

Effects of long-term treatment with testosterone undecanoate on excessively obese, hypogonadal men – an observational study

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Background: Obesity can cause hypogonadism, and hypogonadism promotes further accumulation of fat mass in a vicious cycle. In excessively obese men (defined by BMI ≥ 40 kg/m²) awaiting bariatric surgery, a 75% prevalence of hypogonadism was found [1]. Testosterone treatment has been shown to improve body composition and reduce weight [2]. We studied the effects of normalising testosterone in hypogonadal men with excessive obesity.

Methods: Cumulative, prospective, observational registry studies of 561 men from two cohorts with testosterone levels below 12.1 nmol/L receiving testosterone undecanoate injections for up to 75 months. We selected a subgroup of 46 men with excessive obesity.

Results: Average weight decreased from 129.02 kg to 105.59 kg. The average weight loss was 23.43 kg. The magnitude of weight loss was dependent on treatment duration, i.e. the longer the treatment, the greater the weight loss. Minimum weight loss was 5 kg in a subject who had received 15 months of treatment, maximum weight loss of 41 kg was observed in a man who had been treated for 69 months. No subject gained weight, and the weight loss was progressive over time.

Average waist circumference decreased from 118.41 cm to 106.91 cm. The average reduction was 11.43 cm. The greatest reductions of 19 cm each were observed in two men who had been treated for 69 and 72 months, resp.

Conclusions: Treating hypogonadism by testosterone replacement in hypogonadal men with excessive obesity resulted in sustained improvements in weight and waist circumference in all subjects. The magnitude depended on treatment duration.

[1] Luconi M et al., *Fertil Steril* 2013; 99:1872–1879

[2] Saad F et al., *Obes*, published online 22 Apr 2013, doi: 10.1002/oby.20407