MOTIVATIONAL EFFECT ON WEIGHT LOSS AFTER VISUALIZING CORONARY CALCIUM BY CARDIAC COMPUTED TOMOGRAPHY

ACC Moderated Poster Contributions
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Objectives: The aim of this study was to assess the effect on behavioral lifestyle changes (weight loss) in patients who underwent coronary artery calcium (CAC) scoring with cardiac computed tomography.

Background: Despite convincing data demonstrating the benefits of weight loss for both primary and secondary prevention of coronary heart disease, it remains to difficult to motivate behavioral changes resulting in weight loss. In this study, we assess whether higher CAC scores are associated with beneficial lifestyle behaviors resulting in weight loss.

Methods: We evaluated 518 patients that had undergone baseline CAC testing and returned for a follow-up scan with documented weights. The primary end point was measurable weight loss between visit one and visit two.

Results: The study population consisted of 518 individuals (68% men, mean age 60 +/- 8 years) who were followed for a mean of 3 +/- 2 years after an initial CAC scan. Overall, behavioral modification resulting in weight loss was lowest (21.8%) among those with CAC = 0, and gradually increased with higher CAC scores (1 to 99, 35.7%; 100 to 399, 31.5%; > or =400, 38.2%; (p <0.001 for trend). In multivariable regression analysis, there is a dose-response relationship between increasing CAC score and weight loss. In the group that had weight loss compared to those without weight loss there was a 40% increase in mean CAC score (95% CI 0.2-0.6 p<0.001) after being adjusted for age gender and race. In logistical regression analysis those with CAC score of 1-99, 100-400 and >400 as compared to those with a score of 0 were 2.0 (95% CI 1.1.0-3.9 p<0.001), 3.6 (95% CI 1.7-7.3 p<0.001) and 3.3(95% CI 1.6-6.9 p<0.001) fold respectively more likely to lose weight when adjusted for age gender and race.

Conclusions: In conclusion, in addition to risk stratification of individuals, determination of CAC may also improve behavioral modification resulting in weight loss.