OBSERVATIONS

Weight Reduction May Be Beneficial for Japanese Men With Cardiometabolic Risk Factors Even if They Are Not Abdominally Obese

A consensus statement (1) for the criteria of metabolic syndrome (MetS) where abdominal obesity is not a necessary component was jointly issued by the International Diabetes Federation Task Force on Epidemiology and Prevention; the National Heart, Lung, and Blood Institute; the American Heart Association; the World Heart Federation; the International Atherosclerosis Society; and the International Association for the Study of Obesity. However, abdominal or visceral fat obesity is a necessary component in Japanese criteria of MetS (2), and some Japanese investigators insist that weight reduction is ineffective to reduce cardiovascular risk factors in subjects without abdominal obesity. Therefore, I investigated whether body weight changes are associated with changes in cardiometabolic risk factors in Japanese men without abdominal obesity.

Correlation coefficients between changes in body weight (BW) and changes in systolic blood pressure (SBP) , diastolic blood pressure (DBP), fasting plasma glucose (FPG), triglycerides, HDL cholesterol (HDLc), and high-sensitivity C-reactive protein (hs-CRP) were calculated in 1,271 Japanese men who took annual health screening tests consecutively and had each risk factor corresponding to the MetS component (SBP ≥130 mmHg and/or DBP ≥85 mmHg, FPG ≥100 mg/dl, triglycerides ≥150 mg/dl, and HDLc <40 mg/dl) stratifying by abdominal obesity (waist circumference ≥85 or <85 cm) (2). The means ± SD of age, BMI, waist circumference, SBP, DBP, FPG, triglycerides, HDLc, and hs-CRP were 51.6 ± 8.9 years, 23.2 ± 2.8 kg/m^2, 84.2 ± 7.9 cm, 122.4 ± 17.4 mmHg, 77.8 ± 10.7 mmHg, 96.0 ± 15.1 mg/dl, 119.3 ± 76.3 mg/dl, 57.8 ± 14.5 mg/dl, and 0.58 ± 0.91 mg/l, respectively. The correlation coefficients between changes in BW and changes in SBP, DBP, FPG, triglycerides, HDLc, and hs-CRP were 0.172 ($P < 0.05$), 0.150 ($P < 0.05$), 0.231 ($P < 0.01$), 0.073 (NS), −0.579 ($P < 0.001$), and 0.094 (NS), respectively, in men without abdominal obesity and 0.129 ($P < 0.05$), 0.115 ($P < 0.05$), 0.274 ($P < 0.001$), 0.204 ($P < 0.01$), −0.154 (NS), and 0.088 (NS), respectively, in men with abdominal obesity.

Thus, weight reduction was significantly associated with decreases in SBP, DBP, and FPG in both men with and without abdominal obesity, with decreases in triglycerides in men with, but not without, abdominal obesity, and with increases in HDL cholesterol in men without, but not with, abdominal obesity in Japanese men. It was pointed out by NIPPON DATA90 (3) and a Japan Public Health Center–based (JPHC) study (4,5) that the definition of MetS where obesity is a necessary component is dangerous because nonobese individuals have a high mortality risk and are more prevalent than obese or overweight subjects in Japan. Therefore, Japanese MetS where abdominal obesity is an inevitable component should be amended, and Japanese men with cardiometabolic risk factors but without abdominal obesity should not be excluded from lifestyle modification programs.

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DOI: 10.2337/dc10-0697

Acknowledgments— The author reports no potential conflicts of interest relevant to this article.

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