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NEUROPSYCHOLOGICAL RESEARCH OF PATIENTS WITH CEREBROVASCULAR PATHOLOGY

In article results of research of cognitive functions of the patients, with different variants of a cerebrovascular pathology (CVP) are reflected, depending on residing region. At comparison of research results of cognitive functions of CVP patients it was revealed that the patients more often had distresses connected with memory, attention and concentration disorders, herewith the patients of the Arctic zone who had the good ecological situation, had these disorders on rare occasions. In comparative-group ratio moderate prevalence of the specified distresses was marked in the inhabitants of Viljuisky region, which was known by the bad ecological situation.

Keywords: cerebrovascular pathology, region, memory, attention, elderly and senile age.

Introduction

There are number of infringements of mental activity, besides focal neurologic distresses, in clinical displays of vascular insufficiency of brain blood circulation, both sharp, and chronic.These distresses are expressed in the form of implications of neurosis-like character against falling of mnestiko-mental abilities; they can accrue to degree of the expressed psychiatric syndrome.

Each certain geographical region, each ethnic group of the population defines their own features in epidemiology of this or that disease.There are separate researches about prevalence of vascular diseases of a brain in some regions of the Russian Federation [1].Studying of a cerebrovascular pathology which representatives of elderly and senile age have, especially taking into account regional-ethnic factors,represents doubtless scientific and practical interest and has a special value for perfection of quality and efficiency of rendering of medical aid to older persons.

Research objectiveis to conduct neuropsychological research of cognitive functions of patients of elderly and senile age with a cerebrovascular pathology and who live in different regions of republic.

Material and research methods.

197 patients with CVP have been surveyed,among them 79 patients with ischemic strokes (IS) in carotid pools, 118 patients with a chronic ischemia of brain (CIB), in other words discirculatory encephalopathy; DE of I stage (DE-I)-52, with DE of II stage (DE-II)-66 patients.During supervision all patients have been hospitalized in a neurology unit of the Geriatric

Center (GC).Criteria of statement of the diagnosis was clinically and instrumentally confirmed lesion of vessels of a brain at a corresponding clinical picture.Concerning the purpose patients have been subdivided into two groups:the basic, including 2 subgroups, and control.Criteria of division of a basic group into subgroups was the residing region.The basic group was made by 140 patients at the age of 60-85 years. In the I subgroup was 67 patients living in the Arctic zone, in the II - 73 patients living in Viljuisky area. The comparison group has been presented by 57 patients with a similar pathology aged in a range of 35-55 years.

In the Arctic zone small northern nationalities, Evens live. They are engaged in reindeer breeding, cattle breeding, fishing. Old traditions of a food, quieter, traditional way of life and ecologically good situation remained here.A basis of a food of the population make a venison, horse meat of the Yakut breed and meat of native Yakut cattle which contain polynonsaturated fatty acids of family omega-3, omega-6 and the reproduction vitamin, possessing cholesterin reducing effect [2].

In the Viljuisky zone the developed ecological equilibrium has been broken, there were irreversible changes in environment, health of the people living in region suffered. Vilyui has the negative influence on a river basin by the Viljuisky water basin and chemical pollutants which are accustomed at industrial processing of constituents of diamondiferous kimberlite breeds consisting of aluminosilicate, calcium-magnesial and ferriferous breeds,oxides of the titan, chrome, nickel, magnesium and others(3).

Clinical research included careful and profound gathering of the anamnesis in the course of personal meeting with sick, their relatives, viewing of out-patient cards from polyclinic establishments in a residence, archival case histories, extracts, and inquiries. Results of the first and all subsequent inspections as one of problems of our work was research of dynamics of clinical displays of a cerebrovascular pathology depending on region were thus considered and compared. For the purpose of definition and specification of a stage of DE, the anamnesis, complaints of patients, a condition of the neurologic status by 11 parameters have been analyzed. In a complex of medical actions all patients spent the standard medicament therapy which intensity depended on prescription of pathological process. Complex rehabilitation actions were carried out for the patientswithII [3,4,5,8].

