

Low steroid levels linked to increased risk of cardiovascular disease

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Low levels of a naturally occurring steroid are associated with an increased risk of heart and blood-vessel disease in elderly men, a new study finds. The results will be presented Saturday at The Endocrine Society's 94th Annual Meeting in Houston.

The steroid in question is dehydroepiandrosterone, or DHEA, which is secreted by the [adrenal gland](#) and circulates in blood mainly in a sulfated form, DHEA-S. In other tissues, DHEA-S is converted into the [sex hormones](#) testosterone and estrogen.

Previous, smaller studies found an association between low DHEA-S levels and heart and blood-vessel, or cardiovascular, disease, although their results were inconclusive. At this time, while we know that DHEA production decreases with age, the exact [health effects](#) of its decline are unclear.

In this large-scale study, investigators study found that [elderly men](#) with the lowest DHEA-S [blood levels](#) were significantly more likely than those with higher concentrations to develop [cardiovascular-disease](#) events within five years. The increased risk persisted even after controlling for other influences, indicating that low DHEA-S levels are independently associated with a greater risk of disease.

"Our findings may be the result of DHEA-S being protective, or that lower DHEA-S level is a marker for poor [general health](#)," said study lead author Åsa Tivesten, M.D., Ph.D., associate professor at the University

of Gothenburg, Sweden. "More research is needed to understand underlying mechanisms and to evaluate the potential benefits of hormone replacement."

Investigators used an advanced laboratory technique to isolate, identify, and measure DHEA-S levels in the blood. During the five-year follow-up, they used nationwide medical registries to document 485 cases of cardiovascular disease among the study participants.

Patients included 2,416 men between the ages of 69 and 81 years. All were participants in the Osteoporotic Fractures in Men Sweden study, which is a long-term project designed to examine risk factors for a number of diseases.

According to Tivesten, it is important to note that this study's findings only indicate that low DHEA-S levels may be related to a greater risk of cardiovascular disease. "We cannot say that DHEA-S is protective because we have only studied an association," she said.

"A potential practical implication is that established cardiovascular risk factors perhaps should be assessed and treated more aggressively in men with lower DHEA-S levels. However, this must be evaluated in future studies; today, DHEA-S level is not part of cardiovascular-risk assessment."

Provided by The Endocrine Society

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