Comparing Vascular Deficiency between Caucasian and Hispanic Metabolic Syndrome Women

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ABSTRACT

Cardiovascular disease (CVD) is one of the leading causes of death in the United States especially in Hispanics. People with Metabolic syndrome (MetSyn) generally have high blood pressure, excess body fat and fasting glucose and abnormal cholesterol. We evaluated Hispanic (HS) and Caucasian (CA) women diagnosed with MetSyn in New Mexico and sedentary control with an initial screening and vascular measurements. Previous work from our lab indicated significant deficiencies between the control and MetSyn women in the measurements of the vascular mechanisms of developing deficits associated with the metabolic deficiencies. We aimed to identify if the health disparate HS population in the study would present with increased metabolic and vascular deficiencies. **PURPOSE:** We hypothesize that CA woman will have greater differences between the sedentary control and MetSyn group compared with HS women with equally diagnosed metabolic deficiencies. **METHODS:** 24 participants in total, for HS (Control=6, MetSyn=7) and CA (Control=6, MetSyn=5) women that completed the dynamic graded exercise protocols. Women were categorized as MetSyn if they presented with 3 out of 5 criteria (high triglycerides, HDL<50, higher cholesterol, elevated blood pressure, high fasting glucose and waist circumference greater than 38 inches.). During the dynamic single leg kick test, femoral conductance via Doppler ultrasound was measured at rest and with each increasing workload of 5 watts every two minutes until task failure at or near 15 watts. **Results:** CA flow (P=.01639) and conductance (P=.0477, was significantly higher at rest for leg kick. CA MAP was also significant lower at rest (P=.03278 Control =77 and MetSyn =93.5) and unloaded (P=.0278 Control= 84.6 and MetSyn =.0014). There was no significant differences between the Control HS vs MetSyn HS. CA women had more significant differences compared between controls and MetSyn including waist (in) (P=.04), Hip (in) (P=.03) triglycerides (P=.03, ISI (P=.01) and Weight (P=.002). HS only had a significant difference in the percent body fat (P=.0295). **CONCLUSION:** In conclusion, we have indicated that the health disparate HS population may have decreased vascular responses and higher metabolic deficiencies similar to the HS MetSyn women.

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