

## Effects of long-term testosterone treatment in obese hypogonadal men on body weight and prostate parameters

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**Introduction:** Obesity and inflammation are recognised as risk factors for prostate diseases and LUTS [1-3]. This study analysed the effects of restoring normal testosterone (T) in obese hypogonadal men.

**Methods:** Prospective registry study in 181 men (age:  $59.11 \pm 6.06$  years) with T levels below 12.1 nmol/L and a body mass index (BMI) of  $\geq 30$  kg/m<sup>2</sup>. They received parenteral T undecanoate 1000 mg/12 weeks following an initial 6-week interval for up to five years.

**Results:** Weight (kg) decreased from  $114.71 \pm 11.59$  (87.0;139.00) to  $93.24 \pm 8.49$  (80.0;115.0). 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  $18.83 \pm 0.36$  kg or  $16.41 \pm 0.3\%$ . After five years, all men had lost weight, 99% had lost  $\geq 5$  kg, 90%  $\geq 10$  kg, 70%  $\geq 15$  kg, and 40%  $\geq 20$  kg.

Waist circumference (cm) decreased from  $111.2 \pm 7.54$  (89.00;129.00) to  $100.47 \pm 7.11$  (84.00;117.00), BMI from  $36.72 \pm 3.72$  (30.10;46.51) to  $30.22 \pm 2.6$  (25.66;36.71). These changes were statistically significant vs baseline ( $p < 0.0001$ ) and each year compared to the previous year ( $p < 0.0001$ ).

Residual bladder volume decreased from  $51.37 \pm 21.86$  to  $20.17 \pm 6.37$  ml. Prostate volume increased from  $30.59 \pm 11.35$  to  $32.05 \pm 13.27$  ml, PSA from  $1.77 \pm 0.93$  to  $1.94 \pm 1$  ng/ml. IPSS decreased from  $7.62 \pm 4.2$  to  $2.91 \pm 1.27$ , C-reactive protein from  $4.03 \pm 4.8$  to  $0.78 \pm 1.51$  mg/dl ( $p < 0.0001$  for all).

One patient was diagnosed with prostate cancer 10 months after treatment initiation.

**Conclusions:** Normalizing T in obese hypogonadal men produced progressive weight loss. This effect may be beneficial not only for cardiometabolic but also urological outcomes.

[1] De Nunzio, Eur Urol 2011;60:106-17

[2] De Nunzio., Eur Urol 2012;61:560-70

[3] Allott, Eur Urol 2012, published online Nov 15, 2012