

COVID-19's Effect on Pre-Existing Hearing Loss

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Abstract : It is not uncommon for a viral infection to cause hearing loss. Many viral infections are associated with sudden-onset, often unilateral, idiopathic sensorineural hearing loss. We conducted an exploratory study with thirty patients with pre-existing hearing loss between 50 and 64 to evaluate if COVID-19 was associated with exacerbated hearing loss. We hypothesized that hearing loss would be exacerbated by COVID-19 infection in patients with pre-existing hearing loss. A statistically significant paired T-test between pure tone averages (PTAs) at the patient's original diagnosis and a current, updated audiometric assessment indicated a regression in hearing (p-value < .001) sensitivity following the contraction of COVID-19. Speech reception thresholds (SRTs) and word recognition scores (WRSs) were also considered, as well as the participants' gender. SRTs between each ear exhibited a statistically significant change (p-value of .002 and p-value < .001). WRSs did not show statistically significant differences (p-value of .290 and p-value of .098). A non-statistically significant Two-Way ANOVA was performed to evaluate gender's potential role in exacerbated hearing loss and proved to be statistically insignificant (p-value of .214). This study discusses practical implications for clinical and educational pursuits in understanding COVID-19's effect on the auditory system and the need to evaluate the deadly virus further.

Keywords : audiology, COVID-19, sensorineural hearing loss, otology, auditory research

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