

Saad F. Testosterone and obesity-an intimate partnership.

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Abstract: Introduction: Obesity is a worldwide and challenging problem, negatively affecting every aspect of health. While treatment seems obvious: to limit energy intake, this approach appears overwhelmingly unsuccessful. Limiting food intake alone leads to loss of lean body mass which can be prevented by combining it with (moderate) exercise, maintaining lean body mass and improving insulin sensitivity, but experience teaches that this approach is equally unsuccessful. Methods: A review of the literature on the role of testosterone in the etiology and potential treatment of obesity. The latter aspect is supported by data from ongoing studies in three independent cohorts of men who have been treated for up to 15 years with testosterone. Results: Lower-than-normal testosterone levels in men lead to an increase in fat depots, particularly abdominal fat. This type of fat distribution is associated with the metabolic syndrome and its sequels: diabetes mellitus type 2 and cardiovascular disease. Intervention studies with testosterone show that this fat accumulation can be reversed, leading to improvement of insulin sensitivity and potentially of cardiovascular risk. These relevant insights are largely unknown to medical professionals dealing with the metabolic syndrome and its sequels. For many physicians testosterone has still the connotation of prostate disease which, however, is not supported by recent insights. Testosterone treatment has mood elevating effects, maybe helpful to motivate men to adhere to diet and exercise. In three cohorts of a total of 850 men, the improvements of body composition were: weight: -16.15 kg, -7.68 kg and -23.9 kg, resp.; waist circumference: -8.78 cm, -8.63 cm and -19.9 cm, resp. Conclusions: Raising serum testosterone to normal produces loss of body weight, waist circumference and BMI. This approach may be the most promising option to successfully and sustainably improve obesity in hypogonadal men