



Clinioepidemiological Features of Epilepsy in the Aral Region

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Abstract: Epilepsy is the fourth most common neurological disorder in the world. Treatment with medications or sometimes surgery can control seizures for the majority of people with epilepsy. Some people require lifelong treatment to control seizures, but for others, the seizures eventually go away. Some children with epilepsy may outgrow the condition with age. The article describes the results of a study of 155 patients with epilepsy. The history of the disease, types of seizures and forms of epilepsy were studied, neurological and somatic statuses were assessed. Clinical and instrumental examination included EEG and MRI.

Key words: epilepsy, prevalence, etiological factors, seizure types, diagnosis.

Introduction. Epilepsy is one of the most common diseases of the nervous system. The suddenness of the development of epileptic seizures, pronounced disturbances in consciousness and vital functions, their association with severe organic pathology make epilepsy life-threatening and determine the relevance of this problem [1, 8]. According to most studies, the prevalence of epilepsy in different regions of the world ranges from 1.5 to 50 cases per 100 thousand population [9], in the Russian Federation - about 2.5 cases per 100 thousand population [2]. About 50 million people suffer from epilepsy. According to B.G. Gafurov (2005) in Uzbekistan, the number of patients with epilepsy is about 200 thousand, of which 120 thousand are children and adolescents [3, 5].

The main cause of epilepsy in adulthood is traumatic brain injury, less common causes are cerebrovascular diseases, consequences of neuroinfections, perinatal pathology, brain tumors, neurocysticercosis, and chronic alcoholism [7]. The main clinical manifestation of epilepsy is epileptoparoxysm: seizures that occur as a result of electrical discharges in the brain. Seizures are usually temporary and repetitive, causing disturbances in normal behavior, emotional state, motor-sensory functions [4].

Modern diagnostics makes it possible to determine whether the patient has real epilepsy or whether seizures are a manifestation of other disorders. For this purpose, instrumental examinations are carried out, which play an important role in the diagnostic determination of the typology of seizures. Electroencephalography (EEG) is the first diagnostic method. In epileptic patients, changes in the nature of the waves in the brain are noted even in the absence of symptoms [6]. Computed and magnetic resonance imaging (CT and MRI) of the brain. These are visual diagnostic methods that allow detecting organic abnormalities (in the form of tumors, cysts, vascular malformations or

aneurysms), assessing their functions and structures, and also identifying a focus of abnormal electrical activity, which occurs in epilepsy [11].

A serious place is occupied by the analysis of the anamnesis of the disease, which allows, taking into account patient surveys, to find out the details of the initial stage and subsequent course of the disease, duration, course, and hereditary predisposition to epilepsy [10].

In this regard, clinical and epidemiological studies of epilepsy are of great practical importance and allow one to get an idea of the prevalence, incidence, evaluate the effectiveness of the existing accounting system, the types of therapy and rehabilitation measures used, and determine the required amount of neuropsychiatric care.

Aim of the study. To study the clinical and epidemiological features of epilepsy in the Aral region.

Materials and research methods. The study included 155 patients with epilepsy. The history of the disease, types of seizures and forms of epilepsy were studied, neurological and somatic statuses were assessed. Clinical and instrumental examination included EEG and MRI.

The average age of patients at the time of the examination was 43.9 ± 12.5 years (from 18 to 68 years), 95 (61.3%) men and 60 (38.7%) women. Data on the age and gender composition of the examined patients are presented in Table 1.

Table 1. Distribution of patients by gender and age

Patient's age	Men		Women		Total	
	abs.	%	abs.	%	abs.	%
18-30 years	10	6,4	16	10,3	26	16,8
31-40 years	17	11	14	9	31	20
41-50 years	20	13	19	12,2	39	25,2
51-60 years	42	27,1	9	5,8	51	33
61-70 years	6	3,9	2	1,3	8	5,2
Total:	95	61,3	60	38,7	155	100

Results. At the time of filling, 6 (4%) patients had no seizures, 21 (13%) patients had between 1-12 seizures per year, and 128 (83%) patients had more than 12 seizures per year.

