



Coffee intake and the incidence of hypertension

Dear Sir:

In the March 2007 issue of the Journal, Uiterwaal et al (1) reported their results on coffee intake and the incidence of hypertension in a long-term longitudinal study design. Their study was conducted in a cohort of Dutch men ($n = 2985$) and women ($n = 3383$), who were examined at baseline and at follow-up visits after 6 and 11 y. They concluded that coffee abstinence was associated with a lower risk of hypertension than was low coffee consumption. They also reported an inverse U-shaped relation between coffee intake and the risk of hypertension in women.

The world's highest coffee consumption in 2006 was recorded in Finland; every Finn consumed an average of 9.8 kg roasted coffee. The prevalence of hypertension is high in Finland, and it has been estimated that <40% of the adult population meets the current blood pressure target of 140/90 mm Hg (2). We earlier reported a U-shaped dose-response relation between the intake of caffeine-containing coffee and the incidence of acute coronary events (3), and we suggested that circulating concentrations of catecholamines may mediate the relation between coffee intake and coronary heart disease (4). In that prospective population-based Kuopio Ischaemic Heart Disease Risk Factor (KIHD) Study, a total of 2682 men from eastern Finland (82.9% of those eligible) aged 42, 48, 54, or 60 y were enrolled between 1984 and 1989. Two trained nurses measured resting blood pressure with a random-zero mercury sphygmomanometer (Hawksley, West Sussex, United Kingdom). The measurement protocol was as follows: after the subjects had rested 5 min in a supine position, 6 measurements at 5-min intervals were made: 3 while the subjects were in a supine position, 1 while they were standing, and 2 while they were sitting; the means of all 6 measurements were used as the systolic and diastolic blood pressures. At baseline, the mean diastolic blood pressure was 89 mm Hg and the mean systolic blood pressure was 134 mm Hg (3).

In the cross-sectional analysis of the KIHD Study baseline visit, coffee intake was not associated with blood pressure (3). Both systolic and diastolic blood pressures were lowest in the group not consuming coffee and were second lowest in the group with the highest coffee consumption (>814 mL/d). When the cross-sectional data from the KIHD study 4-y follow-up visit were analyzed, the results were the same: both systolic and diastolic blood pressures were lowest in the group not consuming coffee and were second lowest in the group with the highest coffee consumption (4).

In the KIHD Study, compared with coffee drinkers, coffee abstainers had lower systolic and diastolic blood pressures and lower serum LDL cholesterol, were more likely to be nonsmokers, had higher levels of physical activity, had lower body mass index and waist-to-hip ratios, had a lower intake of saturated fat, and had a

higher intake of vitamin C (3). These findings were also seen in other studies, especially in men (5).

Our results are in line with the results of Uiterwaal et al (1): coffee abstinence is associated with a lower risk of hypertension than is low coffee consumption. However, in both studies, the group of coffee abstainers was very small (<5% of the study population), and, at least in the KIHD study, they did not represent the general population (3). Thus, firm conclusions about the association of coffee abstinence with the risk of hypertension are difficult to make. A more definite conclusion, based on both of the studies, is that higher coffee intake is not associated with either higher blood pressure or a greater risk of hypertension.

None of the authors had a conflict of interest.

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