Abstract EP3-33

Differences in health-related biomarkers profile of vegetarians and meat-eaters: A cross-sectional analysis of the UK Biobank study

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INTRODUCTION: Biomarkers have been widely used to assess the effect of diets on health. However, evidence of the metabolic benefits associated with being vegetarian is inconclusive. The aim of this study was, therefore, to investigate the associations of vegetarian and meat-eater with 19 health-related biomarkers in healthy adults.

METHODS: This is a cross-sectional study used data from the UK Biobank study and included 177,723 healthy participants (free of comorbidities) and who reported no major changes in diet in the last five years). Type of diet was self-reported and categorised as vegetarians (n=4,111) and meat-eaters (n=166,516). Nineteen blood and urine biomarkers related to diabetes, hypertension, cardiovascular diseases, cancer, liver and renal function were included. The association between vegetarians and biomarkers was examined using multiple linear regression and presented as standardised beta coefficients.

RESULTS: Compared to meat-eaters, vegetarians had a significantly lower concentration for 14 biomarkers including total cholesterol (-0.21 standard deviation (sd)), LDL (-0164 sd), HDL (-0.05 sd), lipoproteins A (-0.01 sd), lipoprotein B (-0.04 sd), liver function markers (GGT: -3.54, and ALT:-1.53 SD), IGF-1 (-1.34 sd), vitamin D (-6.35 sd), urate (-12.2 sd), total protein (-0.29 sd), creatinine (-6.07 sd), CRP (-0.10 sd) and calcium (-0.007 sd). However, we found that vegetarians have a significantly high concentration of triglycerides (0.15) and cystatin-C (0.04 sd). No association were found for HbA1c, systolic blood pressure and AST. These findings were independent of socio-demographic factors, alcohol consumption, smoking and adiposity.

CONCLUSION: Vegetarians have a more favourable biomarkers profile than meat-eaters. These associations were independent of adiposity and other sociodemographics and lifestyle-related confounding factors.