
МАТЕРИАЛЫ КОНФЕРЕНЦИИ
И ШКОЛЫ

**THE INFLUENCE OF PREVIOUS MYOCARDIAL INFARCTIONS
ON THE TEMPORAL THRESHOLD FOR SOUND SOURCE MOTION
LOCALIZATION IN PATIENTS WITH SENSORINEURAL HEARING LOSS**

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A characteristic of spatial hearing – temporal threshold to determine approaching or receding of sound images, was evaluated for 65 patients with bilateral sensorineural hearing loss (SNHL) of I–III degrees aged 39–88 years (41 females, 24 males). Their medical histories were checked in order to establish presence of such chronic conditions as hypertonic disease (39 patients), diabetes (5) and coronary heart disease (3), and also of previous acute conditions: myocardial infarctions (6) and strokes (3). Five patients with myocardial infarctions in their medical histories or with coronary heart disease could not determine the motion direction even for longest sound images with duration of 1.5 s. For other patients thresholds were determined successfully. Differences between groups with SNHL of I degree (25 patients), II degree (30) and III degree (5) were statistically significant (I and II: $p < 0.05$; I and III: $p < 0.01$; II and III: $p < 0.05$). In patients with SNHL of I degree average temporal threshold was 360 ms, in patients with SNHL of II degree – 420 ms, and 800 ms for

III degree SNHL. These values were significantly higher than the ones estimated in normally hearing subjects (130 ms, $p < 0.01$). Factorial analysis of variance showed that only presence of myocardial infarctions in medical history, indicating substantial impairments in cardiovascular system, including those related to blood supply of the brain, led to a significant increase in temporal threshold to determine approaching or receding of sound images ($p < 0.01$). In patients with previous myocardial infarctions (4 subjects) the threshold was 900 at average, while patients without this diagnosis had average threshold of 400 ms. Apparently, the increase of temporal thresholds observed in patients with myocardial infarctions is strongly connected with hypoxic injury of the central auditory system which are known to be responsible for temporal analysis of the sound.

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