

Progressive weight loss in 207 obese hypogonadal men treated with testosterone undecanoate up to 72 months and time course and magnitudes of weight reduction: an observational registry study

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Background: There is a robust bi-directional association between obesity and testosterone (T) deficiency (hypogonadism) in men with a prevalence of hypogonadism in obese men as high as 52%. We investigated effects of normalising T in obese hypogonadal men on anthropometric parameters.

Methods: Cumulative, prospective, observational registry study of 300 men with T levels ≤ 12.1 nmol/L receiving parenteral T undecanoate 1000 mg/12 weeks following an initial 6-week interval for up to six years. A subgroup of 207 men (69% of the total group) with a body mass index (BMI) of ≥ 30 kg/m² was analysed.

Results: Mean weight decreased from 113.33 ± 11.63 to 91.59 ± 8.14 kg ($p < 0.0001$). The mean change from baseline was -20.68 ± 0.4 kg. Mean weight loss was $18.15 \pm 0.33\%$.

After 3 months, 28.8% had gained weight, and no man had lost $\geq 5\%$. After 6 months, only 5.8% had gained, and 7.7% had lost $\geq 5\%$. At the end of the observation time, all men had lost weight: 50.7% had lost $\geq 20\%$, 76.8% $\geq 15\%$, 91.3% $\geq 10\%$, and 100% had lost $\geq 5\%$ of their baseline weight.

Waist circumference (WC) decreased from 110.57 ± 7.3 to 99.35 ± 7.11 and BMI from 36.3 ± 3.69 to 29.69 ± 2.6 kg/m² ($p < 0.0001$ for both).

Decrease in weight and BMI were statistically significant each year compared to previous year, for WC the decline approached significance between 6 and 5 years.

Conclusions: Raising T to normal resulted in progressive improvements of anthropometric parameters in hypogonadal men over an observation period of 72 months.