Late-Onset Alzheimer Disease

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KEYWORDS

• Late-onset • Alzheimer disease • Dementia • Oldest-old • Pathology

KEY POINTS

- There is an urgent societal need for interventions to delay or treat Alzheimer disease (AD), particularly in the oldest-old, which represent the fastest growing segment of society.
- Rates of dementia continue to increase as people age into their 9th and 10th decades.
- Dementia in the oldest-old is often due to mixed pathologies, including amyloid plaques and neurofibrillary tangles of AD, as well as microinfarcts, hippocampal sclerosis, and more rarely Lewy Bodies.
- The typical presentation of AD in the oldest-old is short-term memory impairment gradually progressing to involve other domains of cognition (language, visuospatial, and executive dysfunction) and leading to functional impairment.
- It is challenging to diagnose dementia in the oldest-old due to reduced societal and familial expectations of function, medical comorbidities, and difficulty performing cognitive testing due to visual or hearing impairment, fatigue, and physical disability.

OVERVIEW

The oldest-old, people 85 years and older, are the fastest growing segment of society, and neurologists must be prepared to diagnose and treat dementia in this age group. The prevalence and risk of dementia in this group is high and continues to rise with advancing age. Increasingly, we have come to recognize that the oldest-old are a

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unique population with unique risk factors for Alzheimer disease (AD) and dementia. AD remains the most common cause of dementia in the oldest-old, but mixed pathologies are often present and contribute to cognitive impairment. The typical presentation of clinical AD in the oldest-old often begins with the gradual onset of short-term memory impairment, then progresses to involve other domains of cognition, such as language, visuospatial, and executive function, ultimately leading to functional impairment. It can be challenging to diagnose dementia in the oldest-old due to lack of an informant for the many oldest-old who live alone, reduced functional expectations, difficulty performing and interpreting cognitive testing in this age group, and presence of positive amyloid biomarkers in many cognitively healthy elderly persons. Treatment of AD dementia in the oldest-old is extrapolated from younger elderly persons, because the oldest-old have generally been excluded from treatment trials. There is no treatment that can slow or reverse the progression of AD dementia, although acetylcholinesterase inhibitors and memantine can provide modest cognitive and functional benefits. Treating medical and psychiatric comorbidities and ensuring adequate home care and social support are critical. There is an urgent need for interventions to prevent or delay AD dementia in the oldest-old, for the benefit of individuals at risk, their families, and society.

EPIDEMIOLOGY

Our oldest citizens are the fastest growing segment of societies worldwide. In 2010, there were approximately 5.6 million people age 85 and older in the United States. This number is projected to quadruple by midcentury.[1] However, living long does not necessarily mean living well, as the oldest-old have the highest rates of incident and prevalent dementia and AD in the population.[2]

Fig. 1 shows the estimated total number of people age 85 and older[1] and the projected number of oldest-old with prevalent AD dementia[3] in the United States from

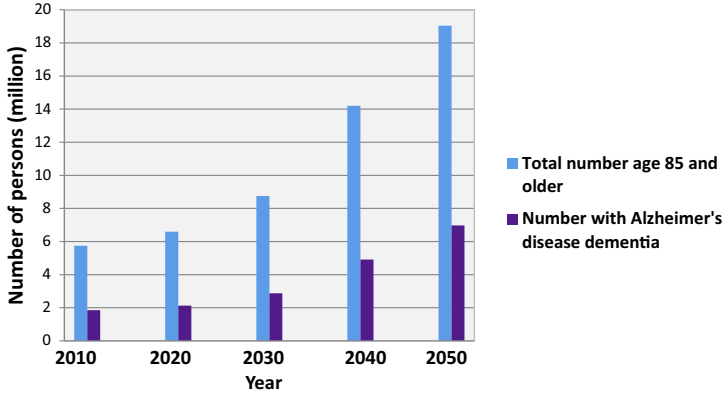

Fig. 1. Predicted number of oldest-old total and with dementia in the United States. The predicted total number of oldest-old and the predicted number of oldest-old with AD dementia in the United States 2010 to 2050 based on the national population projections data by the US Census Bureau and AD prevalence estimates by Hebert and colleagues. (*Data from* National Population Projections (Based on Census 2000). Table 12. Projections of the population by age and sex for the United States: 2010 to 2050 2008. Available at: http://www.census.gov/population/www/projections/summarytables.html. Accessed February 29, 2012; and Hebert LE, Weuve J, Scherr PA, et al. Alzheimer disease in the United States (2010–2050) estimated using the 2010 census. Neurology 2013;80:1778–83.)