TACSM Abstract

Markers of Cardiovascular Health among a Healthy Hispanic Population without Diabetes nor Hypertension

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ABSTRACT

Cardiovascular diseases (CVDs) are the greatest cause of mortality in the US and globally. Hypertension (systolic and diastolic blood pressures over 140 and 90 mmHg respectively) and tachycardia (resting heart rate over 100 bpm) are known risk factors for cardiovascular diseases. Hispanics have higher rates of undiagnosed, untreated and uncontrolled hypertension compared to non-Hispanic Whites. **PURPOSE**: To identify early surrogate markers of cardiovascular risk among a healthy Hispanic population without diabetes, hypertension or tachycardia. **METHODS**: One hundred and thirty (69 males/61 females; age 24.05±5.20 years; BMI 26.82±5.81 kg/m^2) healthy young adults (72% Hispanics) from the border region of El Paso participated in this study. Participants' characteristics are as follows: Fasting blood glucose (FBG; 88.19±7.18 mg/dL), systolic blood pressure (SBP; 110.00±10.66 mmHg); diastolic blood pressure (DBP; 71.63±8.42 mmHg), resting heart rate (RHR; 65.72±9.89 bpm). Following an overnight fast, blood pressure and heart rate were measured with a sphygmomanometer and phlebotomy was performed for blood analysis. Oral glucose tolerance test (OGTT) was performed with 75g glucose drink and blood glucose was measured at 0, 30, 60, 90, 120, 150, and 180 minutes. Glucose area under the curve (AUC) was calculated to assess glucose intolerance. Pearson correlation was performed to determine the relationship between clinical indicators of CVDs (SBP, DBP, RHR) and body composition and blood parameters at 0.05α. **RESULTS**: Age was not associated with SBP, DBP or RHR. SBP significantly correlated BMI (r=0.29, p<0.05), waist-hip ratio (r=0.38, p<0.05), triglycerides (r=0.21, p<0.05), high density lipoprotein (HDL; r=-0.24, p<0.05), FBG (r=0.23, p<0.05) and alkaline phosphatase (r=0.42, p<0.05). DBP significantly correlated BMI (r=0.39, p<0.05), waist-hip ratio (r=0.28, p<0.05), triglycerides (r=0.24, p<0.05), 30 min glucose (r=0.26, p<0.05), and AUC (r=0.29, p<0.05). RHR significantly correlated with triglycerides (r=0.32, p<0.05), total cholesterol (r=0.34, p<0.05), 120 min glucose (r=0.41, p<0.05), AUC (r=0.42, p<0.05), WBC (r=0.25, p<0.05) and neutrophil count (r=0.26, p<0.05). **CONCLUSION**: Various blood and OGTT parameters are associated with clinical indicators of CVDs (SBP, DBP and RHR). Paying particular attention to these indices is of potential to curb the development of cardiovascular diseases among a young healthy Hispanic population without diabetes, hypertension nor tachycardia.