

Temporal resolution in sensorineural hearing loss and brain injury

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Purpose: To determine and compare the auditory behavior of temporal resolution in subjects with symmetrical and asymmetric sensorineural hearing loss, individuals with brain injury and normal individuals. **Methods:** Thirty eight subjects divided into four groups: 11 individuals with symmetrical sensorineural hearing loss (GPS); four individuals with asymmetric sensorineural hearing loss (GPAS); eight subjects with lesions in the temporal lobe (GL); 15 subjects in the comparison group (GC). These patients underwent hearing assessment to define the auditory characteristics of the groups, and evaluation of auditory temporal resolution skills through the tests RGDT and GIN. The results of this evaluation were statistically analyzed and the responses obtained were compared between groups. **Results:** The hearing level of each ear in the groups GPS, GL and GC are symmetrical. The comparison (GC) and brain injury (GL) groups are similar regarding the audiometric results. We observed a statistically significant difference between comparison, GC, and study groups: symmetrical hearing loss (GPS), and brain injury (GL) for the tests RGDT and GIN. Between the groups sym-

metrical hearing loss and brain injury, there was a tendency to statistical significance. The data obtained on the RGDT and GIN tests of the group of individuals with asymmetric sensorineural hearing loss (GPAS) was used only in the final comparison with the group with symmetrical hearing loss, due to the small sample size in this group. The comparison of the results obtained by the groups GPS and GPAS did not show statistically significant differences. **Conclusion:** The ability of temporal resolution was similar between the group of individuals with symmetrical hearing loss (GPS) and the brain injury group (GL). Both groups showed worse performance than the comparison group (CG). The group of individuals with asymmetric hearing loss (GPAS) showed similar results regarding the ability of auditory temporal resolution in both tests, when compared to individuals with symmetrical hearing loss. The task of temporal resolution in noise (GIN test) was easier than the task of temporal resolution with pure tone (RGDT), more evident in the groups with hearing loss and brain injury, because these individuals presented better thresholds in the GIN than in the RGDT.

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