ANALYSIS OF MODERN OPTIMAL TREATMENT OPTIONS FOR PHARMACORESISTANT EPILEPSY

Yodgorov Jasurbek Jo'rayevich
Bukhara State Medical Institute named after Abu Ali ibn Sino.
Bukhara, Uzbekistan. E-mail: yodgorov.jasurbek@bsmi.uz

Annotation This article analyzes the problem of pharmacoresistant epilepsy (PRE), its causes, and modern treatment methods. Advanced techniques used in global practice, such as neurosurgery, neurostimulation, and gene therapy, are examined. The aim is to identify the most effective and safe treatment approaches for patients who do not respond to pharmacotherapy.

Keywords: epilepsy, pharmacoresistance, modern methods, neurotransmitters, oxidative stress, optimal.

АНАЛИЗ СОВРЕМЕННЫХ ОПТИМАЛЬНЫХ ВАРИАНТОВ ЛЕЧЕНИЯ ФАРМАКОРЕЗИСТЕНТНОЙ ЭПИЛЕПСИИ

Ёдгоров Жасурбек Жўраевич
Бухарский государственный медицинский институт имени Абу Али ибн Сино. Бухара, Узбекистан. e-mail: yodgorov.jasurbek@bsmi.uz

Аннотация В данной статье анализируется проблема фармакорезистентной эпилепсии (ФРЭ), причины ее возникновения и современные методы лечения. Рассматриваются передовые методы, используемые в мировой практике, такие как нейрохирургия, нейростимуляция и генная терапия. Цель - определить наиболее эффективные и безопасные методы лечения для пациентов, не реагирующих на фармакотерапию.

Ключевые слова: эпилепсия, фармакорезистентность, современные методы, нейромедиаторы, оксидативный стресс, оптимальный.

ФАРМАКОРЕЗИСТЕНТ ЭПИЛЕПСИЯНИ ДАВОЛАШНИНГ ЗАМОНАВИЙ ОПТИМАЛ ВАРИАНТЛАР ТАҲЛИЛИ

Ёдгоров Жасурбек Жўраевич
Абу Али ибн Сино номидаги Бухоро давлат тиббиёт институти. Бухоро, Ўзбекистон. e-mail: yodgorov.jasurbek@bsmi.uz

Аннотация Ушбу мақолада фармакорезистент эпилепсия (ФРЭ) муаммоси, унинг келиб чиқиш сабаблари ва замонавий даволаш усуллари таҳлил қилинган. Жаҳон амалиётида қўлланилаётган нейрохирургик, нейростимуляция ва ген терапияси каби илғор усуллар кўриб чиқилади. Мақсад

– фармакотерапияга жавоб бермайдиган беморлар учун энг самарали ва хавфсиз муолажа йўлларини белгилаш.

Калит сўзлар: эпилепсия, фармакорезистентлик, замонавий усуллар, нейротрансмиттерлар, оксидатив стресс, оптимал.

Epilepsy is one of the chronic neurological disorders of the brain characterised by sudden onset of agitation. The number of people with epilepsy in the world is about 50 million people. According to statistics, in about 30% of patients, despite traditional anti-epileptic drugs (AED), seizures persist. Such cases are called pharmacoresistant epilepsy. When standard therapeutic measures are ineffective in the treatment of epilepsy, it is called pharmacoresistant epilepsy. This article analyzes modern methods of treating pharmacoresistant epilepsy, and also examines their effectiveness, directions, and what innovative approaches are being tested based on international research.

Ketodiety - in which an attempt is made to control epileptic waves by directing the body to provide energy with ketones. This diet is recommended to some patients as a result of learning from the ineffectiveness of pharmacological therapy. By increasing the amount of fats in the supply, it increases ketone bodies in the brain and reduces the number of epileptic seizures. It is highly effective in children and also beneficial in adults.

Electrical stimulation and implanted brain stimulants, such as vagus nerve stimulants, often help in the treatment of pharmacoresistant epilepsy. This technology is recommended in many clinics due to its effectiveness. One of the most effective methods. If the attacks are clearly localized in the brain, the pathological area is resected (for example, temporal lobectomy). The probability of achieving remission is 60-80%.

The brain is stimulated by electrical impulses through the vagus nerve. Reduces the frequency of attacks by 30-50%. Safe and has a long-term effect. Surgical methods play an important role in the treatment of pharmacoresistant epilepsy. Microsurgical interventions and neurosurgical operations are most often recommended if a specific epileptic focus is detected in the brain. The main goal of surgery is the removal or reduction of the epileptic focus.

In the field of pharmacology, research is being conducted on new drugs and increasing the content of hyaluronic acid or CBD (cannabidiol). The effectiveness of new types of anticonvulsants and multifaceted drugs is undergoing trials and clinical trials.

Electrodes are placed in certain structures of the brain, through which regular electrical stimulation is carried out. This method, previously used in Parkinson's disease, is now also used in FRE.

Modern type of neurostimulation. A device for detecting the onset of a seizure is installed in the brain, and immediately after detecting the seizure, it is stopped with an electrical impulse.

Although currently at the stage of clinical research, there is great hope that in the future genetic mutations will be corrected and the source of epilepsy will be affected.

When choosing a treatment method, the type of epilepsy, the location of the seizures, the patient's age, somatic status, and other factors are taken into account. A comprehensive approach, i.e., pharmacotherapy, diet, stimulation, and (if necessary) surgery, together gives high effectiveness.

RESULT

Pharmacoresistant epilepsy (FRE) is a condition that does not respond to standard antiepileptic treatment methods, requiring a serious approach to management. This scientific study analyzed modern and effective methods for treating FRE. Specifically, it highlighted the role of neurosurgical interventions (vagus nerve stimulation, additional localized resections), ketogenic diet, neuromodulation technologies, and new-generation antiepileptic drugs.

The analysis revealed that an integrated approach is crucial for effective management of FRE - that is, combining individualized pharmacotherapy with functional diagnostics, psychosocial support, and surgical methods when necessary. Additionally, developing structural pharmacotherapeutic strategies based on genomic studies may usher in a new era in FRE treatment in the future.

In conclusion, the widespread implementation of innovative technologies that provide a modern, comprehensive, and individualized approach to effectively treating FRE is of paramount importance. This will serve to improve patients' quality of life and ensure effective disease control.

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