

Reduction of body weight and waist circumference after long-term treatment of hypogonadal men with testosterone undecanoate

F Saad, A Haider, L Gooren

Maximum 300 words

Introduction: Obesity is associated with reduced testosterone, and low testosterone induces weight gain. This study analysed the effects of normalization of serum testosterone in mainly elderly, hypogonadal men.

Methods: Prospective registry study of 252 men (mean age 60.6 ± 8.0 years), with testosterone levels between ≤ 3.5 ng/ml. They received parenteral testosterone undecanoate 1000 mg at day 1, week 6 and every 12 weeks thereafter for up to 66 months.

Results: After 60 months the following changes were observed: weight declined from 106.28 ± 16.98 to 90.07 ± 9.51 kg, waist circumference from 107.23 ± 9.15 to 98.46 ± 7.39 cm and body mass index from 33.95 ± 5.56 to 29.17 ± 3.09 kg/m². All changes were progressive over 60 months and statistically significant vs baseline and vs previous year ($p < 0.0001$). In addition, total cholesterol declined from 281.97 ± 39.86 to 188.12 ± 11.31 , LDL from 163.75 ± 41.62 to 109.84 ± 35.41 and triglycerides from 276.38 ± 51.57 to 189.78 ± 11.33 mg/dl. The decline was progressive over 24 months and statistically significant vs baseline and vs previous year ($p < 0.0001$) until a plateau was reached after 2 years. HDL declined from 62.06 ± 27 to 52.45 ± 16.82 mg/dl after 60 months, however, with fluctuations. There was a statistically significant increase vs baseline at 24 months ($p = 0.0254$) and a decrease vs baseline at 36 months ($p < 0.0001$) with a plateau after 36 months.

Conclusions: Raising serum testosterone to normal resulted in continuous loss of body weight, waist circumference and BMI. These improvements were progressive over the full 5 years of the study. Levels of total cholesterol, LDL and triglycerides decreased over the first 2 years. HDL showed some fluctuations but means remained above 47 mg/dl. Long-term administration of testosterone to middle-aged, hypogonadal men improves body composition and lipid profile.