

Higher testosterone may raise risk of heart disease in elderly men

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A large U.S. multicenter study shows that older men with higher testosterone levels are more likely to have a heart attack or other cardiovascular disease in the future. The results were presented at The Endocrine Society's 92nd Annual Meeting in San Diego.

"The study finding contradicts smaller studies that have shown that testosterone levels are not associated with higher rates of cardiovascular disease," said presenting author Kristen Sueoka, MD, a resident physician at the University of California, San Francisco.

"Many in the general public are using testosterone supplements for various medical problems, including low sex drive and [mood disorders](#), which are not life-threatening. These men may unknowingly be placing themselves at higher risk for cardiovascular disease," she said.

Study participants were age 65 or older and included 697 community-dwelling men who were participating in the National Institutes of Health-funded study, Osteoporotic Fractures in Men (MrOS). None of these men were receiving testosterone therapy, according to the study abstract.

All subjects had blood tests to determine their testosterone levels. The investigators then divided the men into quartiles, or four groups, of testosterone range to observe trends in rates of coronary heart disease events. This type of heart disease results from plaque-clogged or narrowed coronary arteries, also called atherosclerosis. A coronary heart disease event included a [heart attack](#); unstable angina, which is chest

pain usually due to atherosclerosis and which doctors consider a prelude to a heart attack; or an angioplasty or bypass surgery to clear blocked arteries.

During an average follow-up of nearly 4 years, 100 men, or about 14 percent, had a coronary disease event, in particular, heart attacks, Sueoka said. After the researchers adjusted for other potential contributing risk factors for heart disease, such as elevated cholesterol, they found that higher total [testosterone level](#) relates to an increased risk of coronary disease. Men whose total testosterone was in the highest quartile (greater than or equal to 495 nanograms per deciliter, or ng/dL) had more than twofold the risk of coronary disease compared with men in the lowest quartile (below 308 ng/dL).

Other important measures of testosterone in the body and of a protein that tightly binds with testosterone (sex hormone-binding globulin) also showed a close relationship between testosterone and [coronary heart disease](#), Sueoka said.

The investigators did not divide the men by normal or abnormal testosterone levels because the definition of abnormal levels depends on many factors, including increasing age. In fact, says Sueoka, "Men with the highest testosterone could potentially be at risk for heart disease regardless of the definition of "normal" levels."

"One day testosterone measurements may be used to help predict which men are more likely to develop cardiovascular disease," she said. "But we need more studies to confirm that high testosterone is a risk factor for heart disease."

Provided by The Endocrine Society

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