Epilepsy: Modern methods of treatment

Abstract: Epilepsy is one of the most common neurologic problems worldwide. There is an increase of epilepsy in the population. As the consequence of Epilepsy can have adverse effects on social and psychological well-being. It is urgent to study modern methods of treating epileptic patients.

Keywords: epilepsy, treatment, anticonvulsants, neurostimulation.

Epilepsy becomes more common as people age and brain injury and pregnancy [2; 3; 4; 5; 6]. In the developed world, onset of new cases occurs most frequently in infants, in the developing world this is in children and young adults, due to differences in the frequency of the underlying causes. About 5–10% of all people will have an unprovoked seizure by the age of 80, and the chance of experiencing a second seizure is between 40 and 50%. In many areas of the world those with epilepsy either have their ability to drive restricted or disallowed, but most are able to return to driving after a period of time without seizures [1; 7; 8].

There is an increase of epilepsy in the population. As the consequence of Epilepsy can have adverse effects on social and psychological well-being. These effects may include social isolation, stigmatization, or disability. They may result in lower educational achievement and worse employment outcomes. Learning difficulties are common in epilepsy.

Certain disorders occur more often in people with epilepsy and epileptic syndrome. These include: depression, anxiety disorders, and migraines. Attention-deficit hyperactivity disorder affects three to five times more children with epilepsy than children in the general population [3; 4]. Epilepsy has significant consequences on a child’s behavioral, learning, and social development. Epilepsy is also common in those with autism. In this regard, it is urgent to study modern methods of treating epileptic patients [1].

Objective: To study modern methods of treatment of epilepsy.

Material and methods:
- The incidence of epilepsy looks at the number of new cases in a given year. It is often given in a ratio such as V out of 1,000 persons develops epilepsy each year.
The goal of surgery is total control of seizures and this may be achieved in 60–70% of cases. Common procedures include: cutting out the hippocampus via an anterior temporal lobe resection, removal of tumors, and removing parts of the neocortex. Some procedures such as a corpus callosotomy are attempted in an effort to decrease the number of seizures rather than cure the condition. Following surgery, medications may be slowly withdrawn in many cases.

- Neurostimulation may be another option in those who are not candidates for surgery. Three types have been shown to be effective in those who do not respond to medications: vagus nerve stimulation, anterior thalamic stimulation, and closed-loop responsive stimulation.


- SANTE (Stimulation of the Anterior Nucleus of the Thalamus for Epilepsy) Trial: This study uses deep brain stimulation to treat medically refractory epilepsy.

- A multi-center trial of progesterone therapy for women with epilepsy: This NIH-funded study is examining whether using progesterone as an adjunctive therapy is effective for women with medically refractory, localization-related epilepsy. Adult patients with medically refractory temporal lobe seizures may be candidates for an on-going NIH-sponsored clinical study to determine the efficacy of Gamma-Knife radio surgery. This procedure may provide a viable noninvasive alternative to surgery.

- “Epilepsy Phenome/Genome Project”: UCSF is the coordinating center for the national Epilepsy Phenome/Genome Project, sponsored by the National Institutes of Health, which is aimed at collecting detailed phenotypic and genomic information on patients with idiopathic generalized epilepsy, localization-related epilepsy, infantile spasms, Lennox-Gastaut Syndrome, and certain types of malformations of cortical development. This information will help to identify multigenic determinants of the underlying epilepsy syndrome and pharmacoresponsiveness or pharmacoresistance.

### Alternative medicine

Including acupuncture, psychological interventions, routine vitamins, and yoga, have no reliable evidence to support their use in epilepsy. The use of cannabis is not supported by the evidence. Melatonin is insufficiently supported by evidence.

**Other**

A ketogenic diet (high-fat, low-carbohydrate, adequate-protein) appears to decrease the number of seizures by half in about 30–40% of children. About 10% manage to stay on the diet for a few years, 30% had constipation, and other adverse effects were common. Less radical diets were easier to tolerate and may be effective. It is unclear why this diet works. Exercise has been proposed as possibly useful for preventing seizures with some data to support this claim.

