

156 hypogonadal men with obesity and type 2 diabetes achieve weight loss and improved glycaemic control upon treatment with testosterone undecanoate up to 6 years: A subgroup analysis from two observational registry studies

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**Introduction:** Obesity is a major risk factor for type 2 diabetes (T2D). In men, both diseases have a high prevalence of testosterone deficiency.

**Methods:** Cumulative, prospective, observational registry studies of 561 hypogonadal men from two urological centers. Obese men with T2D were selected for subgroup analysis. Patients received testosterone injections for up to six years. All men were treated for their T2D by their family physicians.

**Results:** 156 men (mean age  $61.2 \pm 6.2$  years) met our criteria.

Weight (kg) decreased from  $113.56 \pm 11.53$  to  $97.18 \pm 9.04$  ( $p < 0.0001$ ). Mean change from baseline was  $-17.49 \pm 0.58$  kg. Mean per cent weight loss (%) was  $15.04 \pm 0.48$ .

Waist circumference (cm) declined from  $114 \pm 8.69$  to  $102.52 \pm 7.93$  ( $p < 0.0001$ ). Mean change from baseline was  $-11.56 \pm 0.34$  cm.

BMI ( $\text{kg}/\text{m}^2$ ) decreased from  $36.31 \pm 3.51$  to  $31.19 \pm 2.6$  ( $p < 0.0001$ ). Mean change from baseline was  $-5.59 \pm 0.18$   $\text{kg}/\text{m}^2$ .

Fasting glucose (mg/dl) decreased from  $128.37 \pm 31.63$  to  $101.55 \pm 17.02$  ( $p < 0.0001$ ). Mean change from baseline was  $-27.14 \pm 2.48$  mg/dl.

HbA<sub>1c</sub> decreased from  $8.08 \pm 0.9$  to  $6.14 \pm 0.71\%$  ( $p < 0.0001$  vs. baseline, significant for the first 5 years vs. previous year and approaching significance from year 6 to year 5 at  $p = 0.0635$ ). The mean change from baseline was  $-1.93 \pm 0.06\%$ .

At baseline, 25 (16%) of all patients had HbA<sub>1c</sub>  $\leq 7.0\%$  and 12 (7.7%) HbA<sub>1c</sub>  $\leq 6.5\%$ . At the end of the observation, 128 (82.05%) had reached HbA<sub>1c</sub> target of  $\leq 7.0\%$  and 106 (67.95%) HbA<sub>1c</sub> target of  $\leq 6.5\%$ .

**Conclusions:** Correcting hypogonadism with testosterone undecanoate injections in obese hypogonadal men with T2D resulted in sustained improvements in weight, waist circumference, and glycaemic control over the full 6 years of the study.