AAN 70th ANNUAL MEETING ABSTRACT

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Abstract Title: Relationship Between Central and Peripheral Presbycusis and Mild Cognitive Impairment in a Population-based Study of Southern Italy: The “Great Age Study”

Press Release Title: Hearing Loss May Be Tied to Memory Loss for Some

Objective: To determine the prevalence of the central and peripheral presbycusis and to explore a possible association with mild cognitive impairment (MCI).

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Background: One third of the elderly population worldwide has a disabling hearing loss. Growing evidence supports an association between age-related hearing loss (presbycusis) and cognitive decline, but few studies investigate the relationship between different types of presbicusys (peripheral and central) and presence of MCI. No previous study has investigated speech discrimination and separate the auditory perception from auditory function.

Design/Methods: The Great-AGE Study is an ongoing population-based study on aging, conducted in Castellana Grotte (Southern Italy). Subjects underwent multidisciplinary assessment including neurological, neuropsychological, geriatric and otolaryngology assessments. Mild cognitive impairment (MCI) was diagnosed according to Petersen criteria and presence of peripheral and central presbycusis according to Gates (2012) criteria.

Results: In a sample of 1,604 individuals, 25.5% had peripheral presbycusis and 12.1%, had central presbycusis. Central presbycusis was associated with the presence of MCI (OR 2.1, p<0.0001). In contrast, there was no association between peripheral presbycusis and cognitive impairment. Furthermore, there was a positive correlation between the average speech discrimination score and the MMSE score (r=0.53 p<0.0001).

Conclusions: Our preliminary results suggest that central presbycusis may share with cognitive decline the same pathophysiological mechanism of neurodegeneration instead of being linked to a process of sensory deprivation given by peripheral presbycusis. Hearing perception tests should be included in the evaluation of persons older than 65 years and in those with cognitive impairment.