The frequency of seizures at the onset of the disease was observed every day in 3 (2%) patients, 1-6 times a week in 118 (76%), 2-3 times a month in 18 (12%), 7-12 times a year in 13 (8.4%), 3-6 times a year in 1 (1%), and 1-2 times or less per year in 2 (1.3%) patients.

The main etiological factors were neuroinfections in 73 (47%) cases and brain injury in 63 (41%) cases (mild in 3 (2%), moderate in 47 (30.3%), severe in 13 (8.4%)), malignant and benign tumors in the cranial cavity - 6 (4%), peri- and neonatal pathologies - 2 (1.3%) and cerebrovascular diseases - 1 (0.6%) (Fig. 1).

19 (12.2%) patients underwent surgery for neurosurgical diseases (removal of a hematoma, removal of an astrocytoma, Arnold Chiari malformation, removal of a tumor, ventriculoperitoneal shunting, removal of a meningioma, removal of a temporal lobe cavernoma). Series of epileptic seizures were observed in 2 (1.3%) patients, status epilepticus in 6 (4%) patients, series + seizures in 28 (18%) patients.

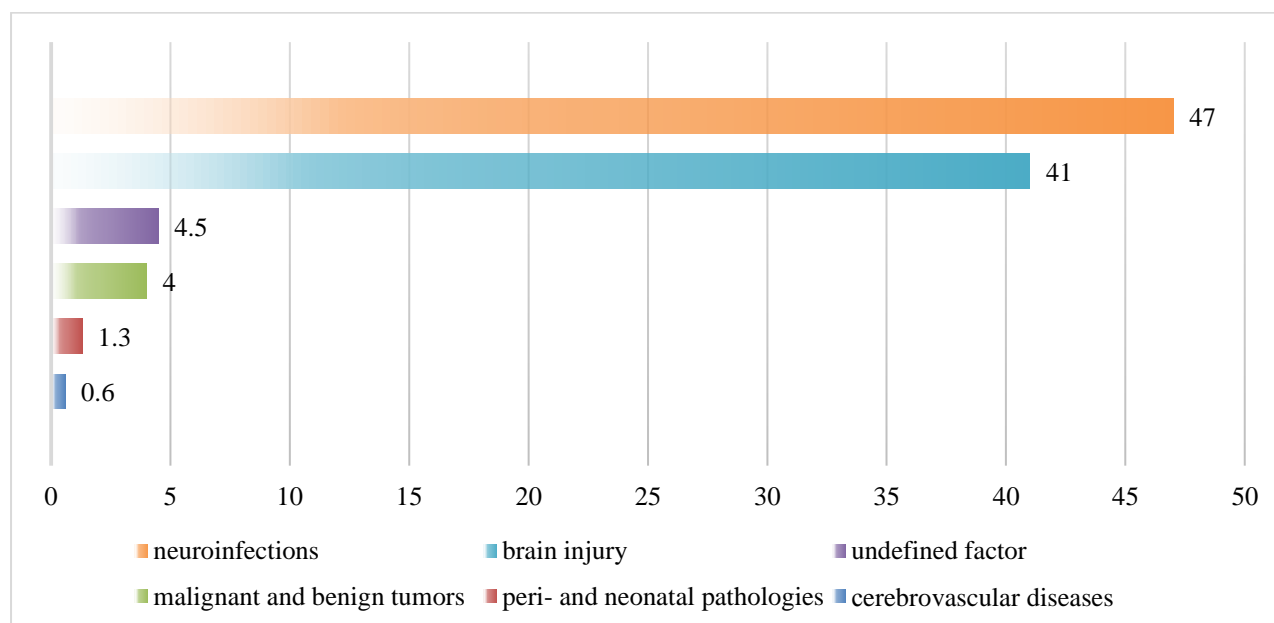


Fig. 1. Etiological factors of epilepsy

Concomitant pathology was in 128 (83%) patients. There were such pathologies as retinal angiopathy, hypertension, coronary artery disease, exertional angina, cervical and thoracic osteochondrosis, bilateral cochleoneuritis, diffuse toxic goiter, metabolic cardiomyopathy, chronic duodenitis, pancreatitis, chronic gastric and duodenal ulcer, chronic cholecystitis and other pathologies.

