

These findings suggest different mechanisms underlying hypotestosteronism in obesity and a therapeutic role of ventilation therapy on hypogonadism in patients with OSAS.

Conflicts of Interest: Nothing to declare.

B-03-04

Abstract citation ID: qdae041.033

(424) TESTOSTERONE LEVELS IN OBESE PATIENTS: THE ROLE OF OBSTRUCTIVE SLEEP APNEA

Dr. Elisa Delle Donne¹, Prof. Massimo Scacchi^{1,2}, Prof. Marco Bonomi^{1,2}, Dr. Biagio Cangiano^{1,2}, Myriam Amer²

¹*University of Milan, Department of Medical Biotechnology and Translational Medicine, Milan, Italy*

²*Endocrinology Department & Lab of Endocrine and Metabolic Research, IRCCS, Istituto Auxologico Italiano, Milan, Italy*

Objectives: An association between Obstructive Sleep Apnea (OSA) and gonadal dysfunction is known. Specifically, while obesity is commonly associated with reduced testosterone secretion, some studies suggest OSA can independently affect testosterone.

Moreover, although most studies show that Continuous Positive Airway Pressure (CPAP) treatment does not affect testosterone levels, some revealed an improvement in testosterone after CPAP.

Our study wants to investigate whether OSA independently affects testosterone in a cohort of severely obese patients, alongside other factors.

Methods: In 32 severely obese men (BMI > 35 kg/m²) testosterone levels were examined in relation to anthropometrics measures (BMI; waist circumference), type2 diabetes (T2DM)/eating disorders, inflammatory status (VES; PCR) and night-oximetry parameters (oxygen saturation [SaO₂]; mean minimal SaO₂ [minSaO₂]; desaturation events index [ODI]; percentage of time SaO₂ <90% and <85% [% time SaO₂ <90% and <85%]).

Results: In 32 patients (BMI 35-76.5 kg/m², mean 46.2±7.8; age 19-73y, mean 54.7±14.8) a regression analysis showed inverse correlation between testosterone and BMI (p=0.0036) and waist circumference (p=0.02). No association was found with age (p=0.65), eating disorder (p=0.2) or T2DM (p=0.79). Testosterone showed a trend for correlation with minSaO₂ during oximetry (p=0.06), but not with ODI (p=0.45). Multiple regression analysis confirmed inverse relation only with BMI (p=0.0049) and/or waist circumference (p=0.02), rather than presence of OSA (p=0.8) and/or CPAP (p=0.6). In OSA group (n=27) ventilation therapy results associated with higher testosterone levels.

Conclusions: Although BMI remains a key factor in hypotestosteronism, we suggest that the severity of nighttime hypoxia (minSaO₂) may be an independent additional factor, more relevant than age, diabetes, inflammation and eating disorder. Interestingly, CPAP seems to have a therapeutic effect on hypogonadism, more than the degree of ventilatory compensation achieved (minSaO₂/ODI).