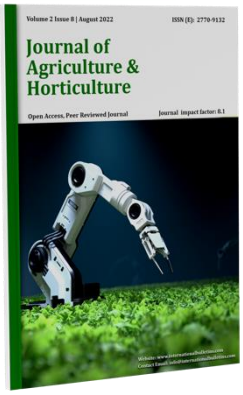

IMPROVEMENT OF CONSERVATIVE TREATMENT OF ACUTE SENSORINEURAL HEARING LOSS

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Annotation. The treatment of patients with sensorineural hearing loss is one of the urgent problems of modern otorhinolaryngology. First of all, this is due to the social significance of this pathology. Solving the problem of sensorineural hearing loss is closely related to the success of the treatment and prevention of vascular diseases. The high sensitivity of the cells of the spiral organ to oxygen deficiency leads to the fact that circulatory disorders in the inner ear can affect hearing acuity. We examined 60 people aged 55 to 70 years, all patients were consulted by a therapist and a neuropathologist. The analysis data made it possible to establish that in patients with sensorineural hearing loss after complex treatment, there is a decrease in the tone of small and medium-sized vessels in the basin of the internal carotid artery, a decrease in CA and an improvement in blood filling in both basins, however, not all of the identified changes in indicators were dynamic.

Key words. Presbycusis, atherosclerosis, anacorta, rheoencephalogram

Аннотация Лечение больных с нейросенсорной тугоухостью — одна из актуальных проблем современной оториноларингологии. В первую очередь это объясняется социальной значимостью указанной патологии. Решение проблемы нейросенсорной тугоухости тесно связано с успехами лечения и профилактики сосудистых заболеваний. Высокая чувствительность клеток спирального органа к кислородной недостаточности приводит к тому, что нарушение кровообращения во внутреннем ухе может влиять на остроту слуха. Нами обследовано 60 человек в возрасте от 55 до 70 лет всех больных консультировали терапевт н невропатолог. Данные анализа позволил установить, что у больных с нейросенсорной тугоухостью после комплексного лечения происходит снижение тонуса сосудов мелкого и среднего калибра в бассейне внутренней сонной артерии, уменьшение КА и улучшение кровенаполнения в обоих бассейнах, однако не все выявленные изменения показателей оказались динамичными.

Ключевые слова. Пресбиакузис, атеросклероз, анакорта, реоэнцефалограмма

Annotatsiya Neirosensorli eshitish qobiliyatini yo'qotgan bemorlarni davolash zamonaviy otorinolaringologiyaning dolzarb muammolaridan biridir. Avvalo, bu patologiyaning ijtimoiy ahamiyati bilan bog'liq. Sensorli eshitish qobiliyatini yo'qotish muammosini hal qilish qon tomir kasalliklarini davolash va oldini olishning muvaffaqiyati bilan chambarchas bog'liq. Spiral organ hujayralarining kislorod tanqisligiga yuqori sezuvchanligi ichki quloqdagi qon aylanishining buzilishi eshitish keskinligiga ta'sir qilishi mumkinligiga olib keladi. Biz 55 yoshdan 70 yoshgacha bo'lgan 60 kishini tekshirdik, barcha bemorlarga terapevt va nevropatolog maslahat berdi. Tahlil ma'lumotlari kompleks davolashdan so'ng sensorinöral eshitish qobiliyatini yo'qotgan bemorlarda ichki karotid arteriya havzasidagi kichik va o'rta tomirlar tonusining pasayishi, CA ning pasayishi va

yaxshilanishini aniqlashga imkon berdi. har ikkala havzada qon to'ldirish, ammo ko'rsatkichlardagi aniqlangan o'zgarishlarning hammasi ham dinamik emas edi.

Kalit so'zlar. Presbycusis, ateroskleroz, anakorta, reoensefalogramma

Age-related changes in auditory function in atherosclerosis are based on morphological changes in the inner ear, in particular, in the spiral organ and vascular strip; morphological studies have established that the vascular system of the cochlea undergoes age-related changes [5,9,12]. They concern the caliber of arterioles and venules, a reduction in their number, and the disappearance of some arteriovenous anastomoses. [1,3,5] In vascular atherosclerosis, the main curl of the cochlea is selectively affected (degenerative process). However, in general, the problem of inner ear pathology occurring against the background of vascular atherosclerosis has not been sufficiently studied. [2,4,6] In this regard, it is advisable to further study the state of cerebral circulation for the diagnosis and treatment of elderly patients suffering from sensorineural hearing loss [7,8,11]. It has been established that atherosclerosis of the cerebral vessels causes damage to the auditory system at the level of the main cochlear curl, which is supplied with blood mainly by the vertebral and basilar arteries [1,7,13]. The most unfavorable is the combination of atherosclerosis and hypertension, which leads to secondary microcirculation disorders in the vascular strip and can be one of the common causes of sensorineural hearing loss in patients regardless of age [3,9,11].

The aim of the study was to identify tactics for treating sensorineural hearing loss in the elderly.