### Conclusion

The main condition for the successful treatment of epilepsy is first remove primary cause and do

- In U.S., the average incidence of epilepsy each year is estimated at 150,000 or 48 for every 100,000 people.
- The prevalence of epilepsy looks at the number of people with epilepsy at any given point in time. This includes people with new onset epilepsy as well as those who have had epilepsy for a number of years. This is usually given in a total number, such as “x million” people, but can also be given as a ratio.
- In U.S., the number of people with epilepsy, using prevalence numbers, ranges from 1.3 million to 2.8 million (or 5 to 8.4 for every 1,000 people)
- The incidence number also tells how many people in a certain group have epilepsy. For example, these numbers can show how often epilepsy occurs at different ages, in different ethnic groups, or in different regions.

**Results:** Epilepsy is one of the groups of long-term neurological disorders, characterized by epileptic seizures. These seizures are episodes that can vary from brief and nearly undetectable to long periods of vigorous shaking. In epilepsy, seizures tend to recur, and have no immediate underlying cause while seizures that occur due to a specific cause are not deemed to represent epilepsy. Epilepsy is characterized by a long-term risk of recurrent seizures. These seizures may present in several ways depending on the part of the brain involved and the person’s age.


**Used to Treat:** Carbamazepine group used to treat Temporal Lobe Epilepsy, Complex Partial Seizures, Refractory Seizures, Secondarily Generalized Seizures, and Simple Partial Seizures.

**Forms:** Carbamazepine exists under different names, including Epitol and Atretol. It is generally available in three forms: Tablets: 200 mg. These should be swallowed whole, not chewed. Chewable tablets: 100 mg. These can be either swallowed whole or chewed. Suspension (liquid): 100 mg. per 5 ml.

**Surgery:** Surgery may be an option for people with focal seizures that remain a problem despite other treatments.
further treatment. Make people to aware of epilepsy, educate them to do first aid rather than being afraid. Epilepsy cannot usually be cured, but medication can control seizures effectively in about 70% of cases. Of those with generalized seizure more than 80% can be well controlled with medications while this is true in only 50% of people with focal seizures. One predictor of long-term outcome is the number of seizures that occur in the first six months. Efforts to reduce head injuries, provide good care around the time of birth, and reduce environmental parasites such as the pork tapeworm may be effective. Efforts in one part of Central America to decrease rates of pork tapeworm resulted in a 50% decrease in new cases of epilepsy. Medications are not to be too expensive. Lack of knowledge about epilepsy among friends circle and colleagues. Lectures and videos need to show in schools, colleges and universities.

References:

Structure of road traffic injuries at residents of the industrial city

Abstract: We analyzed the number of road traffic injuries in 10 years, residents of the city of Stavropol including road accidents and the number of resident population from 2010 to 2012. Mortality rates were estimated with the accident. It was found that the annual numerical increase in victims of road traffic accidents, which provided medical assistance for emergency medical care, is due to the injury of the adult population. Among the victims were most of those aged 16 to 50 years old, mostly male, as the most active, efficient and have more active lives. Among children at risk for road traffic injuries were mostly children from 10 to 15 years. It is noted that the number of injuries is increasing every year, which is an economic loss for the state.

Keywords: road traffic injuries, deaths, affected.

The special place among the main reasons for death among young able-bodied population of the country is taken by the road and transport traumatism (RTT) which is referred to the heaviest types of traumatism, winning first place among the mortality reasons from mechanical damages and being one of the main reasons for an exit to disability of citizens of working-age [4; 5; 6; 7; 8; 11–13]. Lethality indicators at road accidents tend to annual growth [1–3; 10–13]. The death toll in a year in the road accidents (RA) across the Russian Federation by results of different authors at 5–10 times exceeds similar indicators in economically developed countries of the world [1; 2; 3; 13]. In this regard studying of DTT in the large industrial city on the example of Stavropol with definition age — sexual structure of participants of the road and transport movement, and also an assessment of dynamics of traumatism at road accident is actual that allows to create reasonable approach in the organization and delivery of health care at road accident.

The purpose of the study. To study the frequency of damages of the residents of Stavropol who were injured in road accident and to define the age status of victims for improvement of methods of delivery of health care.