The statistical analysis was spent on IBM-compatible computer with the use of programs Microsoft Excel, Statistica, Biostat with material processing on groups by means of the methods of variation statistics, including calculation of mean values, errors of averages, standard deviations. Nonparametric methods, in particular a coefficient of correlation of Sperman, the Mann-Whitney

test, are used also.The table quick test of Strelkov was applied at the primary statistics. For each sample of indicators counted numerical characteristics of distribution. An estimation of the importance of distinctions between compared samples carried out with use of a parametrical t-student criterion at 95 % a confidential interval [6].

Results of research and discussion.

For an estimation of cognitive functions A.R.Lurija scale was used. The given research was based on techniques on which A. R.Lurija's was based [7] including research of memory the classical principles, attention, emotions, ability of storing and reproduction of figures, words, concepts of dynamics lie.

Patients above 70 years had heavier infringements of cognitive functions that is coordinated with the data of the literature [9,10].Changes of the majority of the higher mental functions are revealed with these patients.Patients had one more experimentally-psychological testing. During memory research the verbal material was reproduced by the patient directly after its presentation, and then after concerning a short pause (till 1-3 minutes) which has not been filledwith any extraneous activity ("an empty" pause). As symbols words (simple nouns) and two-valued figures were used. We used series from 10 words not connected with each other by semantic concepts and the figures which are not developing in one number.Norm signs were, first, the same order of reproduction of symbols and, secondly, consecutive increase of number of reproduced elements after "an empty" pause (table 1).

It is revealed that process of storing and reproduction of symbols had norm signs only with younger people (comparison group),and patients of a basic group considerably more often had the emaciation of attention and narrowing, decrease mnestic functions, its volume, possibly, connected with local damage of a brain and progressing points accordingly. It means that in the clinic of DE stagesare of great importance irrespective of living conditions.

Conclusions.

By means of a technique of learning 10 words they revealed volatile memory infringements (quantity of the words reproduced after the first presentation), efficiency of storing (total of the words reproduced in repetition) and a long-term memory (quantity of the reproduced words after 1 hour after a presentation) with construction of "storing curves». Research was spent with the use of known techniques of A.R.Lurija.

In the process of progressing of disease DE-II efficiency of storing was broken that was expressed in reduction of quantity of the reproduced words and increase of faster exhaustion in the course of storing in all basic groups.

Neuropsychological inspection revealed infringement of cognitive functions in the form of dysmnesias and attention mainly with patients of elderly and senile age. As a whole neuropsychological inspection did not reveal clearly authentic group distinctions in relation to region and ethnic characteristics.

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Data of primary research of memory

Table №1

Groups of supervision	Average quantity of the reproduced symbols			
	Words		Numbers	
	Immediately	After a pause	Immediately	After a pause
I basic group				
II (n=29)	3,5*0,16	3,0*0,14	3,90*0,18	3,10*0,14

DE-I (n=16)	4,10*0,29	3,10*0,23	4,30*0,31	3,30*0,24
DE-II (n=22)	3,60*0,2	3,0*0,17	3,80*0,22	3,0*0,17
II basic group				
II (n=28)	3,0*0,14	2,70*0,13	3,20*015	2,90*0,14
DE-I (n=21)	3,60*0,22	3,01*0,18	3,77*0,23	3,0*0,18
DE-II (n=24)	3,30*0,18	2,90*16	3,10*0,17	2,80*0,15
Comparison group				
II (n=22)	7,60*0,43	6,60*038	7,51*0,43	6,32*0,36
DE (n=15)	9,0*0,7	8,60*0,66	8,80*0,68	8,10*0,62
DE (n=20)	7,78*0.48	6,1*0,38	7,20*0,45	6,80*0,42

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