Memory impairment associated with sound processing disorder

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Mild memory impairment may be associated with central auditory processing dysfunction, or difficulty hearing in complex situations with competing noise, such as hearing a single conversation amid several other conversations, according to a report in the July issue of *Archives of Otolaryngology–Head & Neck Surgery*.

"Central auditory processing dysfunction is a general term that is applied to persons whose hearing in quiet settings is normal or near normal yet who have substantial hearing difficulty in the presence of auditory stressors such as competing noise and other difficult listening situations," the authors write as background information in the article. "Central auditory testing is important in evaluating individuals with hearing difficulty, because poor central auditory ability, per se, is not helped by amplification and requires alternative rehabilitation strategies." Previous studies have shown that central auditory processing is impaired in individuals with Alzheimer's disease and other types of dementia.

George A. Gates, M.D., of the University of Washington, Seattle, and colleagues assessed 313 individuals (average age 80 years) participating in a dementia surveillance program that began in 1994. These included 17 individuals who had been diagnosed with dementia, 64 with mild memory impairment but without a dementia diagnosis and 232 controls without memory loss.

Participants completed three tests designed to gauge central auditory processing: one in which nonsense sentences are read over the

background of an interesting narrative and two in which separate sentences or numbers are read into each ear simultaneously. "These central auditory processing test paradigms evaluate how well an individual manages competing signals, a task that requires adequate short-term memory and the ability to shift attention rapidly," the authors write.

Average scores on central auditory processing tests were significantly lower in the group with dementia and in the group with mild memory impairment than in the control group without memory problems. The association remained significant following adjustment for age and hearing status.

"Central auditory function was affected by even mild memory impairment," the authors write. "We recommend that central auditory testing be considered in the evaluation of older persons with hearing complaints as part of a comprehensive, individualized program to assist their needs in both the aural rehabilitative and the cognitive domains."

Source: JAMA and Archives Journals

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