
МАТЕРИАЛЫ КОНФЕРЕНЦИИ
И ШКОЛЫ

LOCALIZATION OF STATIONARY AND MOVING SOUND SOURCES
IN AGE-RELATED HEARING DISORDERS

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DOI: 10.31857/S0044452920071407

Presbycusis is of interest as a model of gradual decrease of the high-frequency binaural mechanism of spatial hearing. The decrease of the high-frequency binaural spatial hearing depends on the degree of sensorineural hearing loss (SHL). The goal is to find out how this decrease affects the sound source localization. Auditory indicators of spatial resolution by distance for stationary and moving sound images (SI) and temporal thresholds to determine the approach and removal of SI were obtained. Modeling of tonal hearing loss in case of moderate SHL did not lead to a decrease in spatial resolution, i.e. partial shutdown of the high-frequency binaural mechanism did not affect the ability to estimate the auditory egocentric distance. However, patients with SHL showed greater intra-group threshold variability than subjects with normal hearing. When comparing the distance thresholds for stationary SI, no significant differences were found between groups with mild, moderate SHL or normal hearing. The distance

thresholds for moving SIs were almost twice as large as for stationary ones in subjects with normal hearing and in patients with mild SHL. There were no differences between these thresholds in patients with moderate SHL. In all groups with SHL the time threshold significantly differed from the threshold for subjects with normal hearing. There seems to be another factor in SHL that affects the perception of moving sound sources, in addition to raising hearing thresholds. In patients with mild and moderate SHL, a correlation was found between the perception of moving SI thresholds by distance and duration (time). The found correlation of these indicators may indicate a different degree of involvement of the central auditory system in the pathological process at the same loss of tonal hearing.

Supported by the state assignment (AAAA18-118013090245-6); RFBR 18-015-00296, 06-04-48212.