

The Effects of Testosterone Treatment on Body Composition and Metabolism in Middle-aged Obese Men.

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Twenty-three middle-aged abdominally obese men were treated for eight months with testosterone or with placebo. Testosterone treatment was followed by a decrease of visceral fat mass, measured by computerized tomography, without a change in body mass, subcutaneous fat mass or lean body mass. Insulin resistance, measured by the euglycemic/hyperinsulinemic glucose clamp method, improved and blood glucose, diastolic blood pressure and serum cholesterol decreased with testosterone treatment. A small increase in prostate volume was noted, but serum prostate specific antigen concentrations were unchanged and no adverse functional side-effects were found. Insulin sensitivity improved more in men with relatively low testosterone values at the outset. The mechanisms involved in these changes might act either via effects on visceral fat accumulation, followed by metabolic improvements, and/or via direct effects on muscle insulin sensitivity, as suggested by results of other recent studies. It is concluded that testosterone treatment of middle-aged abdominally obese men gives beneficial effects on well-being and the cardiovascular and diabetes risk profile, results similar to those observed after hormonal replacement therapy in postmenopausal women.