

High Testosterone Levels Protect Against Risk for CV Events

Testosterone and sex hormone-binding globulin (SHBG) levels have important metabolic effects that might contribute to the risk for cardiovascular disease among older men. The authors of the current study note that low serum testosterone levels are associated with increased adiposity, an adverse metabolic risk profile, and atherosclerosis. Low levels of SHBG are associated with insulin resistance and obesity.

Cross-sectional studies suggest that adults with coronary heart disease have lower testosterone levels, but the results of prospective research evaluating the possible link between testosterone levels and cardiovascular risk are more mixed. Moreover, limited data exist regarding the role of SHBG in the development of cardiovascular disease.

This Swedish study has shown that elderly men in the highest quartile of serum testosterone levels have around a 30% lower risk of cardiovascular events over five years compared with men in the lower three quartiles [1]. And the association remains even after adjustment for traditional cardiovascular risk factors and excluding those with cardiovascular disease at baseline,

Researchers analyzed baseline levels of testosterone in 2416 men aged 69 to 81 years who were participating in the prospective, population-based **Osteoporotic Fractures in Men Study (MrOS)**. They also measured SHBG and obtained cardiovascular clinical outcomes from central Swedish registries. Over a median of five years of follow-up, there were 485 fatal and nonfatal cardiovascular events, and both total testosterone and SHBG levels were inversely associated with risk of cardiovascular events (trend over quartiles $p=0.009$ and $p=0.012$, respectively).

In models that included testosterone and SHBG, testosterone, but not SHBG, predicted risk.

References

1. Ohlsson C, Barrett-Connor E, Bhasin S, et al. High serum testosterone is associated with reduced risk of cardiovascular events in elderly men. The MrOS (osteoporotic fractures in men) Study in Sweden. *J Am Coll Cardiol* 2011; 58:1674-1681.