Successful weight reduction improves left ventricular diastolic function and physical performance in severe obesity.

Abstract:
Obesity and the metabolic syndrome (MetS) are risk factors for left ventricular diastolic dysfunction (LVDD). However, little is known about the impact of successful weight reduction (WR) on diastolic function and physical performance. Obese subjects (BMI 40.2 ± 8.6 kg/m²) underwent a 1-year WR program comprising diet and lifestyle components. Echocardiography and exercise capacity (6-minute walk) were performed at baseline and after 1 year. The distribution of weight reduction was split at the sample median and subjects were dichotomized in "successful WR" (% WR > median, corresponding to a weight loss of 8%) and "failed-WR" (% WR = 2 LVDD criteria was accomplished in 30% of subjects with WR versus 10% without (P = 0.009). Using multivariable regression analysis, reduction of epicardial fat thickness was particularly predictive for the improvement of diastolic function. In summary, in severe obesity, successful long-term WR was associated with improved LV diastolic function and exercise capacity.