Caloric restriction attenuates Aß-deposition in Alzheimer transgenic models.

NV Patel, MN Gordon, KE Connor, RA Good, RW Engelman, J Mason, DG Morgan, TE Morgan, CE Finch.Andrus Gerontology Center and Department of Biological Sciences, University of Southern California, Los Angeles, CA 90089-0191, USA. And Alzheimer's Research Laboratory, Departments of Pharmacology and of Pediatrics, University of South Florida, Tampa, FL 33162, USA

Neurobiology of Aging. 2005 Jul;26(7):995-1000. Epub 2004 Nov 25. PMID: 15748777*

Dietary influences on Alzheimer disease (AD) are gaining recognition. Because many aging processes are attenuated in laboratory mammals by caloric restriction (CR), we examined the effects of short-term CR in two AD-transgenic mice, APP(swe/ind) (J20) and APP(swe) + PS1(M146L) (APP + PS1). CR substantially decreased the accumulation of Aß-plaques in both lines: by 40% in APP(swe/ind) (CR, 6 weeks), and by 55% in APP + PS1 (CR, 14 weeks). CR also decreased astrocytic activation (GFAP immunoreactivity). These influences of CR on AD-transgenic mice are consistent with epidemiological reports that show that high caloric diets associate with the risk of AD, and suggest that dietary interventions in adult life might slow disease progression.