The following types of epileptic syndromes were identified: by localization, focal in 131 (84%), generalized in 23 (14.8%) and unclassified in 1 (1%) patient; by etiology, symptomatic in 147 (95%) patients, idiopathic in 7 (4%) and cryptogenic in 1 (1%) patient.

The examined patients had the following types of seizures: simple partial seizures in 28 (18%) patients, complex partial seizures in 18 (12%), secondary generalized in 45 (29%), several types of partial seizures in 28 (18%), absences in 8 (5%), myoclonic in 5 (3.2%), primary generalized tonic-clonic seizures in 13 (8.4%), primary generalized tonic in 8 (5%) and atonic seizures in 2 (1, 3%) of patients (Table 2).

Table 2. Distribution of types of epileptic seizures

Seizuretype	Abs. (n=155)	%
Simplepartials	28	18
Compoundpartials	18	11,6
Secondarily generalized simple or compound partials	45	29
Several types of partial seizures	28	18
Absences	8	5
Myoclonic	5	3,2
Primarygeneralizedtonic-clonic	13	8,4
Primarygeneralizedtonic	8	5
Atonic	2	1,3

During the EEG in the interictal period, the presence of epileptiform and other types of pathological (or conditionally pathological) activity on the EEG was assessed: sharp waves, spikes, polyspikes, acute-slow wave complexes, spike-wave and polyspike-wave, hypsarrhythmia, beta- activity of high or

low amplitude, high frequency and atypical localization. EEG changes were recorded in 132 (85.2%) patients, in 23 (14.8%) no changes were noted.

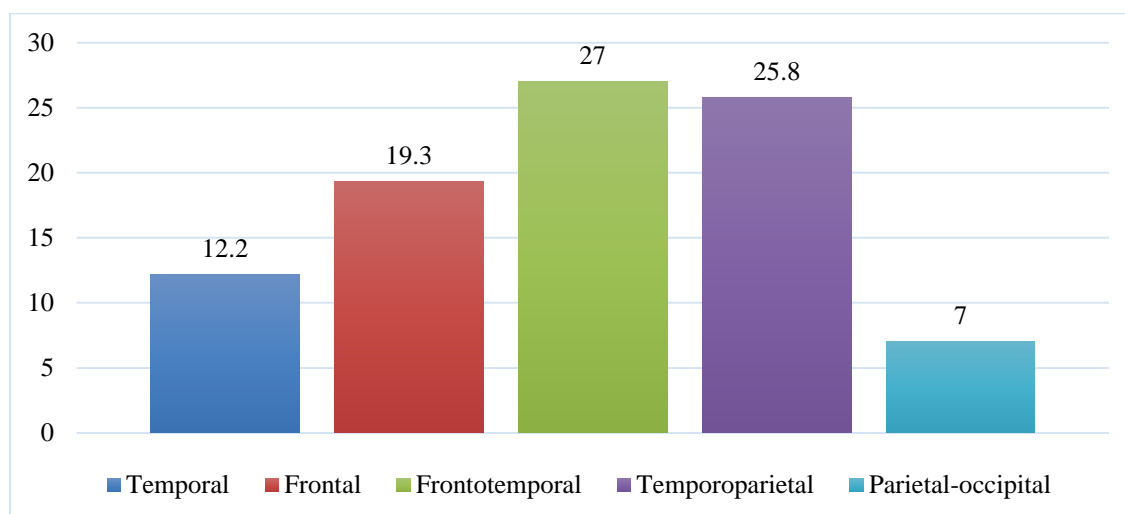


Fig. 2. Localization of the focus of epileptic activity

As can be seen from fig. 2, cases of frontal-temporal localization prevailed in 42 (27%), temporal-parietal localization of the epileptiform focus in 40 (25.8%), and frontal in 30 (19.3%) patients.

