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THE STATE OF CEREBRAL CIRCULATION IN PATIENTS WITH STABLE ANGINA PECTORIS AFTER REVASCULARIZATION OF THE CORONARY ARTERIES IN COMBINATION WITH SENSORINEURAL HEARING IMPAIRMENT

Hazratov O.R. Nurov.U.I

Bukhara State Medical Institute

Relevance. Scientists from the Commonwealth of Independent States have made a significant contribution to the study of sensorineural hearing impairment. In their research, all aspects of this pathology have been studied in detail - prevalence, etiology, pathogenesis, diagnosis, clinic, treatment and rehabilitation.

In recent years, Russian scientists have conducted a number of studies devoted to the study of sensorineural hearing impairment of various origins in adults, in particular, the condition of the hearing organ in acute sensorineural hearing impairment after acoustic trauma, against the background of dyscirculatory encephalopathy, coronary heart disease. A frequent etiological factor contributing to the occurrence of sensorineural hearing impairment among the adult population is cardiovascular diseases and circulatory disorders of the brain formed against their background. The influence of circulatory disorders of the brain is one of the significant factors causing an increase in the number of this pathology in the population.

The purpose of the study. To analyze the effectiveness of the treatment of sensorineural hearing loss in patients with stable angina pectoris who underwent coronary artery revascularization.

The results and their discussion. The state of cerebral circulation was studied using color duplex ultrasound Dopplerography of extracranial (cervical) and intracranial vessels in 27 patients with sensorineural hearing impairment combined with stable angina pectoris. In order to exclude the influence of age-related vascular changes on the studied parameters, only patients aged 45 to 61 years were included in the development, patients with other chronic pathology of the cardiovascular system were not included. Similarly, with an assessment of the hearing condition, the patients were divided into 2 groups:

The first group consisted of 19 patients with hearing impairment and sensorineural hearing impairment who underwent coronary artery revascularization.

The second group consisted of 8 patients with hearing impairment and sensorineural hearing impairment who were prior to coronary artery revascularization.

The distribution of patients taking into account the severity of hearing impairment and the functional class sensorineural hearing impairment . In the first group, there were patients with hearing impairment, manifested only in the zone up to grade III hearing loss, as well as functional class II - III. In patients of the

second group, hearing impairment ranged from the ultrahigh frequency zone to grade I hearing loss, as well as functional class II - III. The control group consisted of 10 practically healthy individuals aged 46 to 55 years.

When comparing both groups in terms of linear blood flow velocity and Pi, common carotid arteries, internal carotid arteries, external carotid arteries, vertebral arteries (cervical), hemispheric differences in blood supply to the brain were not revealed. In patients of both groups, indicators of linear blood flow velocity., Pi in the common carotid arteries, internal carotid arteries, external carotid arteries, vertebral arteries (cervical) there was no significant difference from the indicators of the control group (P>0.1). In patients of both groups, the myogenic reserve of regulation was unreliably different from the control values (P>0.1), which indicates a sufficient level of functioning of the anastomoses of the convexital arteries.71.2% of patients in the first group had a separation of the Vilisian circle, the presence of obstructed venous outflow, and in the second group 28.8.3%.When comparing both groups in terms of linear blood flow velocity and Ri, the main artery, vertebral arteries, anterior cerebral artery, middle cerebral artery, posterior cerebral artery, there were no hemispheric differences in blood supply to the brain. In both groups, the anterior cerebral artery, the middle cerebral artery, the linear velocity of blood flow and Ri did not differ compared to the control group.A significant decrease in the linear velocity of blood flow was revealed in the vertebrobasilar basin. This is reflected in the indicators of the vertebral arteries and the main artery on both sides. In the first group, these changes were significant (P<0.1), and in the second group there was an unreliable difference compared to the control group (P>0.1). There was a significant change in Ri in patients of the first group (P<0.1) and an unreliable difference in the second group compared with the control group (P>0.1).When analyzing the relationship of indicators of the state of intracranial vessels with the degree of hearing impairment and functional class, it was established:

- a significantly significant decrease in the linear velocity of blood flow compared with the control group in patients with stable angina pectoris of functional class II - III. the first group;

- in the first group, a significantly significant change in Ri was found compared with the control group in patients with stable angina pectoris of functional class II - III;

- significant shifts in linear blood flow velocity and Ri were observed in patients of the first group with grade II hearing loss.

Thus:

- when comparing both groups in terms of linear blood flow velocity and Ri, the main artery, vertebral arteries, posterior cerebral artery, anterior cerebral artery, middle cerebral artery, and interhemispheric differences in blood supply to the brain were not revealed. In both groups, Ri did not differ in all examined vessels compared to the control group (P>0.05).

- in the vertebrobasilar basin, a significant decrease in the linear velocity of blood flow was revealed, which was reflected in the indicators of the vertebral arteries and the main artery on both sides. In the first group, these changes were significant (P<0.05), and in the second group there was an unreliable difference compared with the control group (P>0.05). There was a significant change in Ri in patients of the first group (P<0.05) and an unreliable difference in the second group compared with the control group (P>0.05).

- in patients of the first group, there is a change in the intracranial circulation, manifested by a decrease in the linear velocity of blood flow in the main and vertebral arteries, in 84.9% combined with a decrease in the anatomical reserve of blood vessels and 77.3% difficulty in venous outflow in the basin of the main veins (in the second group 46.7% and 26.4%, respectively).

In the presence of significantly significant shifts in the studied parameters of intracranial vessels, there were more pronounced manifestations of hearing impairment and functional class stable angina pectoris, which indicates the presence of a direct relationship between them.