

Long-term testosterone treatment with testosterone undecanoate injections improves anthropometric measures, inflammation, sexual function and quality of life

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Objective: Obesity and inflammation are risk factors for a host of diseases. This study analysed effects of testosterone replacement therapy (TRT) in hypogonadal men on obesity, sexual function and quality of life.

Material and Methods: Prospective registry study in 300 men (age: 57.70 ± 6.76 years) with T levels below 12.1 nmol/L. They received parenteral T undecanoate 1000 mg/12 weeks following an initial 6-week interval for up to six years. Anthropometric parameters, IIEF-EF and AMS were assessed at every visit.

Results: Weight (kg) decreased from 104.71 ± 16.53 (minimum: 70.0; maximum: 139.00) to 88.41 ± 9.26 (72.0;113.0) ($p < 0.0001$). Mean change from baseline was 16.8 ± 0.41 kg ($15.18 \pm 0.3\%$). Waist circumference (cm) decreased from 106.46 ± 8.87 (86.00;129.00) to 97.31 ± 7.24 (81.00;111.00), BMI from 33.42 ± 5.4 (21.91;46.51) to 28.68 ± 2.95 (23.99;35.11) ($p < 0.0001$ for all).

IIEF improved from 20.01 ± 5.06 to 26.11 ± 3.33 . These changes were statistically significant for the first three years and were then maintained throughout the observation period.

The Aging Males' Symptoms scale (AMS) improved from 53.43 ± 10.21 to 17.41 ± 2.36 ($p < 0.0001$). These changes were statistically significant for the first two years and were then maintained throughout the observation period.

C-reactive protein (CRP) as a marker of inflammation dropped from 5.74 ± 7.51 to 0.94 ± 1.69 mg/dl ($p < 0.0001$ for both). These changes were statistically significant for the first three years and approached statistical significance throughout the remaining observation period.

Conclusions: TRT in hypogonadal men produced sustainable improvements in anthropometric parameters, inflammation, sexual function and quality of life. These effects are closely interrelated and should always be investigated together.