

Improvement of Anthropometric Parameters in 300 Hypogonadal Men Treated with Testosterone Undecanoate Injections up to 6 Years: an Update from a Registry Study

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Word count 299: Maximum 300 words

Introduction: There are few long-term studies on testosterone replacement therapy (TRT). Our registry study allows us to follow patients for a prolonged period of time. We have published 5-year data (Saad F et al., *Obes*, published online April 22, 2013). Here we report for the first time data of an unselected cohort of hypogonadal men who have been treated for up to 6 years.

Methods: Cumulative, prospective, registry study of 300 men (mean age: 57.7 ± 6.8 years) with testosterone levels below 12.1 nmol/L. All men received parenteral testosterone undecanoate 1000 mg/12 weeks following an initial 6-week interval. 88 men were treated six years, 148 five, 189 four, 213 three, 252 two, and 287 one year. The changing numbers do not reflect drop-out rates but are a result of the design. Between 5 and 6 years follow-up only two patients were lost to follow-up suggesting an excellent treatment adherence.

Results: At the end of the observation period, mean weight (kg) decreased from 104.71 ± 16.53 (minimum 70, maximum 139) to 88.4 ± 9.26 (min 72; max 113). This decrease was statistically significant vs baseline ($p < 0.0001$) and each year compared to previous year ($p < 0.0001$) with the exception of year 6 which had a p-value of 0.0194 vs year 5 indicating that a plateau may be reached at some point. Mean change from baseline was $-15.21 \pm 0.44\%$.

Waist circumference (cm) decreased from 106.46 ± 8.87 (min 86; max 129) to 97.31 ± 7.24 (min 81; max 111). This decrease was statistically significant vs baseline ($p < 0.0001$) and each year compared to previous year ($p < 0.0001$) with the exception of year 6 which had a p-value of 0.0468 vs year 5. The mean change from baseline was 8.94 ± 0.24 cm.

Body mass index (BMI; kg/m^2) decreased from 33.42 ± 5.4 (min 21.91; max 46.51) to 28.68 ± 2.95 (min 23.99; max 35.11). The mean change from baseline was 5.39 ± 0.13 kg/m^2 .

Conclusions: Normalising testosterone produced improvement of anthropometric parameters. All changes were progressive and remained statistically significant each year compared to previous year for the full observation period. TRT seems to be a highly effective approach to achieve sustained weight loss in hypogonadal men.