Avocado Consumption and Markers of Inflammation: Results From The Multi-ethnic Study of Atherosclerosis (MESA)

Feon Cheng,[1] Nikki Ford,[1] Alexis Wood,[2] Russell Tracy[3]

[1] Hass Avocado Board; [2] Baylor College of Medicine; and [3] University of Vermont

Objectives: Since an association of avocado consumption has been linked to a possible reduction in inflammation, we investigated associations between avocado consumption and markers of inflammation in a population-based multi-ethnic cohort (Multi-Ethnic Study of Atherosclerosis (MESA)).

Methods: A food frequency questionnaire (FFQ) at MESA exam 1 was used to capture avocado/guacamole consumption. To calculate daily servings of avocado/guacamole, we used both frequency and serving size data from the FFQ. We classified participants into three consumer groups: rare or never (daily serving ≤ 0.03; less than 1 per month), medium ($0.03 <$ daily serving < 0.082; ~1–2 per month), and heavy ($0.082 \leq$ daily serving; more than 2–3 per month). Inflammation was estimated by natural log-transformed inflammatory biomarkers (CRP, IL-2, IL-6, homocysteine, fibrinogen, TNF-a soluble receptors). We used multivariate linear regression models to assess associations while accounting for age, sex, race/ethnicity, educational level, income, energy intake, smoking status, physical activity, diet quality, body mass index, and diabetes type.

Results: Among 2,183 MESA participants, the average age and BMI were 60.8 y $\pm$ 10.2 and 28.3kg/m2 $\pm$ 5.2, respectively, and 46% of the sample were men. Participants has self-reported Hispanic (40.7%), Caucasian (36.8%), African-American (15.5%), and Chinese (7%) ancestries. Over 60% had higher than a high school education and 41.7% make $50,000 or more a year. 44% were categorized as rare of never, 31% as medium, and 25% as heavy avocado/guacamole consumers. When adjusted for relevant confounders, there were no significant differences among the three consumer groups for any inflammatory marker.

Conclusions: In this cross-sectional study, we did not find that consumption of avocado/guacamole was associated with levels of inflammatory markers.