Materials and methods of the study. To achieve the set goal, we examined 60 people aged 55 to 70 years, among them there were 32 women, 24 men aged 55 to 60 years and 36 from 60 to 70 years. In 16 people, hearing loss began 10 years ago, and in 44 - over 10 years. All patients were consulted by a therapist and a neurologist. No pathological abnormalities were found in the blood (general analysis and for sugar) and urine. In X-ray examination, all patients were found to have signs of osteochondrosis of the spine in the region of the IV-VI cervical vertebrae. In 12 people, there was a periodic increase in blood pressure, people with hypertension are not included in the development. The most frequent complaints of those examined were hearing loss and tinnitus, which is permanent in 37 patients. Pathological intentions on the part of other ENT organs were not revealed.

Research results. Hearing was examined before and after treatment: perception of whispered and spoken language was determined, threshold and suprathreshold, and tonal speech audiometry were performed. 15 patients perceived whispered speech at a distance of up to 1 m, 16 at 1 to 3 m, 8 at more than 3 m, and 21 did not hear it. Spoken language at the auricle was heard by 6 patients, at a distance of 0.1 to 1 m - 14, 10 at 1 to 3 m, 17 at 3 to 5 m, and 13 at more than 5 m. The degree of hearing loss by air conduction in two frequency ranges (speech and upper) is presented in Table 1

Table 1

Perception of tones by air and bone conduction in elderly patients with sensorineural hearing loss before treatment.

Studied indicators	Auditory perception thresholds in patients before treatment							
	До 30 дБ		31-50 дБ		51-70 дБ		более70 дБ	
	125-3000 Гц	4000-8000 Гц	125-3000 Гц	4000-8000 Гц	125-3000 Гц	4000-8000 Гц	125-3000 Гц	4000-8000 Гц
Air conduction	19	11	14	14	13	16	14	19
Bone conduction	18	9	13	16	14	18	15	17

Table 1 shows that hearing loss of more than 50 dB at frequencies of 125-3000 Hz was observed in 27 individuals, in the range of 4000-8000 Hz – in 33 individuals. The state of cerebral circulation was assessed based on rheoencephalography data; rheoencephalograms were recorded using a six-channel 6-NEK (GDR) electrocardiograph and an RG-1M rheographic attachment using the generally accepted technique for the frontomastoid (F-M) and occipito-mastoid (O-M) leads, characterizing the state of the internal carotid and vertebral artery basins. When evaluating rheoencephalograms, attention was paid to the shape of the REG curves: the nature of its rise and fall, peaks, severity and location of the incisura and additional ones on the catacrotus. in quantitative analysis, the amplitude (A) of the main wave in ohms was taken into account, as well as the ratio of the amplitude from the level of the incisura to the amplitude of the main wave (DKI), expressed as a percentage, the coefficient (CA), which is the values of blood filling of the symmetrical sides of the head, also expressed as a percentage; the pulse wave propagation time in seconds. During visual assessment, typical signs for REG curves in atherosclerosis were determined, they were characterized by an obtuse angle of elevation of the anacrota, the presence of a round and hump-shaped apex, a convex catacrota with a poorly represented incisura, located on the upper third of the catacrota with a poorly expressed diastolic wave and the absence of additional waves on the catacrota. when introducing vasodilators, a slowdown in the reaction was noted, which occurred earlier, after taking the drug. The results of cerebral circulation studies indicate significant deviations from those in the control group. All examined patients showed a decrease in the amplitude of the REG in the basin of the internal carotid and vertebral artery of the right (0.095±0.010 and 0.059±0.010 10 s) and left (0.088±0.0009 and 0.044±0.005 s) hemispheres, an increase in the time of rise of the anacrotic, more pronounced in both examined basins of the left hemisphere, an increase in the DCI and the time of propagation of the pulse wave in the basins of the internal carotid and vertebral arteries, characteristic of this group of patients was the presence of an asymmetry coefficient equal to 20.68±1.82 in the basin of the internal carotid artery and 34.09±2.14% - vertebral. Taking into account the data on the state of the auditory function, REG, ECG and other studies, patients suffering from sensorineural hearing loss due to atherosclerosis were treated and osteochondrosis of the cervical spine. Due to the fact that the etiology and pathogenesis of atherosclerosis are complex, the arsenal of drugs that effectively affect it is currently insufficient. In this disease, hypolipid drugs are prescribed (nicotinic acid, nicotinamide,

complamine, theonikol), which prevent the formation of lipoproteins, nicotinic acid in the observed individuals was used 1 tablet 3 times a day after meals for 3 weeks. Complamine was administered intramuscularly up to 10-15 injections also after meals, starting with 0.7 ml, gradually increasing to 1.5 ml. These drugs not only have hypolipid properties, but also enhance the effect of antihypertensive drugs, dilating small vessels of the brain, improving blood flow in them, increasing the resistance of the brain to hypoxia. Along with nicotine-type drugs, use unsaturated fatty acid preparations that promote increased utilization of saturated fatty acids, in particular linetol. In addition to the hypolipid effect, it has the property of reducing blood clotting and activating fibrinolysis. This drug was prescribed 1.5 tablespoons on an empty stomach in the morning for 1.5 months, after which a break was taken for 2-4 weeks, repeating 2-3 courses.

