World Journal of Agriculture and Urbanization
Volume: 02 | No: 6 | Jun 2023 | ISSN: 2835-2866
https://wjau.academicjournal.io/index.php/wjau

Evaluation of the Clinical Efficacy of Phenytoin in the Treatment of Epileptic Seizures in Children

Arslonova Rayhon Rajabboevna
Assistant of the Department of Pharmacology, Samarkand State Medical University

Nag`matullayev Abdulazizjon Ulug`bekovich
Samarkand State Medical University Treatment Faculty student of 2-course

Abstract: *This scientific article is about seizure disease, which is common in medicine, and it is a neuropsychiatric disease that requires long-term treatment. Epilepsy is common among the population and accounts for 1% of children's diseases. The development of epilepsy is caused by genetic, genetic factors, trauma, infectious diseases, and perinatal damage to the brain. Currently, the number of patients suffering from seizures is increasing in different countries.*

Keywords: *epilepsy, fenitoin medication, disease.*

Relevance of the topic. Epilepsy is found in 40-60 people per 100,000 population in different countries every year. Epilepsy is common among children. Phenytoin is one of the most effective drugs in the treatment of epilepsy. But, in addition, as a result of the results of the use of this drug by doctors from all over the world and numerous scientific studies, it was found that phenytoin has a positive effect in the treatment of 50 other diseases. In the world of medicine, phenytoin was introduced as an effective bioelectrical stabilizer. This is one of the most tested drugs in the world. Its positive effect has been confirmed in nearly 10,000 studies conducted in 38 countries. In 1908, the German chemist Heirich Biltz synthesized (discovered) diphenylhydantotsi (phenyton), and in 1937, doctors Putnam and Mertit discovered that phenytoin can be used for seizures. These drugs have been shown to be more effective than phenobarbital and do not have a depressant effect on the brain. From the beginning of the use of phenytoin, information appeared that it has not only an anticonvulsant effect, but also other properties. Data such as improvement of high mood and other mental characteristics, obvious emotional stability and positive mood were found in the patients who took the medicine. Phenytoin has also been shown to have a therapeutic effect when accompanied by changes in brain bioelectric activity, especially in the electroencephalogram (EEG). Phenytoin normalizes the bioelectrical activity at the level of cell membranes, and at the same time has little effect on the function of normal cells. Its ability to control the functions of biological membranes has been determined in the tissues of the head and spinal cord, autonomic ganglia, peripheral nerves, transverse and cardiac muscles, the conduction system of the heart, as well as the smooth muscles of the intestines and vessels.

Materials and research methods: Treatment of epilepsy with anticonvulsants is the initial stage of rehabilitation, and in most cases this treatment determines the outcome of the rehabilitation process. Currently, it is not possible to eliminate seizures in 50% of patients with the help of traditional medicines. : That is why new generation drugs are being researched and produced to treat forms of seizures and seizures resistant to drug treatment measures and to achieve a complementary effect. 30 patients who received inpatient treatment in the neurology department of the SamDTU clinic and were followed up in an outpatient setting participated in the study of the drug phenytoin. 10 patients (33.3%) of the 1st group have absences, 9 (30%) of the 2nd group have myoclonic convulsive

seizures, 11 (36.7%) of the 3rd group have large convulsive seizures. Patients received phenytoin in complex treatment once a day (in the evening) in a dose of 7.5-15 mg (1/4-1/2 tab.). The antiepileptic activity of phenytoin is based on the potentiation of GAMK activity, the blocking effect on sodium and potassium channels, which primarily prevents contact activation of the mediator that activates glutamate-seizure activity of receptor sensitivity. These effects depend on the concentration of the drug in blood plasma. 81% is absorbed from the gastrointestinal tract, 13-17% binds to plasma proteins, undergoes metabolism. When phenytoin is used together with enzyme-inducing drugs, its metabolism increases by 50%. The main route of excretion of phenytoin and its metabolites is the kidneys. Plasma half-life is 21 hours in adults, phenytoin clearance is higher and half-life is shorter in children. Pharmacokinetics of phenytoin is local in adults and children. Therefore, it is not required to control its amount in blood plasma. At the beginning of treatment, it is given 2 times a day.

25-50 mg per day in adults, 0.1-1 mg/kg in children. Recommended dosage amounts are 200-400 mg per day (5-9 mg/kg). Phenytoin is released in the form of coated tablets containing 25, 50, 100, 200, 300 and 400 mg of active substance.

48 patients with symptomatic seizures ranging from 1 month to daily between 18 and 69 years of age (median age) with phenytoin—23 adults (10 men and 13 women) and 4 to 15 years of age versus conventional seizure disorder we treated 25 children with forms of the disease resistant to therapy. 7 absences, 10 atypical absences, 7 complex partial seizures, 18 seizures and 8 myoclonic seizures were observed in children.

Monomorphic seizures were observed in 4 patients, 2 types of seizures were observed in 15 children, and three types of seizures were observed in 6 children. In adults, partial and diffuse seizures (22 patients), absences and myoclonic seizures (in some cases) were observed. The course of the disease in adults is equal to 11 years, and the clinical appearance of most of them is observed with polymorphic attacks. Phenytoii reaches its maximum concentration in the blood 4-12 hours after taking it. 5-14 cups are added to the amount of turkun in the blood. Kona has a therapeutic effect when it has a concentration of 5-20 mg/l.

Results: 4-12 hours after taking phenytopin in the blood, in the group of older patients, 95.7% had a different advanced positive result, 17.4% of patients had a 25% reduction in seizures, 8.7% of patients had a 50% reduction, 43.5% of patients had a 75% reduction, and 26.1% of patients had no seizures at all. stopped.

Topamax has been shown to be more effective in treating generalized convulsive, partial, and secondary generalized seizures in adults. Summarizing these results, it can be concluded that 20-33% of patients were completely relieved of certain types of attacks. In 67-93% of patients, the number of attacks decreased to a certain extent. In the group of children, the complete elimination of attacks was noted in 4 children (16%), a decrease by 50%, an increase in 13 (52%), and no effect was observed in 8 (32%). None of the children with complete resolution of seizures had myoclonus, but all of them had convulsive seizures. In this group of children, there were no more than two types of seizures, and in children resistant to Topamax treatment, more than three types of seizures prevailed. The drug shows effective results in all types of seizures in children: in some cases, the complete disappearance of seizures in 10-28.5%, a certain amount of reduction - 39-62.5% 5 (21.7%) side effects were observed in patients aged 5 (21.7%): 2 on the background of monotherapy, 3 against the background of polytherapy (in 2 cases when combined with finlepsin, in 1 case with finlepsin and barbiturates). Due to the development of psychotropic agitation and psychotic symptoms in 1 patient who received topamax in the form of polytherapy with Finlepsin, the drug was discontinued and these manifestations disappeared.

Conclusion. The conducted tests showed that phenytoii is accepted has shown to be highly effective in the treatment of generalized convulsive and secondary generalized partial seizures in adults. It eliminated some attacks by 31.4-43.3% and allowed various degrees of recovery in 76.6-85.5% of patients.

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