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**Testosterone Supplementation Does Not Result in Progression of Atherosclerosis**

Among older men with low testosterone levels, testosterone administration for 3 years compared with placebo did not result in a significant difference in the rates of change in atherosclerosis (thickening and hardening of artery walls), nor was it associated with improved overall sexual function or health-related quality of life, according to a study in the August 11 issue of *JAMA*. The authors note that because this trial was only powered to evaluate atherosclerosis progression and not cardiovascular events, these findings should not be interpreted as establishing cardiovascular safety of testosterone use in older men such as those enrolled in this trial.

Testosterone sales have increased substantially, particularly among older men, during the past decade. However, the benefits and risks of long-term testosterone administration to older men with age-related decline in testosterone levels remain poorly understood. Although some studies have reported an association of low testosterone levels with increased risk of diabetes, metabolic syndrome, cardiovascular disease (CVD), and mortality, other studies have not shown a consistent association between testosterone levels and incident CVD. The long-term consequences of testosterone supplementation on atherosclerosis in older men remain unknown, according to background information in the article.

Shalender Bhasin, M.B.B.S., of Brigham and Women’s Hospital, Harvard Medical School, Boston, and colleagues randomly assigned 308 men 60 years or older with low or low-normal testosterone levels to receive 7.5 g of 1 percent testosterone (n = 156) or placebo (n = 152) gel packets daily for 3 years. The dose was adjusted to achieve testosterone levels between 500 and 900 ng/dL. Characteristics were similar between groups at study entry: patients were an average age of 68 years; 42 percent had hypertension; 15 percent, diabetes; 15 percent, cardiovascular disease; and 27 percent, obesity.

The researchers found that the rates of subclinical atherosclerosis progression, as measured by changes in common carotid artery intima-media thickness or coronary artery calcium, did not differ significantly between men assigned to the testosterone or placebo groups. Changes in intima-media thickness or calcium scores were not associated with change in testosterone levels among individuals assigned to receive testosterone.

Sexual desire, erectile function, overall sexual function scores, partner intimacy, and health-related quality of life did not differ significantly between groups. Hematocrit (a measure of red blood cells) and prostate-specific antigen levels increased more in testosterone group.

The authors write that this trial was not designed to determine the effects of testosterone on CVD events, and that a substantially larger trial would be needed to determine this.

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**Editor’s Note**: Please see the article for additional information, including other authors, author contributions and affiliations, financial disclosures, funding and support, etc.

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