

El Douaihy Y, Hakimian P, Pinkhasove R, Yassin AD-J, Yassin A, Shabsigh R.

Long-term testosterone improves all the domains of metabolic syndrome. *J Urol* 2012; 187(4):e604.
Ref ID: 22758

Abstract: INTRODUCTION AND OBJECTIVES: Testosterone replacement therapy in patients with Late Onset Hypogonadism (LOH) improves comorbidities. We hypothesize that long term testosterone improves the domains of metabolic syndrome. **METHODS:** As of November of 2004, 261 patients diagnosed with LOH were recruited in 3 centers in Germany for long-term testosterone replacement therapy. Men with a total testosterone level of ≤ 3.5 ng/ml and symptoms of erectile dysfunction (IIEF-5 < 21) met the inclusion criteria. Long acting intramuscular (IM) Testosterone Undecanoate 1000mg was given on day 1, then 6 weeks post diagnosis of LOH and every 3 months thereafter. The mean follow up time was 4.25 years. Data was collected periodically. Demographic data was collected at the initial visit. Hormone levels, lipids, glucose profiling as well as blood pressure measurements were collected at every visit (T) or every other visit. We used the International Diabetes Federation definition to define whether patients met criteria to diagnose them with metabolic syndrome (MeTS) at every follow up visit. MeTS was considered in patients with central obesity and any two of the following: elevated triglycerides, reduced HDL cholesterol, elevated blood pressure, and an elevated fasting plasma glucose. Mean fasting glucose, triglycerides, and HDL were calculated at every T, and linear regression was used to study their variation over time. Total testosterone and prevalence (%) of the MeTS were plotted against time. **RESULTS:** We noticed a significant drop in the ratio of the MeTS in our cohort- from 56% to 30% after 57 months of treatment. There was a statistically significant drop in triglycerides, glucose levels, and mean arterial pressure ($p=0.00$; $+|-=-0.77$, $p=0.00$; $+|-=-0.67$, and $p=0.00$; $+|-=-0.78$ respectively) and an increase in HDL ($p=0.05$; $+|=0.53$). In addition; we noticed a significant drop of 11 cm in the mean waist circumference of the cohort. **CONCLUSIONS:** To our knowledge the only intervention in our cohort was testosterone replacement. The majority of our patients witnessed a significant improvement in the domains of the MeTS. (Figure Presented)