コーヒーは心保護作用を有する可能性がある

中等度のコーヒー摂取は高齢高血圧患者の大動脈伸展性を改善する

Moderate coffee consumption improves aortic distensibility in hypertensive elderly individuals

高齢高血圧患者が中等度のコーヒーを摂取することにより大動脈伸展性が改善する可能性があるとのスタディ結果が2010年European Society of Cardiology学会で発表された。研究者らは65～100歳の男性343人および女性330人からなる標的患者群（全員がエーゲ海のイカリア島に長期居住し、この島の人々の平均余命が長いためこの島が選択された）に対し、健康と栄養に関する調査を行った。スタディは235人の高血圧サブグループに焦点が当てられた。解析の結果、中等度のコーヒー摂取（1日1～2杯）により、これよりコーヒー摂取が少ない高齢高血圧患者と比較し大動脈伸展性値が高くなることが示された。年齢、性別、身体活動度、クレアチニンレベル、BMIおよび糖尿病などの様々な因子で補正後、中等度のコーヒー摂取と心血管疾患減少、糖尿病および脂質異常症の有病率低下、ボディマスインデックス低値および良好な腎機能、クレアチニンクリアランスレベルが高いことと関連があるとのエビデンスも認められた。しかし、コーヒー摂取量を1日3～5杯に増量することにより大動脈伸展性がより改善することは示されなかった。

Full Text

A detailed study conducted by a team from the University of Athens on the Aegean island of Ikaria has demonstrated that moderate consumption of coffee by hypertensive elderly individuals can lead to improvements in aortic distensibility. The study was presented at the European Society of Cardiology Congress 2010.

Between June and October 2009, researchers from the University of Athens conducted a health and nutrition survey using a target group of 343 men and 330 women aged between 65 and 100 - all of whom were long-term residents of Ikaria. The island was selected because of its population's high life expectancy, with an above-average proportion of residents over 90 years of age. Consideration was given to a wide range of socio-demographic, bio-clinical, lifestyle and dietary characteristics related to cardiovascular risk factors such as hypertension, diabetes, hypercholesterolemia, obesity and anthropometric indices. Physical activity status and biochemical parameters related to cardiovascular risk were also evaluated.

Coffee consumption was particularly measured during the initial phase of the study because it is a deeply embedded social tradition within the Greek population, and also because of conflicting evidence of its impact on cardiovascular health. Doctor Christina Chrysohoou, the study coordinator, noted, "As far as the effect of coffee on hypertension is concerned, the pressor response to caffeine seems to be more pronounced in hypertensive or hypertension-prone subjects than in normo-tensive ones. For this reason, our study became focused on a sub-group of some 235 hypertensive subjects, and we measured the impact of daily coffee consumption using echocardiographic indices of aortic distensibility."

To be classified within this sub-group of 235 individuals, subjects had to meet certain criteria that included a known history of hypertension, that they were under dietary or medical treatment, or that they had average blood pressure levels above the upper limit of the normal range. Aortic distensibility for each of these 235 residents was calculated non-invasively by an established mathematical equation using the echocardiographic measurements of systolic and diastolic diameters of aortic root. Dietary habits were evaluated using a special, repeatable, semi-quantitative food-frequency questionnaire that had been previously validated by experts within the University of Athens in collaboration with the Nutrition Science and Dietetics Department of Harokopio University.

The analysis conclusively illustrates the beneficial effects on aortic distensibility of moderate coffee consumption. The research attributes this to the polyphenolic compounds found in coffee, especially traditional Greek blends that are high in diterpenes such as cafestol and kahweol. The effect of chlorogenic acid is reported to be associated with nitric oxide, as caffeic and ferulic acids appear to improve vascular function by reducing oxidation and enhancing the bioavailability of nitric oxide. Moreover, other micronutrients, including flavonoids, magnesium, potassium, niacin and vitamin E, contribute to the observed health effects of coffee consumption, mainly because of their anti-oxidant properties. However, in hypertensive patients the balance between nitric oxide and superoxide production is already damaged, so the impact of the beneficial compounds present in coffee is possibly not strong enough to offer a protective effect through increased consumption.

Doctor Chrysohoou summarizes the findings, "The study revealed that moderate coffee consumption (between one and two cups per day) is associated with higher values of aortic distensibility when compared with other hypertensive elderly individuals taking less quantities of coffee. Adjustments were made for various factors such as age, gender, physical activity status, creatinine levels, BMI and diabetes mellitus. There was also evidence that moderate coffee consumption leads to reduced cardiovascular disease, lower prevalence of diabetes and hyperlipidemia, lower body mass index, better renal functions and higher creatinine clearance levels. There was no evidence, however, that increasing coffee consumption to three to five cups per day would lead to further improvements in aortic distensibility."

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Conference News