



Prevention

GENERAL AND ABDOMINAL ADIPOSITY INDICES AS PREDICTORS OF CORONARY ARTERY DISEASE IN HYPERTENSIVE PATIENTS: A SIX-YEAR FOLLOW-UP STUDY

Poster Contributions

Poster Sessions, Expo North

Saturday, March 09, 2013, 10:00 a.m.-10:45 a.m.

Session Title: Prevention: Metabolic Syndrome

Abstract Category: 24. Prevention: Clinical

Presentation Number: 1102-15

Authors: *Konstantinos P. Tsioufis, Kyriakos Dimitriadis, Alexandros Kasiakogias, Michalis Giakoumis, Ioannis Andrikou, Panagiota Valenti, Dimitris Flessas, Velissarios Antonakis, Panagiotis Vasileiou, Christodoulos Stefanadis, First Cardiology Clinic, University of Athens, Hippokraton Hospital, Athens, Greece*

Background: There is still controversy over which obesity parameter has the strongest cardiovascular predictive value. We aimed to assess the predictive role of body mass index (BMI), waist circumference and waist to hip ratio (WHR) for the incidence of coronary artery disease (CAD) in a cohort of essential hypertensive patients.

Methods: We followed up 1755 essential hypertensives (mean age 58.3 years, 965 males, office blood pressure (BP)=143/91 mmHg) free of cardiovascular disease for a mean period of 6 years. All subjects had at least one annual visit and at baseline underwent complete echocardiographic study for determination of left ventricular mass index (LVMI) and blood sampling for assessment of metabolic profile. Moreover, weight and height were measured by standard techniques and waist circumference was estimated at the midpoint between the low rib margin and the iliac crest. LV hypertrophy (LVH) was defined as LVMI ≥ 125 g/m² in males and LVMI ≥ 110 g/m² in females, while CAD was defined as the history of myocardial infarction or significant coronary artery stenosis revealed by angiography or coronary revascularization procedure.

Results: The incidence of CAD over the follow-up period was 2.56%. Hypertensives who developed CAD (n=45) compared to those without CAD at follow-up (n=1710) had at baseline greater waist circumference (102.1 \pm 11.4 vs 96.6 \pm 11.9 cm, p=0.001), LVMI (116 \pm 28 vs 104.6 \pm 27.2 g/m², p=0.002) and prevalence of LVH (43% vs 26%, p=0.02). No difference was observed between hypertensives with CAD and those without CAD with respect to baseline office BP, BMI and WHR values (p=NS for all). In successive multivariate Cox regression models waist circumference (HR 1.036, p=0.005) and LVMI (HR 1.011, p=0.042) turned out to be independent predictors of CAD.

Conclusion: In essential hypertensive patients baseline waist circumference predicts future development of CAD, whereas BMI and WHR have no independent prognostic value. These findings suggest that among obesity indices waist circumference constitutes the easy clinical tool to assess risk in hypertension.