Table 3. Local changes on MRI

Changes on MRI	Abs. (n=155)	%
Hydrocephalus	114	73,5
Frontotemporal	31	20
Parietotemporal	30	19,3
Frontoparietal	14	9
Parietal	13	8,4
Occipital	7	4,5
Without changes	6	3,9
Diffusechanges	3	2
Hypoplasia of the temporal part	1	0,6
Lateral-temporal	1	0,6

As a result of MRI examination of the brain, hydrocephalus was detected in 114 (73.5%) cases, local changes were registered in 31 (20%) patients in the frontotemporal region, in 30 (19.3%) in the parietotemporal region, in 14 (9%) in the fronto-parietal region, in 13 (8.4%) in the parietal region, in 7 (4.5%) in the occipital region, diffuse changes were noted in 3 (2%) patients (tab. 3).

The social characteristic of patients is shown in fig. 3. Most of the patients were pensioners 96 (62%), non-working - 51 (33%), working - 3 (2%) and students - 4 (3%).

The marital status of the patients was as follows: married/married - 135 (87%), unmarried/single - 20 (13%) patients.

By the level of education, the vast majority of patients were persons with secondary specialized education - 112 (72.2%), 39 (25.2%) patients had secondary education, and 4 (2.6%) patients had higher education.

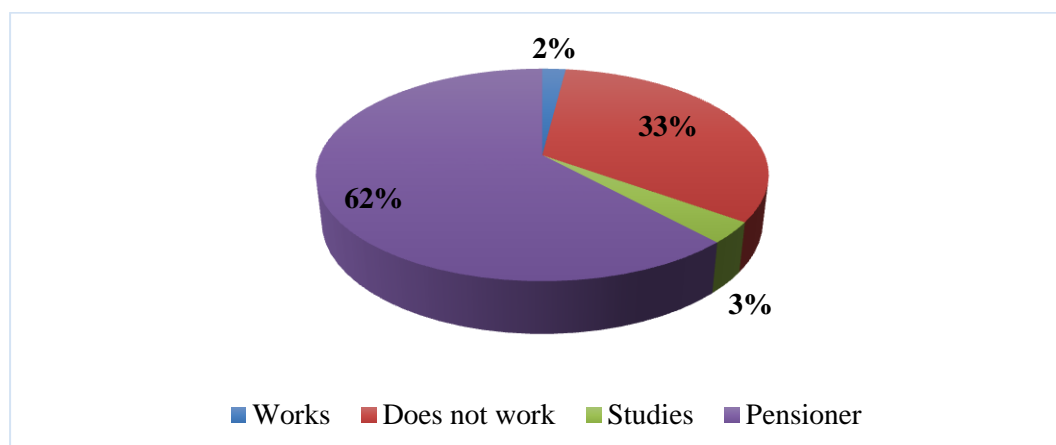


Fig. 3. Social characteristics of patients with epilepsy

The disability group was established in 93 (60%) patients, incl. for epilepsy in 90 (58%) patients, in 3 (2%) for other reasons, in 62 (40%) without disability. Group 2 disability was established in 91 (58.7%) cases, group 3 - in 2 (1.3%).

Conclusion. The obtained clinical and epidemiological data of the register allow on a scientific basis to optimize the provision of therapeutic and diagnostic care and preventive measures for this category of patients in the Aral region, to determine the nature and amount of required neurological and neurophysiological care for patients of young, working age. The most common causes of epileptic seizures in the region were neuroinfections in 73 (47%) cases and brain injury in 63 (41%) cases. In patients, simple partial seizures were most often observed in 28 (18%) patients, complex partial seizures in 18 (12%) patients, secondary generalized seizures in 45 (29%), several types of partial seizures in 28 (18%) patients. The cases of frontal-temporal localization prevailed in 42 (27%) and temporo-parietal localization of the epileptiform focus in 40 (25.8%) patients. According to the results of the MRI study, local changes were detected in 31 (20%) patients in the frontotemporal region, in 30 (19.3%) in the parietotemporal region. Comparison of the clinical picture of the attack, the localization of the focus of epileptogenesis according to EEG data and the results of MRI of the brain expands the possibilities of establishing the etiology of the disease. The social status of patients with epilepsy in the Aral region was characterized by a high degree of disability with a predominance of the second group of disability. The conducted studies indicate the need for medical examination of patients with this pathology in order to carry out individual therapeutic and preventive measures and reduce the rate and degree of disability of the able-bodied population.

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