

EPIDEMIOLOGY, PREVENTION AND CONTROL

EPIDEMIOLOGY OF CARDIOVASCULAR DISEASE

GW27-e0077

Comparison of carotid-femoral and brachial-ankle pulse wave velocity in the association with hypertensive target organ damages in the community-dwelling elderly: the Northern Shanghai Study

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OBJECTIVES To compare of carotid-femoral pulse wave velocity (cf-PWV) and brachial-ankle PWV (ba-PWV) in the association with conventional cardiovascular risk factors and target organ damages (TODs).

METHODS 1599 community-dwelling elderly subjects (age > 65 years old) in the northern Shanghai were recruited from June 2014 to August 2015. Cf-PWV and ba-PWV were measured by SphygmCor (AtCor, Australia) and VP1000 (Omron, Japan), respectively. Under the framework of comprehensive cardiovascular examinations, conventional cardiovascular risk factors were assessed, and asymptomatic hypertensive TODs, including left ventricular mass index (LVMI), peak transmitral pulsed Doppler velocity/early diastolic tissue Doppler velocity (E/Ea), carotid intima-media thickness (CIMT), ankle-brachial index (ABI), creatinine clearance rate (CCR) and urinary albumin-creatinine ratio (UACR), were all evaluated.

RESULTS Both cf-PWV and ba-PWV were significantly associated with gender, age, waist/hip circumference, fasting plasma glucose and systolic blood pressure, and ba-PWV was also significantly related to body mass index. Both cf-PWV and ba-PWV were significantly correlated with most TODs, but cf-PWV was more predictable than ba-PWV for ABI ($r = -0.17$ vs $r = -0.06$, $p < 0.05$) and CCR ($r = -0.15$ vs $r = -0.05$, $p < 0.05$). In the stepwise linear regression model together with cardiovascular risk factors, cf-PWV was significantly associated with CIMT ($6.2 \pm 1.9 \mu\text{m}$, $p = 0.001$), ABI (-0.005 ± 0.001 , $p = 0.001$), CCR ($-0.63 \pm 0.29 \text{ ml/min/1.73 m}^2$, $p = 0.03$), and UACR (5.8 ± 2.6 , $p = 0.02$), but not ba-PWV. When both cf-PWV and ba-PWV were put into the same full-mode linear regression model after adjustment for confounders, cf-PWV were also significantly correlated with CIMT, ABI, and CCR, but not ba-PWV. Similar results were observed in logistic regression analysis.

CONCLUSIONS In the community-dwelling elderly, cf-PWV was more closely associated with hypertensive TODs, especially vascular and renal TODs, as compared with ba-PWV.

GW27-e0080

Prevalence of Metabolic Syndrome in Normal Weight Children and Adolescents in Ahvaz, Iran

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OBJECTIVES Overweight and obesity are among the risk factors of a few of current prevalent chronic diseases, but recently, it has been shown that some people with normal weight have metabolic abnormalities. Metabolically obese normal-weight (MONW) is characterized by normal body mass index (BMI) with metabolic disorders such as hyperglycemia, hypertriglyceridemia, and/or hypertension. Published studies about MONW among children and adolescents are very limited. The aim of present study was to determine the prevalence of MONW and components of metabolic syndrome (MetS) in children and adolescents in Ahvaz, Iran.

METHODS This cross-sectional study was conducted on 1124 boys and 1128 girls, aged 10-18 years, in Ahvaz, Iran. Participants were selected randomly from 6 health centers by a multistage cluster random sampling method. The MetS was defined according to the criteria suggested by Adult Treatment Panel III, modified for children and adolescents. MONW was defined as BMI lower than +1 Standard Deviation accompanied by components of MetS. Anthropometric measurements and blood pressure (BP) were measured according to standard protocols. Fasting blood samples were collected for biochemical assays.

RESULTS The prevalence of MetS in normal weight group was 3.94% that was significantly higher in boys (5.4%) compared with girls

(1.45%) ($p = 0.001$). Percent of abnormality of TG (91%) and HDL (67.2%) were higher than other components of MetS.

CONCLUSIONS Since weight and body mass index is normal in MONW children and adolescents? the continuous evaluations and treatment of abnormal components of MetS especially in boys is important from a public health point of view.

GW27-e0094

The Predictive Value of Arterial Stiffness on Major Adverse Cardiovascular Events in Individuals with Mild Impaired Renal Function

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OBJECTIVES Despite growing evidence that arterial stiffness has important predictive value on cardiovascular diseases (CVD) for patients with advanced stages of chronic kidney disease, the predictive significance of arterial stiffness in individuals with mild impaired renal function has not been established. The aim of this study was to evaluate the predictive value of arterial stiffness on CVD in this specific population.

METHODS We analyzed the measurement of arterial stiffness (carotid-femoral pulse wave velocity [cf-PWV]) and the incidence of major adverse cardiovascular events (MACEs) in 1499 subjects from a 4.8-year longitudinal study.

RESULTS A multivariate Cox proportional hazards regression analysis showed that in individuals with normal renal function ($\text{eGFR} > 90 \text{ ml/min/1.73 m}^2$), the baseline cf-PWV was not associated with the occurrence of MACEs [HR, 1.398 (95% CI, 0.748-2.613), $P = 0.293$]. In individuals with mild impaired renal function ($\text{eGFR} < 90 \text{ ml/min/1.73 m}^2$), a higher baseline cf-PWV level was associated with a higher risk of MACEs [HR, 2.334 (95% CI, 1.082-5.036), $P = 0.031$].

CONCLUSIONS Arterial stiffness is a strong and independent predictive factor for MACEs in individuals with mild impaired renal function ($\text{eGFR} < 90 \text{ ml/min/1.73 m}^2$).

GW27-e0161

The survey of relationship between ABO blood groups and risk factors for cardiovascular disease in general population of Shiraz City

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OBJECTIVES Cardiovascular disease is the most common cause of death in most countries and is considered the most important cause of disability in Iran, 3.41% of all deaths are caused by cardiovascular disease and is expected by 203D, this amount reach to 8.44 percent. Studies have shown that there is some relationship between blood groups and risk factors for coronary artery disease. This study aimed to determine the relationship between ABO blood groups and risk factors for cardiovascular disease

METHODS 900 subjects were randomly selected from the general population of Shiraz and were studied in terms of the main risk factors of cardiovascular diseases by a check list included age, sex, blood groups, smoking and etc. the collected data enter to SPSS- 16 software and were analyzed by chi-square and descriptive tests

RESULTS The results of the study showed that 2.44% of persons had blood group O, 8.26% had blood group A, 2.2% had blood group B and 8.8% had blood group AB. In terms of Rh, 4.88% of persons were positive and 6.11% were negative. Among the risk factors for cardiovascular disease and their association with blood groups, only the diastolic blood pressure was significantly associated with blood groups ($P.V = 0.04$).

CONCLUSIONS The results of this study, don't show a significant relationship between the main risk factors of cardio vascular disease and blood groups far prove of this hypothesis, studies with higher sample volume in other populations is recommended.

GW27-e0165

Risk burdens of modifiable risk factors incorporating lipoprotein (a) and low serum albumin concentrations for first incident acute myocardial infarction in Chinese Han ethnic population

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