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THE IMPACT OF MODERN ANTIEPILEPTIC DRUGS ON THE QUALITY OF LIFE OF PATIENTS WITH EPILEPSY

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Abstract:
The study included general clinical and neurological examination, EEG and/or video EEG monitoring, RCT and/or MRI of the brain, neuropsychological testing using the QLIE-31 and HUDS scales within 3 months from the start of therapy. The highest quality of life ratings were most often observed in the groups receiving levetiracetam and oxcarbazepine (83.3 and 72%, respectively), the highest frequency of low ratings among those taking carbamazepine and valproates (16.5 and 17%). Clinically significant psychoemotional disorders were more often observed with the use of topiramate (21.8%), valproates (21.4%) and carbamazepine (16.6%), much less frequently with oxcarbazepine (8.3%), and were absent during treatment with levetiracetam. There is a strong correlation between the quality of life and the effectiveness and side effects of therapy, psychoemotional disorders. The best indicators of quality of life were observed with the use of new generation antiepileptic drugs.

Keywords: epilepsy, antiepileptic drugs, quality of life.

Introduction

The treatment strategy for epilepsy has now undergone significant changes. The modern approach to the problem of epilepsy treatment provides for the solution of a number of issues related not only to achieving maximum therapeutic effect, but also to the adequate and comfortable functioning of patients in society (education, choice of profession, employment, family creation). If it was back in the 50s and 80s. last century, the priority of therapy was epilepsy as a disease, and the goal is to eliminate seizures and psychoemotional disorders, then at the present stage the priority is the patient, and the goal is to improve his quality of life (QL) [3]. According to the definition of the World Health Organization, QL is people's perception of their position in life in the context of cultural and value orientations in accordance with their own goals, expectations, standards and concerns (cited in [4]). QL is defined as a person's

satisfaction with their physical, mental and social well-being in all aspects of their functioning in society.

Numerous studies have found a significant deterioration in QL in patients with epilepsy compared to the rest of the population [6]. The factors that reduce QL in epilepsy are very diverse. Often, the diagnosis of epilepsy itself turns out to be dramatic for the patient, causing social disadaptation, contributing to psychological distress and a decrease in quality of life [7, 9]. Epileptic seizures, fear of their recurrence and the wary attitude of others towards them also have a negative impact [10]. Seizures are associated with an increased risk of developing mental and cognitive disorders, causing damage to physical health [8]. One of the most significant negative factors is the need for prolonged (sometimes lifelong) use of antiepileptic drugs (PEP), which themselves can reduce QL, causing physical, mental and cognitive disorders, and have teratogenic effects [5]. In some cases, the PEP itself has a negative effect on the course of the disease and the severity of seizures [2].

Thus, the problem of quality of life in patients with epilepsy is associated not only with the clinical manifestations of the disease, but also with a personal reaction to it, with the need for constant medication, with the attitude of society towards patients, which does not always reasonably limit their desire for social activity [4]. In modern epileptology, one of the priority goals is to improve quality of life and rehabilitation of patients with epilepsy [1].

Until recently, valproates and carbamazepine remained the basic peptides for use in monotherapy in most forms of epilepsy in adults. With the advent of a new generation of PEP group, this list has expanded. Currently, topiramate and oxcarbazepine have been recognized for use in monotherapy, including in Russia; it is registered in many countries of the world and experience is accumulating in the use of levetiracetam in Russia. The possibilities for individualized treatment of epilepsy have undoubtedly expanded. Has the prognosis improved for patients with epilepsy, and has their quality of life changed in general? These issues remain open and are not always resolved unambiguously.

The objective of this study was to study and compare the effect of modern PEP used in monotherapy on the quality of life of adults with epilepsy.

Purpose of scientific work. Improving the quality of life in patients with cryptogenic epilepsy on the basis of the rational use of modern antiepileptic drugs.

Material and methods. For the study, patients who have applied with talvasa to the maslachat Polyclinic of 45 middle-aged ASMI clinics, 1st, 2nd, 3rd neurology departments are examined.

1. All patients undergo clinical and neurological examinations.
2. Paraclinic examinations :

a) electroencephalography (EEG

b) Magnetic Resonance Tamography (MRT
3. Checking the level of the quality of the plot through the questionnaire (SF-36 "The Short Form 36")

Results

In all the selected groups, there was a combination of different types of seizures with a predominance of complex partial (PCP) and secondary generalized (SG) over simple partial (OSP). The initial frequency of seizures was for HCV: 1-5 per month, for PCP and OSP: 4-14 per month. Among patients receiving treatment with traditional peptides (valproates and carbamazepine), individuals in whom epilepsy therapy was initial prevailed — 58 and 72%, respectively. Among the patients receiving new peptides (topiramate, levetiracetam and oxcarbazepine), the majority were patients who had switched from previously used therapy due to its ineffectiveness or side effects — 52, 79 and 75%, respectively. This fact, of course, reflects the tendency to use new expensive PEP only if there is a reasonable need. The rarer (21%) appointment of levetiracetam as a starting monotherapy was not due to its lower effectiveness, but rather to the relative novelty of the drug and insufficient experience of use, and in relation to oxcarbazepine (13%) also the lack of the possibility of preferential provision.

The effectiveness of therapy with the use of various PEPs was assessed by the indicator of a decrease in the frequency of epileptic seizures as a percentage of the initial frequency: 100% — remission, 75-99% — significant improvement, 50-74% — moderate improvement. A decrease in the frequency of seizures by less than 50% (minimal improvement) was regarded as the absence of a clinically significant effect, an increase in seizures — as a deterioration.

