Apolipoprotein E genotype determines survival in the oldest old (85 years or older) who have good cognition.

https://arctichealth.org/en/permalink/ahliterature212096

Author: E H Corder
L. Lannfelt
M. Viitanen
L S Corder
K G Manton
B. Winblad
H. Basun

Author Affiliation: Center for Demographic Studies, Duke University, Durham, NC, USA.

Source: Arch Neurol. 1996 May;53(5):418-22

Date: May-1996

Language: English

Publication Type: Article
Abstract:
To quantify the influence of apolipoprotein E (APOE) polymorphism on cognition and survival in a population sample aged 75 years or older.

The Kungsholmen Project established a cohort of 1810 residents in a district in Stockholm, Sweden, aged 75 years or older in 1987. Information on cognition at cohort inception is available for all subjects. Subjects were followed up for mortality to January 1, 1995.

Included in this study are 1077 subjects (of 1124 genotyped for APOE) with the common epsilon 2/3, epsilon 3/3, and epsilon 3/4 APOE genotypes.

The odds of cognitive impairment for the epsilon 3/4 vs epsilon 3/3 genotype declined with age: 4.8 for age 75 through 79 years; 1.7 for age 80 through 84 years; and 1.0 (i.e., no association) for age 85 years or older. Despite this association, APOE polymorphism did not significantly predict survival in subjects younger than 85 years, nor did it predict survival in subjects 85 years or older who were cognitively impaired. Instead, survival varied fourfold with respect to APOE polymorphism in those 85 years or older who had good cognition: Mortality in subjects with the epsilon 2/3 genotype was half that in those who carried the epsilon 3/3 genotype (hazard ratio, 0.5; 95% confidence interval, 0.2 to 0.9), and mortality in subjects with the epsilon 3/4 genotype was twice that in those who carried the epsilon 3/3 genotype (hazard ratio, 2.0; 95% confidence interval, 1.1 to 3.5). This fourfold variation resulted in 2-year differences in survival.

The minor sequence variation in the apolipoprotein E isoforms resulted in a fourfold difference in the risk of death among the oldest old (age ≥ 85 years) with good cognition. The observed variation in mortality was unlikely to have been caused by cognitive impairment, as APOE polymorphism was not a risk factor for cognitive impairment in this age group.