

Effects of long-term treatment of hypogonadal men with testosterone undecanoate on blood pressure, fasting glucose, HbA<sub>1c</sub> and C-reactive protein

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Maximum 300 words

**Introduction:** Hypogonadism is associated with metabolic syndrome and all its individual components. This study analysed effects of normalization of serum testosterone in mainly elderly, hypogonadal men.

**Methods:** Prospective registry study of 252 men (mean age  $60.6 \pm 8.0$  years), with testosterone levels between  $\leq 3.5$  ng/ml. They received parenteral testosterone undecanoate 1000 mg at day 1, week 6 and every 12 weeks thereafter for up to 66 months.

**Results:** After 60 months the following changes were observed: systolic blood pressure declined from  $153.74 \pm 17.61$  to  $137.74 \pm 10.92$  mm Hg, diastolic blood pressure from  $93.67 \pm 11.26$  to  $79.61 \pm 7.35$  mm Hg. The changes were statistically significant vs baseline ( $p < 0.0001$ ). Both systolic and diastolic blood pressure reached a plateau within the second year of treatment. Fasting glucose declined from  $103.46 \pm 14.51$  to  $97.54 \pm 2.34$  mg/dl. This decline was statistically significant vs baseline ( $p < 0.0001$ ), and a plateau was reached after approximately 2 years. HbA<sub>1c</sub> was only measured in a subset of 123 patients at baseline and declined from  $6.97 \pm 1.55\%$  to  $6.01 \pm 1.41\%$  after 60 months which was statistically significant vs baseline ( $p < 0.0001$ ). C-reactive protein (CRP) decreased from  $6.3 \pm 8.01$  to  $1.03 \pm 1.87$  mg/dl ( $p < 0.0001$  vs baseline).

**Conclusions:** Raising serum testosterone to normal for up to 66 months resulted in improvements in blood pressure, glycemic control, and CRP.