

Testosterone Treatment up to 5 Years in Elderly, Hypogonadal Men has Profound Favourable Effects on Body Weight and Waist Circumference

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

Methods: Open-label, single-center, cumulative, prospective registry study of 255 men (aged 38 – 83 years, mean 60.6 ± 8.0 years), with testosterone levels between 1.7 –3.5 ng/mL (mean: 2.87 ± 0.4). Cut-off point for testosterone treatment was serum testosterone ≤ 3.5 ng/mL). 215 men were studied for at least 2 years, 182 for 3 years, 148 for 4 and 116 for at least 5 years. They received parenteral testosterone undecanoate 1000 mg/12 weeks after an initial interval of 6 weeks.

Results: After 5 years the following changes were observed: weight (kg) decreased from 106.22 ± 16.93 (minimum: 70, maximum: 139) to 90.07 ± 9.51 (min 74, max 115). The statistical significance was $p < 0.0001$ vs baseline and vs the previous year over 5 years indicating a continuous weight loss over the full observation period. Waist circumference (cm) declined from 107.24 ± 9.14 (min 86, max 129) to 98.46 ± 7.39 (min 84, max 117) ($p < 0.0001$ vs baseline and vs the previous year over 5 years). Body mass index (BMI, m/kg²) declined from 33.93 ± 5.54 (min 21.91, max 46.51) to 29.17 ± 3.09 (min 22.7; max 36.71) ($p < 0.0001$ vs baseline and vs the previous year over 5 years). The mean per cent weight loss after 1 year was $4.12 \pm 3.48\%$, after 2 years $7.47 \pm 5.01\%$, after 3 years $9.01 \pm 6.5\%$, after 4 years $11.26 \pm 6.76\%$ and after 5 years $13.21 \pm 7.24\%$. At baseline, 96% of men had a waist circumference of ≥ 94 cm. This proportion decreased to 71% after 5 years.

Conclusions: Raising serum testosterone to normal produced loss of body weight, waist circumference and BMI. These improvements were progressive over the full 5 years of the study.