

Boyanov MA, Boneva Z, Christov VG.

Testosterone supplementation in men with type 2 diabetes, visceral obesity and partial androgen deficiency.

Aging Male 2003; 6(1):1-7. Ref ID: 9895

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Abstract: The objective of this study was to assess the effects of oral testosterone supplementation therapy on glucose homeostasis, obesity and sexual function in middle-aged men with type 2 diabetes and mild androgen deficiency. Forty-eight middle-aged men, with type 2 diabetes, (visceral) obesity and symptoms of androgen deficiency, were included in this open-label study. Twenty-four subjects received testosterone undecanoate (TU; 120 mg daily, for 3 months); 24 subjects received no treatment. Body composition was analyzed by bio-impedance. Parameters of metabolic control were determined. Symptoms of androgen deficiency and erectile dysfunction were scored by self-administered questionnaires. TU had a positive effect on (visceral) obesity: statistically significant reduction in body weight (2.66%), waist-hip ratio (-3.96%) and body fat (-5.65%); negligible changes were found in the control group. TU significantly improved metabolic control: decrease in blood glucose values and mean glycated hemoglobin (HbA1c) (from 10.4 to 8.6%). TU treatment significantly improved symptoms of androgen deficiency (including erectile dysfunction), with virtually no change in the control group. There were no adverse effects on blood pressure or hematological, biochemical and lipid parameters, and no adverse events. Oral TU treatment of type 2 diabetic men with androgen deficiency improves glucose homeostasis and body composition (decrease in visceral obesity), and improves symptoms of androgen deficiency (including erectile dysfunction). In these men, the benefit of testosterone supplementation therapy exceeds the correction of symptoms of androgen deficiency and also includes glucose homeostasis and metabolic control