

Meaningful and sustained improvements of weight and waist circumference in hypogonadal men on long-term treatment with testosterone undecanoate (TU) injections are independent of age: observational data from two registry studies

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Introduction: Improvements of anthropometric parameters on long-term testosterone replacement therapy (TRT) from our registry studies have been reported in 2013 (Saad, *Obes* 2013; 21(10): 1975-1981; Yassin and Doros, *Clin Obes* 2013; 3(3-4): 73-83). Here, we report updated information on a longer treatment duration and subgroup analyses according to age groups.

Methods: 561 hypogonadal men from both registry studies were divided into age groups ≤ 65 (Group A, $n=450$; minimum: 32, maximum: 65 years) and >65 years (Group B, $n=111$; minimum: 66, maximum: 84 years). Following an initial 6-week interval, all men were treated with three-monthly TU injections for up to 6 years.

Results: Mean weight (kg) decreased from 102.52 ± 15.56 to 90.15 ± 9.69 in Group A and from 102.83 ± 15.64 to 95.35 ± 9.03 in Group B. Model-adjusted mean change from baseline was -14.78 ± 0.35 and -15.14 ± 0.71 kg, resp. Changes in weight were statistically significant each year compared to the previous year in both groups.

The mean percent change from baseline was $-13.56 \pm 7.56\%$ in Group A and $-13.28 \pm 7.14\%$ in Group B. This change was statistically significant each year compared to the previous year ($p < 0.0001$) in both groups.

Waist circumference (cm) decreased from 106.54 ± 9.03 to 98.26 ± 7.1 in Group A and from 108.95 ± 10.75 to 100.72 ± 9.45 in Group B. The mean change from baseline was 9.34 ± 0.2 cm in Group A and 10.45 ± 0.47 cm in Group B. Changes in waist circumference were statistically significant each year compared to the previous year in both groups.

Body mass index (BMI; kg/m^2) decreased from 32.58 ± 5.08 to 29.02 ± 3.01 in Group A and from 32.84 ± 4.86 to 30.35 ± 2.61 in Group B. The mean change from baseline was -4.72 ± 0.11 and -4.81 ± 0.22 kg/m^2 , respectively ($p < 0.0001$ for all). Changes in BMI were statistically significant each year compared to the previous year in both groups.

Conclusions: TRT in hypogonadal men resulted in meaningful and sustained weight loss and reductions of waist circumference and BMI independent of age.