Handgrip strength and menopause are associated with cardiovascular risk in women with obesity: a cross-sectional study.

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Background: while physical performance is closely linked to cardiovascular health, further research is essential to elucidate the association of physical tests in the early screening for cardiovascular risk (CVR), underscoring the potential for these assessments to enhance preventive healthcare strategies.

Objectives: to investigate the association between the Handgrip Strength (HGS) test and CVR in women with obesity, as well as to evaluate the predictive value of the HGS test as a CVR screening tool in this population.

Methods: fifty-five eligible women with obesity, aged 40 to 65 years, were studied. The Framingham Global Risk Score was used to classify participants into low-risk and moderate/high-risk groups. Dual X-ray Absorptiometry was used to assess body composition. Additionally, clinical and biochemical parameters, along with HGS, were evaluated. Data were analyzed using the logistic regression analysis, and the positive and negative predictive values were calculated; accuracy was defined through the ROC curve and the Youden index. Statistical significance was set at 5%.

Results: the prevalence of the moderate/high CVR was 49%. The menopause [0.14 (0.03-0.52), p = 0.003] and handgrip strength [0.90 (0.82-0.99), p = 0.046] were associated with cardiovascular risk, independent of the clinical and biochemical parameters. The optimal cutoff points for screening CVR were ≤ 37.8 kg for HGS [AUC = 0.73 (0.59-0.84), p = 0.003].

Conclusion: HGS and menopause are significantly associated with CVR in women with obesity, highlighting the importance of considering physical evaluation in early clinical screening for CVR. The simple measure of HGS emerged as a promising tool for cardiovascular prevention in this population.