

Anthropometric parameters in 46 hypogonadal men with obesity grade III improve upon long-term treatment with testosterone undecanoate injections: observational data from two registry studies

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Maximum 250 words

Introduction: There is a robust inverse association between testosterone and obesity. Only few testosterone replacement therapy (TRT) studies in hypogonadal men focus on effects on anthropometry.

Methods: From two cumulative, prospective, registry studies of 561 hypogonadal men, 46 men with obesity grade III were selected. All men received parenteral testosterone undecanoate 1000 mg/12 weeks for up to 6 years.

Results: At the end of the observation period, mean weight (kg) decreased from 129.02 ± 5.67 to 103.33 ± 4.17 . This decrease was statistically significant vs baseline ($p < 0.0001$) and each year compared to previous year ($p < 0.0001$). Mean change from baseline was -27.15 ± 0.74 kg.

Percent change from baseline was $-2.77 \pm 1.77\%$ after one year, $-7.26 \pm 3.04\%$ after two, $-10.85 \pm 3.26\%$ after three, $-13.88 \pm 3.16\%$ after four, $-17.43 \pm 3.09\%$ after five, and $-20.99 \pm 3.16\%$ after six years.

Waist circumference (cm) decreased from 118.41 ± 5.69 to 106.48 ± 4.91 . 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 0.0132 vs year 5. The mean change from baseline was 12.44 ± 0.36 cm.

Body mass index (BMI; kg/m^2) decreased from 41.93 ± 1.5 to 33.62 ± 1.58 . The mean change from baseline was 8.79 ± 0.23 kg/m^2 .

There were no drop-outs.

Conclusions: All changes were progressive and remained statistically significant each year compared to previous year for the full observation period. TRT seems to be an effective approach to achieve sustained weight loss in excessively obese hypogonadal men.

Patients with a BMI ≥ 40 are candidates for metabolic surgery. In hypogonadal men, TRT may provide a non-invasive alternative.