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CHARACTERISTICS OF AUTONOMIC DEFICITS IN MILITARY SERVICEMEN DURING THE INITIAL PERIOD OF CEREBROVASCULAR INSUFFICIENCY

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Abstract
Currently, the study of early forms of cerebrovascular pathology is a topical issue. Early detection and treatment of acute and chronic cerebrovascular diseases among military personnel helps to preserve their ability to work and prevent death. The purpose of the study is to study the functional state of the autonomic nervous system in military personnel with cerebrovascular insufficiency. Studies show that the disorders that occur in the VNT in military personnel reflect the essence of their adaptive-trophic function aimed at implementing the complex process of adaptation of the body to new conditions.

Keywords: cerebrovascular accident, autonomic nervous system, military personnel.

Introduction

In recent years, early chronic forms of cerebrovascular diseases have been increasing and widespread (8,9). According to many modern researchers, the main etiological factors of cerebrovascular diseases are mainly hypertension, atherosclerosis, heart rhythm disorders, hemorheological changes, anomalies in the structure of arteries and many other reasons, and as a result, it is emphasized that it leads to the development of hypoxia and ischemia of the brain .((3) .

Currently, the study of early forms of cerebrovascular pathology is a topical issue. In this case, it is difficult to make a comparative diagnosis between other diseases, migraine, and autonomic vascular dystonia, in which the initial manifestations of cerebral circulation disorders are accompanied by vascular ischemia (1,2).

Thus, in order to determine the pathogenesis of cerebrovascular diseases, it is necessary to study in detail the features of control of cerebral hemodynamics by the autonomic system, mainly to analyze the clinical appearance of the initial forms of cerebrovascular pathology, and to develop rational methods of pathogenetic therapy. (4,5,6).

Early detection of cerebrovascular insufficiency is based on the initial screening of the population. (4,5). Currently, dispensary control of military personnel consists of activities aimed at early detection and treatment of chronic diseases, maintaining the working capacity of military personnel and preventing death (7). It is important to identify the early signs of blood circulation insufficiency in the brain, to determine the methods of diagnosing its various manifestations, to prevent the development of cerebrovascular diseases in the early stages of the disease, and to make an early diagnosis. Timely treatment leads to preservation of working capacity, reduction of disability and death as a result of acute or chronic vascular disorders.

In addition, early detection of cerebral blood circulation insufficiency by paraclinical method allows to ensure cerebral blood circulation deficiency (6). The issue of developing and implementing a targeted program aimed at cerebrovascular diseases among military personnel has not been sufficiently studied to date.

The purpose of the work is to study the functional state of the autonomic nervous system in military personnel with cerebrovascular insufficiency.

The Purpose of the Research:

Study of the functional state of the autonomic nervous system in military personnel with early signs of circulatory disorders in the brain.

Test Materials and Methods:

40 patients aged 35 to 55 years were examined to study the activity of the autonomic nervous system . The average age of the patients was 38.3 ± 5.9 years. The control group included 20 healthy military personnel. The patients were examined in a military hospital.

All subjects were examined for autonomic nervous system (VNT) activity. Vegetative disorders in permanent and paroxysmal course were studied from a clinical point of view. Cardiovascular, respiratory, gastrointestinal, skin and psychoemotional autonomic disorders were analyzed.

Questionnaires and schemes developed by the Russian Scientific Methodological Center were used to determine the presence and degree of vegetative dystonia syndrome. Questionnaires were filled in independently by the examinees.

I checked the results

The study of the functional state of the autonomic nervous system included: Study of the autonomic state using the Vein chart, which gives an idea of the initial autonomic state in different functional systems. The study was carried out on the basis of

calculating the probability of dominance of 74 vegetative parameters, sympathetic and parasympathetic manifestations. Vegetative reactivity was assessed according to eye-cardiac reflex data (Danini-Ashner test). Vegetative maintenance of physical activity was analyzed according to the results of orthoclinostatic test.

The results of the clinical examination show that in the main group of military servicemen, vegetative changes were more often observed together with vegetative dysfunction in the cardiovascular system and psychoemotional disorders. This condition is characterized by arterial hypertension at rest in 36.7% of patients, hypotension in 24.3%, tendency to sinus arrhythmia, pulse change towards tachycardia (42.7%), bradycardia in less cases (17.8%). manifested by signs. More than 46% of those examined had signs of neurogenic hyperventilation and 64.3% of skin vasomotor disturbances.

the control group, the average score on the scheme and questionnaire was 27.6 and 18.4. These indicators are slightly above the norm and may be associated with psycho-emotional and physical stress. At the same time, the average score of autonomic dystonia in the main group according to the scheme was 36.3, according to the questionnaire it was 26.7 points, which is significantly higher than the results obtained in healthy servicemen.

To study the pathogenesis of psychovegetative disorders, in particular, to study the role of cerebral mechanisms, we conducted a detailed study of the functional state of the nervous system of the autonomic system.

The results of the study of the vegetative state showed that the sympathetic tone at rest in the main group of servicemen compared to the control group was statistically significantly superior. We studied autonomic reactivity using the Danini–Ashner test. It is known that when the eyeballs are pressed, the heart rate decreases, which is a simple parasympathetic vagal response to the trigeminal nerve root tickling effect. The obtained results of the study of autonomic reactivity according to the Danini-Ashner test show that, in general, the resting heart rate of the main group was significantly higher than that of the control group. This is consistent with the results of studies of autonomic tone at rest. In this case, during the test, the rate of decrease in the number of heart contractions in the main group was on average 8.7 beats per minute (10.7%) and in the control group it was 7.8 beats per minute (9.9%) ($r<0.05$). These results indicate a parasympathetic direction of autonomic reactivity in military personnel in the main group. In 11.2% of cases, during the test, instead of the natural response of bradycardia and a decrease in blood pressure, the patients observed an increase in heart rate, which was considered paradoxical or impaired reactivity and was not observed in the control group.

Thus, the characteristic of the parasympathetic direction of autonomic reactivity was determined in the main group of patients. The obtained results show that the body's ability to adapt is limited to a certain extent, and indicate inadequate reactions in response to the influence of internal and various factors.

Functional diagnostic ortho and clinostatic tests were used to determine the level of vegetative control of physical activity. According to the results of the study, heart rate was reliably higher in the main group than in the control group. High arterial blood pressure at rest was recorded in patients in the main group. In addition, according to the results of the orthoclinostatic test, a significant difference was found between the servicemen in the main and control groups.

In the control group, there was an adequate increase in heart rate of 8.3% in response to the ortho test, while in the main group, the increase in heart rate was significantly less than before (average 5.8%).

In the control group, the systolic blood pressure changes in the ortho test. Thus, if in the control group there was a 9.8% increase in AQB in response to the ortho test, in the comparison group there was a significant delay (on average by 4.3%) of the systolic AQB orthostatic increase, which indicates a lack of autonomic support for physical activity. In addition, in 14.6% of cases, against the background of the above-mentioned vegetative changes, with a rapid transition to a vertical position, a drop in blood pressure, dizziness was noted.

Conclusion:

Research shows that military servicemen in the main group are characterized by a complex of symptoms caused by impaired autonomic innervation. The appearance of autonomic symptoms is associated with the manifestation of vago and sympathicotonia, that is, autonomic dysfunction is observed in a combination of various symptoms of both parts of the VNT. The obtained data reflect the essence of disorders occurring in the VNT, their adaptive-trophic function is aimed at implementing the complex process of adaptation of the body to new conditions.

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