Abstract Title: Caloric Intake, Aging, and Mild Cognitive Impairment: A Population-Based Study

Press Release Title: Overeating May Double Risk of Memory Loss

Objective: We investigated whether daily total caloric intake is associated with MCI.

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Background: The association of dietary intake with mild cognitive impairment (MCI) was reported. However, the association of daily energy consumption with MCI remains unknown.

Design/Methods: Population-based case-control study. Setting: The Mayo Clinic Study of Aging, an ongoing population-based cohort study in Olmsted County, Minnesota, USA. Participants: A random sample of 1,233 non-demented study participants ages 70 to 89 years (1,070 cognitively normal persons and 163 subjects with MCI) reported their caloric consumption within 1 year preceding the date of interview by completing a Food Frequency Questionnaire. Main Outcome Measures: An expert consensus panel classified each subject as either cognitively normal or having MCI based on published criteria.

Results: We conducted multivariable logistic regression analyses to compute odds ratios (OR) and 95% confidence intervals (95% CI) after adjusting for age, sex, education, depression, Apolipoprotein E (APOE) genotype, history of stroke, coronary artery disease, diabetes, and body mass index (BMI). Analyses were conducted in tertiles of caloric intake: 600 to <1,526 kcal/day (lowest tertile, reference group); 1,526 to 2,142.5 kcal/day (middle tertile); and >2,142.5 to 6,000 kcal/day (highest tertile). In the primary analysis, there was no significant difference between the middle tertile and the reference group (OR = 1.05; 95% CI = 0.63-1.77; p = 0.84). However, daily energy consumption in the highest tertile was associated with a doubled odds of having MCI (OR = 2.41; 95% CI = 1.51-3.86). We observed a dose-response pattern of increasing odds of MCI with increasing caloric consumption (p for trend <0.001).

Conclusions: In this population-based case-control study, increased caloric intake was associated with increased odds of having MCI.

Study Supported by: The NIH grants P50 AG016574, U01 AG006786, K01 MH068351, K01 AG028573, Robert Wood Johnson Foundation, and by the Robert H. and Clarice Smith and Abigail van Buren Alzheimer's Disease Research Program.