

Hypertensive Encephalopathy and Cognitive Disorders

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Abstract:

The article examines the effect of the presence of cognitive impairment on the severity of anxiety and depression in elderly and senile patients with stage 2 and 3 hypertension. Using the literature data, it was found that cognitive impairment has a detrimental effect on the quality of life of patients, as well as the fact that patients with depression should carefully conduct a study of the cognitive sphere in order to choose the right treatment tactics.

Keywords: hypertension, cognitive impairment, depression.

Introduction

Vascular diseases of the brain remain one of the most acute medical and social problems causing enormous economic damage to society. Among them, cerebral stroke occupies a special place due to the high mortality rate, significant disability and social maladaptation of patients. Stroke doubles the risk of dementia in the elderly. Currently, there is a trend towards an aging population: approximately 12-15% are people over 65 years old, and by 2020 their number will increase at least 2 times. According to WHO criteria and classification, people 60-75 years old are considered elderly, 75-89 years old, and over 90 years old are long-lived.

Arterial hypertension (AH) is the most common disease of the cardiovascular system, which affects about 40% of the adult population in Russia. In older age groups, the frequency of its occurrence reaches 80%. The disease affects all organs, but the kidneys and brain are most susceptible to pathological changes. Brain damage is caused by tortuosity or stenosis of the carotid arteries, thickening of the intima-media complex, endothelial dysfunction, etc. One of the most common disorders is a lesion of the white matter of the brain — hypertensive encephalopathy (GE) [3, 5].

GE is a slowly progressive diffuse focal lesion of the brain caused by a chronic blood supply disorder associated with long-term uncontrolled arterial hypertension. Atherosclerosis of cerebral vessels impairs blood supply to the brain and leads to the progression of the disease. It has been proven that depression and anxiety worsen the

prognosis of patients suffering from somatic pathology. In patients with GB, depressive disorders occur in 60% of cases, and with increasing severity of GB, the number of such patients increases. Depressive disorders in people with somatic pathologies, especially in elderly and senile patients with impaired cognitive functions, worsen the quality of life of patients, reduce the level of performance, increase stays in a medical institution and, accordingly, require the appointment of individual treatment tactics. Unfortunately, anxiety and depression remain unidentified. That is why the consideration of this problem is so relevant.

The morphological substrate of GE is characterized by small focal and diffuse changes in the white matter of the brain [1, 2]. In GE, changes in the arteries of the brain with destructive processes are detected — plasma and hemorrhages, necrosis zones with thinning of the vascular walls. Reparative and adaptive processes occur, hypertrophy of the muscular membrane of extracerebral vessels occurs with the development of "hypertensive stenoses" and subsequent obliteration of their lumen. Recalibration of the arteries leads to reduction of cerebral blood flow in the cortical regions, ischemia of brain tissue and strokes [4]. There are changes in the vascular wall with an increase in its permeability, periventricular edema, secondary compression of venules, and slowing of venous outflow [5]. In addition to organic damage to extra- and intracranial vessels and brain structures, there is a "stressful" variant of the development of cerebrovascular insufficiency, which is characterized by depletion of energy metabolism and deterioration of cerebral circulation against the background of prolonged exposure to activating stimuli [1]. With uncontrolled hypertension, pathological changes in the white matter progress, intellectual and mental functions are disrupted, and vascular dementia develops as a result [2, 5].

The leading role in the formation of cognitive deficits in GE in elderly patients is played by damage to the deep parts of the white matter of the brain and basal ganglia. This leads to the phenomenon of "disconnection" — a violation of the connections of the frontal lobes and subcortical structures, which determines the features of the clinical picture [5, 6]. Hypertension is the main pathogenetic factor in the development of this phenomenon, leading to changes in the vascular wall (lipogyalinosis). As a result, arteriosclerosis develops, which causes a change in the physiological reactivity of blood vessels. In such conditions, a decrease in blood pressure (BP) leads to hypoperfusion of the deep structures of the brain.

The purpose of the study

The aim of the study was to identify the severity of anxiety and depressive syndrome depending on the degree of cognitive impairment in elderly and senile patients with stage 2 and 3 GB.

