The cumulative effect of risk factors on endothelial dysfunction in patients with chest pain but without hemodynamically significant coronary lesions. The aim of our study was to assess the effect of risk factors on systemic endothelial function in patients with chest pain but without hemodynamically significant coronary lesions.

Background: Risk factors are closely associated with altered endothelial function. The brachial artery flow-mediated dilation (FMD) was assessed by measuring the change in brachial artery diameter in response to hyperemic flow by vascular ultrasound. Hypercholesterolemia, hypertension and diabetes mellitus were considered as risk factors. Student’s t-test and the logistic regression model were used to establish the effect of the risk factors on FMD.

Methods: In 90 patients (54 males, mean age 57.4±10.4 years) with a normal coronary angiogram the flow mediated dilation (FMD) was assessed by measuring the change in brachial artery diameter in response to hyperemic flow by vascular ultrasound. Hypercholesterolemia, hypertension and diabetes mellitus were considered as risk factors. Using the logistic regression model, diabetes mellitus emerged as the most important risk factor damaging the endothelial response to the FMD, followed by hypertension. Patients with 5 risk factors had significantly higher FMD than patients with 3 or 4 risk factors (10.3±8.4 vs 5.1±2.6, p<0.01).

Conclusion: Cardiac risk factors have a cumulative effect on endothelial dysfunction which can be detected by FMD in patients with negative coronary angiogram.

921 Mitral annular calcification and aortic valve calcium: relationship with carotid intima media thickness and carotid disintiblility


Aim: Obesity has reached epidemic levels and carries a risk for cardiovascular disease. Obesity may also be associated with early vascular changes. The aim of this study was to assess the effect of weight loss with orlistat on aortic stiffness in obese patients.

Methods: Study groups were composed of 18 (3 men and 15 women, mean age: 50.6±6.6 years) obese participants. Aortic stiffness was assessed by thoracic echocardiography at baseline and six months later after weight loss with orlistat. Aortic stiffness was calculated as (pulse wave velocity (PWV) = C/Δt). PWV was measured as the distance between two points along the aorta (upper part of the thorax to the suprarenal area) divided by the time delay between the arrival of the pressure wave at both points. Aortic stiffness index (ASI) was calculated as PWV divided by the mean arterial pressure (MAP). The %NTG-MD values were lower in CAD group (14.6±8.2%) and syndrome X group (14.3±9.8%) as compared to the remaining groups. The %NTG-MD values were lower in CAD group (0.76±0.1 mm, p<0.05), while in syndrome X group (0.70±0.1 mm) compared to control A (2.6±0.1 mm, p<0.05), as well as control B (2.4±0.05 mm, p<0.05). The IMT was significantly increased in CAD group (0.76±0.1 mm, p<0.05), while in syndrome X group (0.70±0.1 mm) compared to control A (2.6±0.1 mm, p<0.05), as well as control B (2.4±0.05 mm, p<0.05).

922 Relationship between non-invasive predictors of atherosclerosis: coronary flow reserve, flow mediated dilation, carotid intima-media thickness, aortic elasticity

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Background: Several noninvasive methods have been introduced into research area to assess atherosclerosis in its proximal caliber. In this study we searched for correlation between thoracic coronary flow reserve (CFR) and well established surrogates of coronary atherosclerosis.

Methods: The study was conducted on totally healthy 136 subjects (53 male and 83 female, mean ages 33.0±7.3 years) in three coronary risk factors. Using thoracic echocardiography, aortic stiffness index (AoSt), aortic distensibility (AoD), aortic elastic modulus (AoEM), and high-resolution ultrasonography, brachial artery endothelium-dependent dilation (EID) and endothelium independent dilation (EID) and carotid intima-media thickness (IMT), and thoracic aortic diographic coronary flow reserve (CFR) in left anterior descending coronary artery (LAD) were recorded from each subject.

Results: All of the parameters significantly correlated with each other except (EID). CFR significantly correlated with brachial EDD (r=0.302; p<0.01), carotid IMT (r=0.412; p<0.001), brachial artery resting diameter (BAD) (r=0.355; p<0.01), AoSt (r=0.298; p<0.01), AoD (r=0.310; p<0.01) and AoEM (r=0.312; p<0.01). Carotid IMT significantly correlated with brachial EDD (r=0.388; p<0.01), BAD...