Preventive Cardiology – Risk Factors and Prevention, Obesity

Fat mass index in coronary artery disease patients and its associations with risk factors

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Introduction: Cardiac rehabilitation (CR) after a coronary artery disease (CAD) event is recommended to improve risk factor control, as some of them remain poorly controlled (e.g. obesity, physical activity), while new ones are emerging (e.g. sedentary behaviour). The aim of our study was to examine how traditional risk factors, physical activity and sedentary behaviour affect body fat mass in CAD patients.

Methods: In this cross-sectional study, CAD patients entering a community-based phase III CR were assessed for the following: a) fat mass index (FMI) assessed by dual-energy radiographic absorptiometry; b) physical activity level and sedentary behaviour wearing an accelerometer; c) cardiopulmonary exercise testing; d) lipid profile.

Results: There were 111 CAD patients, their average age was 61.7 ± 9.8 years, 15 (13.5%) were female. Patients were divided into three groups, based on the FMI: normal (n=19), overweight (n=62) and obese (n=30). Obese patients, compared to patients with normal FMI, had significantly higher systolic blood pressure (120 (112-130) vs. 104 (94-120) mmHg, p=0.019), total sedentary time (4773 (4315-5196) vs. 4372 (4188-4612) minutes/week, p=0.029) non-HDL and triglycerides levels (97 (80-129) vs. 78 (63-96) mg/dL, p=0.024, and 100 (79-160) vs. 91 (69-110) mg/dL, p=0.032, respectively). On the contrary, there were no significant differences in physical activity level, diastolic blood pressure, total cholesterol, HDL and LDL cholesterol. In a multivariate linear regression analysis, sedentary time emerged as an independent predictor of FMI, while physical activity level was not.

Conclusion: Obese CAD patients have poorer control of blood pressure, lipid status and sedentary behaviour when compared to normal and overweight CAD patients. New strategies are needed to reduce sedentary behaviour in this population, which may induce a parallel reduction in body fat.