

Abstract No. **51**

Category: **Prevention**

Title: **The Relationship of Obesity and Low Handgrip Strength or Sarcopenic Obesity as a Predictor of the Presence of Cardiovascular Disease**

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Abstract:

Background: Early identification with simple approaches and easy risk detection tools are required to achieve a reduction in the burden of cardiovascular disease (CVD). It is thought that the association of obesity/sarcopenia gives an additional risk to each of the factors independently. The study aimed to establish if the relationship between handgrip strength (HGS) and obesity is associated with CVD and could easily predict CVD.

Methods: A secondary analysis of the PURE Colombia cohort. Data were obtained from the general recruitment of the PURE study, including 7,444 adults between 35 and 70 years. The association between waist circumference (WC), waist-hip ratio (WHR) and body mass index (BMI) with quartiles of HGS were analyzed. The subjects were divided into four groups (non-obese/non-sarcopenic, non-obese/sarcopenic, obese/non-sarcopenic and obese/sarcopenic) depending on the presence of obesity and sarcopenia (defined as HGS in quartile 1-3). The subjects were divided into three profiles depending on the definition of obesity by BMI, WC or WHR.

Results: The subjects with obesity and low HGS have a higher risk for the outcomes studied compared to non-obese subjects and in the Q4 of HGS. In the three profiles, the subjects with sarcopenic - obesity were more at risk for hypertension RR 1.92 [95% CI 1.70 - 2.17], diabetes RR 3.41 [95% CI 2.41- 4.81] and CVD RR 2.45 [95% CI 1.71- 3.51](inverse causality) compared to subjects with only obesity or sarcopenia only. The use of the relationship between WC and or WHR/ HGS was an adequate predictor of the presence of metabolic alterations and cardiovascular events. The effect was stable when stratifying by age and sex.

Conclusions: The relationship obesity/HGS is a valuable marker in the evaluation of CVD risk. This association has a summative effect and has a greater implication of obesity or sarcopenia independently.