

**Heart Failure, Peripheral Arterial Disease (PAD), and Weight - Is There a Mechanistic Association?**

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Background - Recent studies demonstrated the "weight paradox" in heart failure. In order to understand it we studied the association between PAD, basal metabolic index (BMI) and some physical basic characteristics. Methods - 86 heart failure patients were enrolled (46 women and 40 men). PAD, ABI, age, gender, ejection fraction, smoking habits and abdominal circumference (AC).

Results - Pearson test showed that there is an association between ABI and BMI ( $Z=0.278$ ,  $p=0.01$ ), between AC and ABI ( $Z=0.301$ ,  $p=0.005$ ), with no relation to age, ejection fraction, NYHA class, or smoking. Patients with PAD ( $ABI < 0.9$ ) had a negative association between ABI and BMI ( $Z=-0.277$ ,  $p=0.011$ ), while heart failure patients with normal ABI ( $ABI > 0.9$ ) had a positive association with BMI ( $Z=0.321$ ,  $p=0.003$ ).

Conclusions - Heart failure patients who have high BMI have less PAD and have a better prognosis. However, heart failure patients with PAD, the higher the BMI the worse the PAD (and a worse prognosis related to peripheral arterial disease outcome). We may partially explain the "weight paradox" in heart failure patients.