To stimulate the formation of phospholipids in the liver and prevent its fatty infiltration, 1 tablet was given 3 times a day for 2 months. In combination with the drugs, it was also recommended to take calcium pangamate 1 tablet 3 times a day for 45 days (2 courses), vitamin C, pyroxine, which have a certain hypolipid effect. Along with these drugs, intencordin, curantil, dipromony were prescribed to improve cerebral and central blood circulation. To normalize metabolic processes in brain tissue (especially in the presence of atherosclerotic encephalopathy with memory impairment), cerebrolysin was administered intramuscularly, 1 ampoule every other day. To improve carbohydrate utilization, cocarboxylase was prescribed up to 20 injections (200 mg) intramuscularly daily for 15-20 days, taking into account that it regulates metabolic processes in the cochlea and venous outflow, reduces vascular tone, increases perilymph oxygen saturation to stabilize energy processes, and conduct uneven impulses.

Intramuscularly, disodium adenosine triphosphate (ATP) 1 ml up to 20 injections. Patients with elevated blood pressure combined with increased cerebral vascular tone against the background of increased peripheral vascular resistance and venous congestion (according to REG data) were prescribed vincapan 1 tablet 3 times a day for 1 month, valerian decoction (12.0 to 200.0 water) 1 spoon 3 times a day, to relieve muscle tension, have a calming effect on the central nervous system, reduce excitability of the limbic system of the thalamus and hypothalamus - relanium 1 ampoule intramuscularly at night up to 10 injections with subsequent continuation of its intake of 1 tablet at night for 1 month. The data on tone perception in patients after treatment are presented in Table 2.

Table 2

Perception of tones by air and bone conduction in elderly patients with sensorineural hearing loss after treatment.

Studied parameters	Auditory perception thresholds in patients before treatment							
	До 30 дБ		31-50 дБ		51-70 дБ		более70 дБ	
	125-3000 Гц	4000-8000 Гц	125-3000 Гц	4000-8000 Гц	125-3000 Гц	4000-8000 Гц	125-3000 Гц	4000-8000 Гц
Air conduction	23	11	16	18	11	20	10	11
Bone conduction	24	11	15	18	14	21	7	10

In the presence of osteochondrosis of the cervical spine, patients were recommended exercise therapy, massage of the cervicothoracic spine up to 10-20 sessions (taking into account blood pressure). Persons with a tendency to high blood pressure and a hypertensive type of REG curves, along with antispasmodics, were prescribed massage along the spine, and at the end of it - D'Arsonval currents along the cervicothoracic spine up to 12 sessions. Patients who were found to have difficulty in venous outflow or venous congestion in the vessels of the brain were administered dibazol, which reduces diastolic pressure and improves venous outflow of the vessels of the brain and reduces venous and intracranial pressure. After the therapy, all patients noted an improvement in the perception of whispered and spoken language. Thus, if before the treatment none of them heard whispered speech at a distance of more than 5 m, then after it whispered speech at a distance of more than 5 m was perceived by 5 people, and spoken speech at a distance of more than 5 m - 25 (before the treatment - 13). A number of people experienced an improvement in hearing by air and bone conduction (Table 2). Thus, if before the treatment a slight degree of hearing loss in the speech zone (125-3000 Hz) was detected in 19 people, then after the treatment - in 23. The number of patients with hearing loss of more than 70 dB also decreased (before the treatment - 14, after the treatment - 10). Similar dynamics were revealed after the treatment and by bone conduction, in 40% of patients 100% intelligibility of the verbal test according to the Zinder-Greenberg tables before the treatment was not achieved, and after it intelligibility was restored in 20 people from this group. comparison of REG results before and after therapy showed a reliable improvement in blood filling, a decrease in DCI in the internal carotid artery basin, and a decrease in CA.

Conclusions. Thus, the analysis of REG data allowed us to establish that in patients with sensorineural hearing loss occurring against the background of atherosclerosis and osteochondrosis of the spine, after complex treatment there is a decrease in the tone of small and medium-sized vessels in the internal carotid artery basin, a decrease in CA and an improvement in blood filling in both studies of basins, however, not all of the identified changes in REG indicators were dynamic,

The time of anacrotic rise and the speed of pulse pain propagation did not differ from the initial data, the pathogenetic treatment of patients with sensorineural hearing loss indicates that the improvement of hearing function occurs in parallel with the stabilization of cerebral circulation. The criteria for the effectiveness of treatment of elderly people suffering from atherosclerosis and osteochondrosis of the spine are such REG indicators as the amplitude of the DCI, characterizing the blood filling of the cerebral vessels and the tone of the small-sized medium-sized vessels. The absence of dynamics of such indicators as the time of the rise of the anacrotic and the time of the pulse wave propagation indicates the need for additional outpatient treatment of such patients by a therapist and neurologist together with an otolaryngologist under the control of REG indicators and audiometry.

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