

TACSM Abstract

P1 Height in Hispanics With and Without Family History of Type 2 Diabetes

KEVIN SANDOVAL, YU LUN TAI, GABRIEL FIGUEROA, SARASWATHY NAIR,
SMARAN MARUPUDI, JIMMY GONZALES, CAITLYN LOPEZ, RYAN D. RUSSELL

Health and Human Performance; University of Texas Rio Grande Valley; Brownsville, TX

Category: Undergraduate

Advisor / Mentor: Russell, Ryan (ryan.russell@utrgv.edu)

ABSTRACT

Coronary heart disease (CHD) is the world's leading cause of death, with type 2 diabetes (T2D) increasing that risk ~3-fold. T2D incidence in Hispanics of the Rio Grande Valley (RGV) is >27% vs 9% noted nationwide. Further, having a family history of T2D (FH+) increases risk by ~40%. **PURPOSE:** To determine if specific aspects of macrovascular function may precede overt hypertension and T2D in FH+ people in the RGV. **METHODS:** Thirty-three healthy individuals, including 10 FH+ and 23 FH- (26 ± 7 ; 24 ± 5 yrs respectively), participated in this study. Hemodynamics and large artery function were assessed at rest. One-way ANOVA was used to determine group differences. Pearson correlation was used to determine relationships between significant variables. **RESULTS:** P1 Height, a measure of forward vascular pressure generated by ventricular contraction, was higher ($p < 0.05$) in FH+ than FH- ($p = 0.047$: 26 ± 1 vs 31 ± 2 mmHg respectively). P1 Height was positively correlated with systolic blood pressure ($r = 0.558$), pulse pressure ($r = 0.954$), central pulse pressure ($r = 0.759$), %lean mass ($r = 0.679$), bone mineral density ($r = 0.693$), and brachial artery blood flow ($r = 0.502$), and inversely correlated with: triglycerides ($r = 0.525$) and %body fat percentage ($r = -0.686$). **CONCLUSIONS:** P1 Height is elevated in FH+ individuals and is related to some variables of positive health status, such as triglycerides and lower body fat. More studies are warranted to determine if P1 height is cardioprotective, or a pathophysiological precedent to hypertension.