

News Summary

P3-308: Testosterone replacement for men with low testosterone improves liver function, metabolic syndrome

In middle-aged and older men with low testosterone levels, long-term testosterone replacement therapy greatly improves their fatty liver disease and their risk factors for cardiovascular disease and diabetes, a new study found. The results will be presented Friday at The Endocrine Society's 91st Annual Meeting in Washington, D.C.

Testosterone deficiency, which becomes more common with age, is linked not only to decreased libido but also to a number of medical problems. These include the metabolic syndrome—a cluster of metabolic risk factors that increase the chances of developing heart disease, stroke and type 2 diabetes. Nonalcoholic fatty liver disease, also called a fatty liver, commonly co-occurs with the metabolic syndrome and may aggravate the metabolic problems. To receive a diagnosis of the metabolic syndrome, patients must have three of the following five risk factors: abdominal obesity (a large waist line), low HDL (“good”) cholesterol, high triglycerides (fats in the blood), high blood pressure and high blood sugar.

“Physicians often are reluctant to prescribe testosterone for conditions not related to sexual function,” said the study's co-author, Farid Saad, PhD, of Berlin-headquartered Bayer Schering Pharma. “However, our study shows that testosterone has a much wider therapeutic role than just for improving sexual desire and erectile function.”

The study included 122 testosterone-deficient men, ages 36 to 69 years (mean age: 59.5). Results showed that restoring testosterone to normal levels led to major and progressive improvements in many features of the metabolic syndrome over the 2 years of treatment. Specifically, the men's weight, waist line and body mass index (a measure of body fat) continued to decline over the full study period. The other metabolic risk factors also significantly improved during the first year of testosterone treatment. Of the 47 men who met the criteria for a diagnosis of the metabolic syndrome at the beginning of the study, 36 (77 percent) no longer had the diagnosis after 2 years of treatment, the authors reported.

Furthermore, liver function significantly improved during the first 12 to 18 months of therapy and stabilized for the remainder of the study period. Treatment also greatly decreased blood levels of C-reactive protein, a measure of inflammation that is linked to increased risk of cardiovascular disease.

“We conclude that testosterone therapy in men with testosterone deficiency can largely improve or even remedy the metabolic syndrome, which will most likely decrease their risk of diabetes and cardiovascular disease,” Saad said.

Study participants received treatment in Bremerhaven, Germany. Treatment used a slow-release, injectable form of the male hormone (testosterone undecanoate) that is not yet available in the United States.

Saad is an employee of Bayer Schering, which makes a brand of testosterone undecanoate.

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