

Accepted Manuscript

Title: Auditory System Dysfunction in Alzheimer Disease and its Prodromal States: A Review

Authors: Gabriel M. Swords, Lydia T. Nguyen, Raksha A. Mudar, Daniel A. Llano



PII: S1568-1637(18)30004-7
DOI: <https://doi.org/10.1016/j.arr.2018.04.001>
Reference: ARR 820

To appear in: *Ageing Research Reviews*

Received date: 7-1-2018
Revised date: 3-4-2018
Accepted date: 4-4-2018

Please cite this article as: Swords, Gabriel M., Nguyen, Lydia T., Mudar, Raksha A., Llano, Daniel A., Auditory System Dysfunction in Alzheimer Disease and its Prodromal States: A Review. *Ageing Research Reviews* <https://doi.org/10.1016/j.arr.2018.04.001>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Auditory System Dysfunction in Alzheimer Disease and its Prodromal States: A Review

Gabriel M. Swords¹, Lydia T. Nguyen^{2,3}, Raksha A. Mudar^{2,3}, Daniel A. Llano^{1,2,4,5}

1. University of Illinois College of Medicine
2. Neuroscience Program, University of Illinois at Urbana-Champaign
3. Department of Speech and Hearing Science, University of Illinois at Urbana-Champaign
4. Department of Molecular and Integrative Physiology, University of Illinois at Urbana-Champaign
5. Beckman Institute for Advanced Science and Technology, Urbana, IL

Highlights:

- The literature concerning auditory dysfunction in AD is reviewed
- Dichotic listening tasks show high diagnostic and prognostic significance
- Multiple event-related potentials also show high diagnostic and prognostic utility
- Audiological approaches are a low-cost way to gain an early window into AD diagnosis

Abstract

Recent findings suggest that both peripheral and central auditory system dysfunction occur in the prodromal stages of Alzheimer Disease (AD), and therefore may represent early indicators of the disease. In addition, loss of auditory function itself leads to communication difficulties, social isolation and poor quality of life for both patients with AD and their caregivers. Developing a greater understanding of auditory dysfunction in early AD may shed light on the mechanisms of disease progression and carry diagnostic and therapeutic importance. Herein, we review the literature on hearing abilities in AD and its prodromal stages investigated through methods such as pure-tone audiometry, dichotic listening tasks, and evoked response potentials. We propose that screening for peripheral and central auditory dysfunction in at-risk populations is a low-cost and effective means to identify early AD pathology and provides an entry point for therapeutic interventions that enhance the quality of life of AD patients.

Keywords: Auditory Cortex; Mild Cognitive Impairment; Audiometry; Evoked Potential; Dichotic

1. Introduction

Alzheimer's Disease (AD) is a neurodegenerative disease of increasing prevalence and primarily affects the elderly population. It is characterized by loss of cognitive function across multiple domains

Download English Version:

<https://daneshyari.com/en/article/8257161>

Download Persian Version:

<https://daneshyari.com/article/8257161>

[Daneshyari.com](https://daneshyari.com)