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### Author

Kawas, Claudia H

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## **LONGITUDINAL COGNITIVE PERFORMANCE IN THE OLDEST OLD WITH NO DEMENTIA: A-BETA OR OTHER PATHOLOGIES?**

Claudia H. Kawas. *University of California, Irvine, CA, USA.*

*E-mail: [ckawas@uci.edu](mailto:ckawas@uci.edu)*

In most of the world, the oldest old are the fastest growing segment of the population and the individuals most affected by cognitive decline and dementia. The 90+ Study, a population-based sample of more than 1600 people aged 90 years and older (Laguna Woods, California), comprises one of the largest longitudinal studies of oldest old in the world. Participants (76% women; mean age 97 years) are followed every 6 months with neuropsychological and neurological examinations, medical record review, informant questionnaires and interviews. DNA and brain donation are also requested. Our study, similar to other investigations, shows high prevalence and incidence rates of dementia that continue to increase with age in oldest old individuals. However, most individuals without dementia also show significant age-associated declines in cognitive performance. The underlying biological mechanisms of these declines in the oldest old are poorly understood. Amyloid and other pathologies are frequently present in both demented and non-demented 90+ year olds, and distinguish poorly between the groups. Moreover, rates of cognitive decline do not appear to differ in non-demented oldest old with and those without significant amyloid and AD pathology. These results have called into question the relevance of amyloid in the expression of cognitive loss and dementia in oldest old. More recent results however from the 90+ Study suggest that the relationship between pathology and cognition may be more complex, and that the number as well as the types of pathologies may indeed be relevant for cognitive performance in aging. The relationship of cognitive declines in 90+ individuals to cerebral amyloid and other pathologies (identified by imaging and by autopsy) will be presented. Implications for the understanding of dementia and cognition at all ages will be considered.

**Keywords.** Cognition, Amyloid, Oldest-old