On average, monotherapy was found to be quite effective in all groups. The maximum frequency of achieving remission was noted in the group taking topiramate (57%), somewhat less frequently ($p>0.05$) in the groups taking levetiracetam (54%), valproates (50%) and oxcarbazepine (50%), significantly less frequently ($p<0.05$) among those taking carbamazepine (39%). The overall indicator of high treatment effectiveness (a decrease in the frequency of seizures by more than 75%) was higher in the groups of patients receiving new PEP. Despite the best results of therapy in the group of patients treated with topiramate, in the same group, 2 (4%) patients showed a worsening of the course of epilepsy in the form of an increase in CP and HSP, which was not registered in other groups. The absence of seizure aggregation in patients taking carbamazepine is explained by the active detection of predictors of this complication of therapy, the phenomenon of secondary bilateral synchronization,

at the screening stage using EEG monitoring. The highest incidence of therapy ineffectiveness was recorded in the groups taking oxcarbazepine (16%) and valproates (14%), the lowest in the group taking levetiracetam (4%).

Side effects were most often observed when taking valproates (31%), somewhat less frequently when treated with oxcarbazepine (25%) and carbamazepine (25%). When taking topiramate and levetiracetam, this figure was 16 and 12.5%, respectively. Meanwhile, the frequency of withdrawal of PEP due to clinically significant side effects practically did not differ for valproates, carbamazepine and topiramate, amounting to 7.6—9%. It should be noted that when using topiramate, 36% of patients showed a decrease in body weight by 2-30 kg (on average by 6.5 ± 3.5 kg), but in no case did this lead to a deterioration in health or QL and the cancellation of treatment, therefore we did not include this manifestation in the list of side effects. On the contrary, in 20% of patients treated with valproates, there was an increase in body weight by 3-25 kg (on average — by 12 ± 5.5 kg in patients who underwent treatment for 6 months or more), and this was the reason for the withdrawal of the drug in 5 (9.6%) patients whose body mass index was significantly deviated from the norm. A decrease in the level of QL as the only reason that required the withdrawal of the taken PEP was registered in 1 (2%) of patients taking valproates, 2 (5%) – carbamazepine and 3 (5%) — topiramate. When treated with levetiracetam and oxcarbazepine, side effects have never caused treatment to be discontinued.

When analyzing the results of neuropsychological testing using the QLIE-31 questionnaire, we conditionally accepted a score of less than 30 for corresponding to very low QL, from 30 to 39 for low, from 40 to 49 for average, from 50 to 59 for good, over 60 points for high QL.

When comparing the final QL index of patients from different groups, the largest number of patients who rated their QL as high was noted in the groups receiving levetiracetam (83.3%) and oxcarbazepine (72%). In patients taking topiramate, carbamazepine and valproates, this indicator corresponded to good QL, amounting to 59, 53 and 52%, respectively. Low QL scores were not obtained in any case after taking levetiracetam. When taking oxcarbazepine, topiramate, carbamazepine and valproates, such estimates were in 6, 11, 16.5 and 17% of patients, respectively. Thus, patients receiving a new generation of PEP rated their quality of life higher on average, which undoubtedly reflects the high efficacy and good tolerability of these drugs.

The data obtained by analyzing the dependence of QL indicators on the therapeutic effect indicate a significant effect of the effectiveness of the therapy on QL in patients with epilepsy.

The results of the analysis of QL indicators in patients with epilepsy, depending on the presence or absence of side effects of therapy, showed that patients with side effects in all groups had lower estimates of QL indicators in all areas of the questionnaire, however, they reached the level of statistical reliability only in the group taking valproates, in the sections general QL, energy/fatigue, cognitive functions. Patients in this group with side effects from therapy rated their QL significantly lower (45.6±2.4) than patients in the same group without side effects (57.7±1.7; $p<0.05$). No such dependence was observed in other groups, which is apparently due to the greater frustrating effect of specific side effects of valproates. Thus, progressive weight gain and alopecia had an exceptional effect on the indicators of the overall assessment of QL, the negative psycho-emotional impact of which often did not correspond to the severity of the side effect itself. Weight loss, which occurs with high frequency during topiramate treatment, on the contrary, was often evaluated positively, was significantly less often accompanied by emotional distress and was observed mainly in young men. Psychoemotional disorders, developing for various reasons, had a significant impact on quality of life indicators.

Psychoemotional disorders in the form of depression and anxiety in a clinically pronounced and subclinical form were most often observed in patients taking topiramate (49.9%), carbamazepine (29.1%) and valproates (35.7%), significantly less often among those receiving oxcarbazepine (20.8%) and levetiracetam (16.7%). In the group of patients receiving levetiracetam, there were no clinically pronounced forms of psychoemotional disorders at all. Anxiety disorders prevailed over depressive ones insignificantly and were noted mainly in the form of a combined anxiety-depressive syndrome.

Of course, not only the factors associated with treatment have a traumatic effect. Paired analysis within groups demonstrated a higher degree of psychoemotional maladaptation in people with disabilities compared with people without disabilities. Moreover, the severity of dysadaptation in these patients, as a rule, did not correlate with the severity of the disease and the frequency of seizures. Their final QL score was significantly lower ($p<0.05$). Emotional distress and the final QL index in employed and student patients were significantly higher than in patients who did not participate in the labor or educational process. Significantly higher QL rates were obtained in unmarried individuals ($p<0.05$). Such results may be associated with a negative experience of responding to the illness of others, including family members (spouses).

Significantly better quality of life was demonstrated by patients taking levetiracetam, the anti-inflammatory effectiveness of which was insignificantly inferior only to topiramate. The overall frequency of side effects was the lowest, comparable to those demonstrated by topiramate, but their severity was insignificant and never led to the withdrawal of the drug. The severity of psychoemotional disorders did not go beyond subclinical disorders. The QL scores of patients treated with oxcarbazepine approached those of levetiracetam, second only in terms of psychoemotional frustration.

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