Dietary intake of antioxidants and risk of alzheimer disease
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Study Type: POE
Purpose: Does a dietary intake of antioxidants related to an increase in AD?
Study Duration: 6 year follow-up
Patients: 5395 of initial 7043 AD-free patients, mean age ~68 +/- 8, ~59% female, MMSE = ~28 (27-29), 27% drink daily, 21% do not drink, 35% low ed vs 37% high ed, 23% currently smoke, 43% former smokers, 12% use antioxidant supplements, 28% are APOE carriers
Trial Design: The Rotterdam study population, prospective-cohort in the Netherlands, Diet assessment by checklist of foods consumed at least twice a month during the preceded year, dietitian interview to calculate antioxidants consumed, 2 center visits a year to collect other variables
Inclusion: 55 years of age or older, no diagnosis of dementia
Exclusion: nursing home residents, unreliability
Outcome Scores: diagnosis of dementia

1. Are the results valid?
   * randomized? no
   * double-blinded? no
   * were groups similar? yes, but more blacks in the placebo grp (4.6% vs 0.9%)
   * all patients accounted for? yes

2. What were the results
   * 197 developed dementia (146 with AD)
   * no statistical difference in intake of beta-carotene, vitamin E, flavonoids and the association of AD
   * statistical difference in high vitamin C intake and reduced risk of AD in the adjusted model
   * reduced risk of AD for high dose vitamin E adjusted for age and sex only
   * vitamin C reduces risk for those with intermediate education
   * current smokers benefited from diet rich in beta-carotene and flavonoids
   * no association between APOE allele and antioxidant intake

3. Will the results help me?
   * diets rich in antioxidants are not associated with any impressive reduction in the diagnosis of AD
   * current smokers tend to have the more favorable association
   * vitamin C and vitamin E carry a greater favorable association than beta-carotene and flavonoids
   * I’m not impressed!