

Homocysteine levels and coffee abuse

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Sir,

we compared the plasma total homocysteine concentration (tHcy) in fifteen patients with atherosclerosis and/or metabolic diseases vs fifteen apparently healthy controls (see table). Homocysteine, a thiol-containing amino acid, is produced by the intracellular demethylation of methionine and it has been found that 3Bs'-folic acid, vitamins B6 and B12 can control and reduce homocysteine levels (1). All the subjects of the present study showed normal blood levels of folic acid, vitamins B6 and B12. No patient received drug therapy containing S-adenosyl-methionine.

betes is characterized by elevation of plasma homocysteine (4) and this may justify the increased frequency of vascular damage in diabetes mellitus. Three patients, one in the first group and two controls, who showed high levels of homocysteine (17.7, 14.0 and 13.2 $\mu\text{mol/L}$ respectively) compared to the normal range (2-12 $\mu\text{mol/L}$), were strong coffee drinkers (≥ 6 cups per day). It is known that chlorogenic acid, a polyphenol present in coffee, raises total homocysteine concentrations (5). Particularly important are therefore the anamnestic data on lifestyle factors such as folate intake and alcohol consumption, while coffee abuse, not unusual in our country, may assume a significant meaning.

Table I: Study protocol.

N	Age (mean +/- SD)	M/F	tHcy ($\mu\text{mol/L}$ +/- SD)
15*	60.1 +/- 5.3	11/4	14.2 +/- 4.2 ***
15**	58.5 +/- 6.1	10/5	8.5 +/- 5.5

* = coronary artery disease (8), poorly controlled type 2 diabetes (5), arteriosclerotic disease (2).

** = controls.

*** = $p < 0.05$ (Student t test)

We know that homocysteine simulates the action of cholesterol because prolonged and elevated levels of the latter gradually damage the inner lining of blood vessels, causing atherosclerotic plaques and narrowing the arterial lumen, which often leads to heart attack (2, 3). Moreover, tHcy generates a prothrombotic state through the activation of factor V. We also confirm that poorly controlled type 2 dia-

References

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