Safety of coffee consumption after myocardial infarction: A systematic review and meta-analysis

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Abstract

Background and aims
This systematic review aims to evaluate the impact of coffee consumption in patients with previous myocardial infarction (MI), in relation to all-cause and cardiovascular mortality, as well as other major cardiovascular events (MACE) such as stroke, heart failure, recurrent MI and sudden death.

Methods and results
MEDLINE, Cochrane Central Register of Controlled Trials (CENTRAL), Web of Science Core Collection, SciELO Citation Database, Current Contents Connect®, KCI Korean Journal Database, African Index Medicus, and LILACS were searched for longitudinal studies evaluating the impact of coffee consumption in patients with previous myocardial infarction. We performed a random-effects meta-analysis to estimate the pooled hazard ratios (HR) with 95% confidence intervals (CI). The statistical heterogeneity was measured by I2. A dose–response analysis was also conducted.

Six prospective cohort studies were included in the primary meta-analysis. Consumption of coffee was associated with lower risk of cardiovascular mortality (HR = 0.70; 95% CI 0.54–0.91, I2 = 0%; 2 studies) and was not associated with an increased risk of all-cause mortality (HR = 0.85; 95% CI 0.63–1.13; I2 = 50%; 3 studies), recurrent MI (HR = 0.99; 95% CI 0.80–1.22; I2 = 0%; 3 studies), stroke (HR = 0.97; 95% CI 0.63–1.49; I2 = 39%; 2 studies) and MACE (HR = 0.96; 95% CI 0.86–1.07; I2 = 0%; 2 studies). A significant non-linear inverse dose–response association was found for coffee consumption and all-cause mortality.

Conclusions
Consumption of coffee was not associated with an increased risk of all-cause mortality and cardiovascular events in patients with previous myocardial infarction.

Keywords: Coffee, Caffeine, Acute coronary syndrome, Myocardial infarction, Mortality, Cardiovascular events, Heart failure, Angina