving the quality of remission of patients with epilepsy.

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