AGE, OBESITY AND INFLAMMATION AT BASELINE PREDICT THE EFFECTS OF TESTOSTERONE ADMINISTRATION ON THE METABOLIC SYNDROME

Farid Saad[1], Ahmad Haider[2], Erik J Giltay[3], Louis J.G. Gooren[4] ·,

[1]Bayer Schering Pharma, Scientific Affairs Men's Healthcare, Berlin, Germany and Gulf Medical University School of Medicine, Ajman, UAE; [2]Private urology praxis, Bremerhaven, Germany; [3]Department of Psychiatry, Leiden University Medical Center, Leiden, The Netherlands;. [4]Endocrinology, VUmc, Amsterdam, the Netherlands

Objectives: Testosterone administration to hypogonadal men improves features of the metabolic syndrome. This study analyzed whether age, serum testosterone, body mass index/waist size, increment in testosterone values and C-reactive protein (CRP) were predictive of the outcome of testosterone administration.
Methods: 110 mainly elderly men, between 18 - 83 years (mean ±SD = 59.6 ± 8.0) with baseline serum testosterone of 5.8 – 12.1 nmol/L (mean ±SD = 9.3 ± 1.7) (N>14.0 nmol/L), received parenteral testosterone undecanoate whereupon serum testosterone normalized between 3-24 months.
Results: 1) The lower baseline testosterone, the stronger the decreases in waist size and triglycerides. 2) The greater the increment in serum testosterone, the stronger the decreases in LDL cholesterol, triglycerides and glucose. 3) Older age was associated with stronger beneficial effects on waist size, glucose and all lipids, but a small negative effect on HDL cholesterol. 4) Obese men and men with the largest waist circumference showed the strongest declines over 2 years in weight, waist circumference and body mass index (BMI), and also in total cholesterol, triglycerides and glucose. Baseline BMI predicted a stronger decline in LDL cholesterol, but a smaller decline in CRP levels. 5) Higher baseline CRP predicted larger declines in levels of triglycerides, glucose and CRP. In the multivariate model, age, BMI and CRP were independent predictors of the strongest benefit of testosterone treatment on the metabolic syndrome.
Conclusions: Older men, particularly when obese with low-grade chronic inflammation benefited most of normalizing their testosterone levels, preferably if they reached midnormal reference values.