

Investigation of the informativeness of the vegetative resonance test in diagnosis of diseases of the inner ear and idiosyncrasy to aminoglycosides.

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Currently, a large number of drugs are known that can cause damage to the auditory analyzer with a frequent outcome in irreversible sensorineural hearing loss. The most studied drug sensorineural hearing loss caused by aminoglycosides, which, in accordance with modern concepts, develops by the mechanism of idiosyncrasy as a result of genetic mutations, and drugs cause the phenotypic manifestation of these mutations (Fishel-Gotsian, 1998). After the identification of the A1555G mutation in the 12S position of mitochondrial RNA in the United States, the issue of molecular genetic screening began to be discussed

pharmacogenetic risk and identification of persons with high sensitivity to aminoglycosides. An obstacle to the realization of this task is the fact that only 17–30% of cases of drug hearing loss are associated with the A1555G mutation (Fishel-Gotsian, 2003), and mutations for the rest of the population with idiosyncrasy to aminoglycosides have not yet been identified. In this regard, the search for other screening methods for identifying idiosyncrasy to drugs, in general, and to aminoglycosides, in particular, continues.

As a possible approach for solving the problem of screening persons with hypersensitivity to aminoglycosides, we considered vegetative resonance test, which has found wide application in medical practice in recent years (Gotovsky Yu.V. et al., 2000).

In this work, an attempt is made to assess the informativeness of the autonomic resonance test for the diagnosis of diseases of the inner and middle ear with an assessment of sensitivity to aminoglycosides.

The study involved 137 people aged 5 to 55 years (50 clinically healthy individuals without complaints of the organ of hearing, 62 adults and 25 children with sensorineural hearing loss of various etiologies). All subjects underwent clinical and audiological examination (tone threshold audiometry, tympanometry, impedance measurement), diagnostic examination with the use of vegetative resonance test (hardware-software complex "MINI-EXPERT" with medication "IMEDIS", selector Center Moscow).

Parameter such as the sensitivity of the method (attitude verily positive results to the sum of true positive and false negative results), when marking the "lesion" of the neuroepithelium of the organ of Corti (organ preparation "cochlear nerve and duct") was 98%, which

should be regarded as very high. This parameter characterizes the percentage of detection of patients using the ART method among the contingent of persons whose disease has been established by clinical studies.

When assessing the etiology of damage to the neuroepithelium of the organ of Corti in persons with drug hearing loss, the percentage of coincidences was also high and amounted to 95%. In this case, the reliability of the test was reduced by the addition of an intercurrent infection; after its resolution, the results of ART and the indication of the drug in the anamnesis coincided.

The overall accuracy (percentage of coincidences) of the ART diagnosis with the clinical diagnosis for diseases of the middle and inner ear was 86%, and the specificity (this parameter characterizes the percentage of detection of healthy individuals among the contingent defined in clinical trials as "healthy") - 30%. These results led to the conclusion about the high diagnostic efficiency of the method.

When assessing sensitivity to such aminoglycosides as: neomycin, kanamycin, streptomycin, gentamicin, amikacin, sisomycin, tobramycin (organopreparation test "snail nerve and duct + antibiotic in C3 potency), positive tests were found in 80% of patients with clinical manifestations of sensorineural hearing loss of various etiologies and in 30% of clinically healthy individuals in whom a problem with the auditory analyzer was detected during ART screening. 50% of positive tests in patients were for streptomycin and gentamicin. Interestingly and importantly, a similar relationship was observed in patients who denied a history of tested aminoglycosides.

The study allows us to conclude that it is advisable to use ART for rapid assessment of the functional state of the neuroepithelium of the organ of Corti in order to identify preclinical and nosological conditions with the obligatory confirmation of electropuncture data by direct official examination methods.

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