Obese hypogonadal men with type 2 diabetes benefit from long-term treatment with testosterone undecanoate injections

F Saad, A Haider, G Doros, A Traish

Introduction: We previously described substantial weight loss in a cohort of 255 hypogonadal men treated with testosterone undecanoate (TU) in a urological setting [1]. The majority of these men (181 or 71%) were obese. Of these, 71 (39%) had type 2 diabetes (T2D) at baseline. We performed a subgroup analysis in these obese diabetic men.

Methods: This is part of a cumulative, prospective registry study of hypogonadal men with testosterone levels ≤12.1 nmol/L. 71 men were obese and had T2D diagnosed and treated by their family practitioner. After diagnosis of hypogonadism, they received TU 1000 mg/12 weeks following an initial 6-week interval for up to five years. Data are available for 71 men for one year, 57 for two years, 49 for three years, 42 for four years and 32 for five years. Declining numbers do not reflect drop-outs but are a result of the registry design. New patients are consecutively entered once they have completed one year of treatment.

Results: At the end of the observation period, mean weight (kg) decreased from 117.07±11.66 to 94.84±9.38. This decrease was statistically significant vs baseline ($p<0.0001$) and each year compared to the previous year ($p<0.0001$). Mean change from baseline was 18.29±0.58 kg or 15.71±0.47%.

Waist circumference (cm) as a measure of abdominal fat decreased from 112.9±7.21 to 101.72±7.29, BMI from 37.75±3.51 to 31.09±2.68. These changes were statistically significant vs baseline ($p<0.0001$) and each year compared to the previous year ($p<0.0001$).

At the end of each year, HbA_{1c} was available for 37, 30, 25, 22 and 16 men, resp. At baseline, HbA_{1c} was 8.33±0.78%, declining steadily and statistically significantly to 5.88±0.4%.

Fasting glucose decreased from 6.61±0.77 to 5.42±0.16 mmol/L (119.07±13.89 to 97.63±2.83 mg/dl).

Conclusions: Normalizing testosterone in obese hypogonadal men with T2D produced weight loss and marked reductions in HbA_{1c} and fasting glucose.

References:
[1] Saad F, Haider A, Doros G, Traish A. Long-term treatment of hypogonadal

men with testosterone produces substantial and sustained weight loss. Obes, published online 20 March 2013. doi:10.1002/oby.20407