

Effects of long-term treatment with testosterone undecanoate injections in hypogonadal men on waist circumference, body weight and BMI

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Introduction & Objectives: Testosterone has been consistently shown to increase lean mass and decrease fat mass. However, long-term data on body weight and waist circumference are lacking. In this study we aim at the research of long-term and sustainable effects on obesity parameter (BMI, weight and waist circumference).

Materials & Methods: Longitudinal observational registry studies of 850 hypogonadal men with testosterone levels ≤ 12.1 nmol/L from three centers in Germany. All patients received parenteral testosterone undecanoate 1.000 mg for up to 60 months.

Results:

In cohort A (Haider: 255 men, mean age: 60.6 years), waist circumference decreased from 107.24 ± 9.14 to 98.46 ± 7.39 cm ($p < 0.0001$). Body weight decreased from 106.22 ± 16.93 to 90.07 ± 9.51 kg ($p < 0.0001$). Body mass index (BMI) decreased from 33.93 ± 5.54 to 29.17 ± 3.09 kg/m² ($p < 0.0001$).

In cohort B (Yassin: 261 men, mean age: 58 years), waist circumference decreased from 107.68 ± 10.02 to 97.36 ± 7.56 cm ($p < 0.0001$). Body weight decreased from 100.15 ± 14 to 92.46 ± 10.17 kg ($p < 0.0001$). Body mass index (BMI) decreased from 31.75 ± 4.42 to 29.32 ± 2.94 kg/m² ($p < 0.0001$).

In cohort C (Zitzmann: 334 men, mean age: 42 years), waist circumference decreased from 114.0 ± 10.5 to 94.1 ± 8.7 cm ($p < 0.0001$). Body weight decreased from 103.0 ± 16.3 to 79.1 ± 12.6 kg ($p < 0.0001$). Body mass index (BMI) decreased from 31.8 ± 5.2 to 24.4 ± 3.2 kg/m² ($p < 0.0001$).

Conclusion: Reduction in three obesity parameters observed in these 3 cohorts exceeds any results of weight loss studies using lifestyle interventions, with and without drugs reported in the literature. Testosterone may be a useful tool to facilitate reduction in obesity in hypogonadal men.