Materials and methods of research

Study design: a prospective study. Sample: 30 patients. The average age was 66.9 years. The study was conducted on the basis of the BUZ in VGP No. 18 for 3 months. Inclusion criteria: elderly and senile age, presence of hypertension of stages 2 and 3. Exclusion criteria: patients with stage 1 hypertension, diabetes mellitus, and congenital heart defects.

A brief geriatric depression scale was used as a screening tool. The test consisted of 15 questions, to which the patients independently answered yes/no in the presence of the student. The total number of points was calculated: 0-4 points - no depression, 5 or more points - probable depression. A short mental Status Assessment Scale (MMSE) was used to identify possible cognitive impairments in the subjects. The questionnaire consisted of 30 items. After all the points are summed up cognitive function will be evaluated.

The deficit is determined if the lowest final score is obtained and, accordingly, vice versa. The scale allowed an approximate assessment of the severity of cognitive disorders.

The results of the study and their discussion

In the elderly and senile people, depression is the most common mental disorder. After studying the medical literature, it was found out that for the normal daily functioning of patients with depressive syndrome, as well as for the restoration of working capacity, correction of cognitive disorders is first necessary [2]. Depression contributes to the fact that the synthesis in the brain decreases, and accordingly the activity of mediators (dopamine, serotonin, norepinephrine). This can lead to emotional and cognitive dysfunction [3]. It is especially important to mention that in order to memorize information coming from the senses, it is necessary to activate the noradrenergic system. The GM serotonergic system plays a special role in the development of motivation for cognitive activity. Consequently, a decrease in the synthesis and activity of the above-mentioned mediators (caused by depression) is the basis for the formation of a cognitive syndrome [4]. In patients, it is necessary to carefully examine the emotional and behavioral sphere, due to the fact that cognitive complaints arise in many cases due to emotional disorders. 30 patients were selected after analyzing the results of passing the geriatric depression scale and the Mental Status Assessment Scale (MMSE). The average age of the subjects was 66.9 years. Then, men and women were divided into 2 groups: Group I – patients who did not have cognitive impairment (20%, 6 people); group II - patients with probable cognitive impairment (80%, 24 people; 45.8% of them have pre-dementia cognitive impairment, 37.5% - dementia mild severity, 16.7% - moderate dementia). Among the patients of both groups, depression was detected in 76.7%, which proves a high level of depressive disorders in the elderly and senile subjects with stage 2 and 3 hypertension.

The study confirms that with a decrease in neurocognitive functions, patients develop depressive syndrome.

Conclusions:

1. According to the data obtained, the prevalence of depression among elderly and senile patients in patients with stage 2 and 3 GB is high. An integral part of the clinic of cognitive impairment is depression, which has a negative impact on the level of mental, physical and interpersonal development of patients.
2. For such patients, the tactics of simultaneous therapy of both the underlying pathology and cognitive and depressive disorders are more justified. Properly selected therapy will improve the quality of life of the subjects.

References

1. Parfenov V.A., Zakharov V.V., Preobrazhenskaya I.S. Cognitive disorders. — M.: Remedium, 2014. — 278 p.
2. Zakharov V.V., Voznesenskaya T.G. Neuropsychiatric disorders: Diagnostic tests. — M.: MEDpressinform, 2013. — 374 p.
3. Glushkov R.G., Andreeva N.I., Aleeva G.N. Depressions in general medical practice // Russian medical journal. — 2005. — Vol. 13. — No. 12. — pp. 2-3.
4. Abdukadirova D. T. Characteristic signs of moderate cognitive impairment in the elderly and early prevention. Innovative developments and research in education Canada international scientific online conference November 2022 Page 73- 77
5. Туруспекова С. Т.,Абдукадилова Д. Т. Инновационные липосомальные наноносители и деменция: терапевтический потенциалю «Неврология» Ташкент 2020 № 4(84). Стр 2-9
6. Depressions and depressive spectrum disorders in general medical practice. The results of the COMPASS program / R.G. Oganov et al. // Cardiology. - 2004. — No. 1. — pp. 48-54.