Effect of olive oil supplementation on PAI-1 expression in old rats

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Background: Although Mediterranean diet has grown worldwide due to its link with lower cardiovascular disease rate and greater longevity, the effect of olive oil, which is the principal component of Mediterranean diet, on plasminogen activator inhibitor-1 (PAI-1) concentrations in aged rats is not clear. This study was performed on 28 aged male Wistar albino rats allocated into two groups (14 rats each): Olive oil-treated group and the control group.

Results: Using Real Time-PCR, the expression of PAI-1 mRNA in the retroperitoneal adipose tissues was decreased significantly in the olive oil treated group versus the control group ($p < 0.01$). In parallel, the plasma concentrations of PAI-1 were also reduced significantly in the olive oil treated group versus the control group ($p < 0.01$). Olive oil produced significant decrease in mean serum cholesterol and triglycerides in aged rats in the treated group versus the control group ($p < 0.05$, $p < 0.01$, respectively). No significant difference was seen in mean serum LDL-cholesterol or HDL-cholesterol levels between both groups. As regards the BMI, no change was observed after olive oil intake.

Conclusion: Our results indicate that olive oil intake may reduce the cardiovascular risk in old age via decreasing PAI-1 at level of gene expression.

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Fractional pulse pressure as a simple index of impaired coronary flow reserve in hypertensive patients

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Fractional pulse pressure (PPf), is thought to be more directly reflect arterial stiffness than pulse pressure. Our aim was to evaluate the relationship between coronary flow reserve (CFR) and PPf in hypertensive patients with normal coronary arteries

Subjects and methods: One-hundred and six consecutive hypertensive patients (aged 52.8 + 9.4 years), with indications of myocardial ischaemia with exercise electrocardiogram (EECG) and normal coronary arteries in coronary angiography. CFR was calculated noninvasively using transthoracic echo-Doppler assessment with hyperemia induced by infusion of dipyridamole at a rate of 0.56 mg/kg over 4 min. PPf was calculated as pulse pressure divided by mean arterial pressure (SBP-DBP/MAP), while diastolic function was evaluated by means of transmitial flow and tissue Doppler imaging. Hypertensive patients with low CFR ($n = 54$) compared with those with normal CFR ($n = 52$) exhibited significantly increased PPf ($75.2 \pm 11.4$ vs $64.5 \pm 6.7$ $P < 0.001$). In hypertensives with low CFR, CFR was negatively correlated with PPf ($r = -0.651$, $P < 0.0001$). After applying multivariate linear regression analysis, age, left ventricular mass index, Em/Am, and PPf turned out to be independent predictors of CFR.

Conclusion: Estimation of PPf by using simple sphygmomoneter blood pressure measurement is simple non-invasive index for assessment of coronary microcirculation in essential hypertensive patients with indications of myocardial ischaemia and normal coronary arteries.

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Clustering of cardiovascular diseases risk factors, and cardiovascular risk prediction, primary health care centers, Jeddah

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Introduction: Cardiovascular disease is a major health problem in Saudi Arabia, estimates on the prevalence of cardiovascular disease risk factors are important for monitoring their impact on the health. The objectives of this study are to estimate the prevalence of cardiovascular risk factors and to assess the 10 years cardiovascular risk.

Methods: This was a cross sectional study. A proportionate to size random sample of the attendees to the primary health care center during 2012 was selected from two primary health care centers in Jeddah city. a sample of 400 participants aged ≥30 years was selected. Questionnaire was developed for this purpose.

After completion of a detailed demographic and medical questionnaire (gender, age, history of diabetes mellitus and hypertension, taking antihypertensive or hypoglycemic agents and history of smoking), all participants were subjected to anthropometric measurements include weight, height, waist circumference and hip circumference. In addition to blood lipid profile, blood glucose during the years 2012. Tests were considered significant at a $p$-value $\leq 0.05$. Statistical analysis was performed using SPSS version 20 software.

Results: A total of 400 participants with mean (SD) age of 46.9 (11.1) and 52.5% were males. Ninety percent of the participants were physically inactive, 26% had high LDL cholesterol levels, 48.4% had high blood pressure, 51.7 had low HDL level, 18% smoked, 78.7% had abdominal obesity, 46.9% obese, 35.2% overweight and 33.7% diabetic. The estimated 10 years Cardiovascular risk prediction was >10% in (37.4%) of the diabetic patients compared to (7.6%) among non diabetics. The predictors of cardiovascular risk were systolic and blood pressure and cholesterol but not with glycemic control parameter.

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