EFFECTS OF 4 YEAR TESTOSTERONE TREATMENT ON COMPONENTS OF THE METABOLIC SYNDROME

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Background: Elderly men often show a concurrence of a decline of testosterone with features of the metabolic syndrome. This study tested the effects of normalization of testosterone.

Materials and methods: 143 hypogonadal men (34 – 78 years, mean 62 ± 8.0 years), with testosterone levels ≤ 12nmol/L were treated with parenteral testosterone undecanoate for 4 years as the sole intervention.

Results: Plasma testosterone rose from 9.7 ± 1.4 nmol/L to 19.0 ± 2.4 nmol/L at 12 months, then stabilized between 17.0 and 18.4 nmol/L during the following three years. There was a remarkable progressive linear decline of body weight, waist circumference, serum total cholesterol, triglycerides, and LDL-cholesterol over the 4 year period. Plasma glucose declined over the first 24 months. There was a significant decrease of systolic and diastolic blood pressure over the first 24 months, then values leveled off. At baseline 88/143 men met the criteria of the metabolic syndrome as defined by the by the harmonized definition; after four years of testosterone treatment this number had declined to 48/143.

Conclusion: With testosterone treatment over four years, the most significant improvement of the metabolic syndrome, including blood pressure, was noted over the first 24 months but over the following 24 months improvements were at least maintained or even further improvement was observed.