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Erectile Dysfunction Linked to Future CVD Events

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Erectile dysfunction (ED) is independently associated with the risk for future cardiovascular disease (CVD) events, a new study suggests.

Using data from the ongoing Multi-Ethnic Study of Atherosclerosis (MESA), researchers found men who reported ED had increased risks for both coronary heart disease (CHD) and CVD events over 3.8 years of follow-up.

"Our findings strengthen the existing evidence for the independent association between ED and incident CVD, and could have important implications for risk stratification in middle-aged men," Michael J. Blaha, MD, MPH, Division of Cardiology, Johns Hopkins Ciccarone Center for the Prevention of Heart Disease, Baltimore, Maryland, and colleagues conclude.

ED is not currently included in US risk prediction guidelines, they note. "Our results may justify more aggressive therapy in such patients."

Their report was published online June 11 in *Circulation*.

Common Risk Factors

Vascular ED and CVD share common risk factors, including obesity, hypertension, metabolic syndrome, diabetes mellitus, and smoking, the researchers write. They also have common underlying pathological mechanisms, such as endothelial dysfunction, inflammation, and atherosclerosis, they note.

"Despite these close relationships, the evidence documenting ED as an independent predictor of future CVD events is limited," they write.

For this analysis, investigators used data from MESA, an ethnically diverse, community-based, multisite, prospective cohort study, to look at the value of self-reported ED in predicting incident CHD and CVD in participants who were free of CVD at baseline.

They included 1914 male participants who attended MESA visit 5 and answered the single Massachusetts Male Aging Study question on ED symptoms. Participants were considered to have ED if they answered "sometimes able" or "never able," the authors write. ED symptoms were reported by 877 (45.8%) of participants.

Another 155 participants were excluded because they had a CVD event prior to visit 5, leaving 1757 who were followed for 3.8 years for hard CHD events, including myocardial infarction (MI), resuscitated cardiac arrest, and CHD death, and hard CVD events, including all CHD events plus stroke and stroke death.

Over 3.8 years of follow-up, there were a total 40 CHD and 75 CVD hard events. A significantly higher proportion of those who reported ED had a CHD or CVD event compared with those who did not.

Table 1. Hard Events With and Without ED

Outcome	ED (%)	No ED (%)	*P* Value
CHD hard events	3.4	1.4	<.001
CVD hard events	6.3	2.6	<.001

In unadjusted Cox proportional hazard models, ED was a significant predictor of both hard CHD and CVD events, but after full adjustment for such factors as age, race/ethnicity, education, smoking status, diabetes mellitus, family CHD history, total/high-density lipoprotein cholesterol ratio, systolic blood pressure, antihypertension and lipid-lowering medication use, as well as depression and β-blocker use, ED remained a significant predictor of CVD events. However, the relationship with hard CHD events became nonsignificant, "albeit with a similar point estimate," the authors write.

Table 2. Adjusted Risk for Hard Events for ED vs no ED

Endpoint	Unadjusted Hazard Ratio (95% Confidence Interval)	Fully Adjusted Hazard Ratio (95% Confidence Interval)
CHD hard events	2.5 (1.3 - 4.8)	1.8 (0.8 - 4.0)
CVD hard events	2.6 (1.6 - 4.1)	1.9 (1.1 - 3.4)

The authors point out that one limitation of their analysis is that the single question on ED does not distinguish between vascular and nonvascular types of ED, which may have attenuated the relationship between ED and CVD. In addition, because follow-up was only 3.8 years, "additional 10-year data on the risk predictive value of ED are needed."

"In conclusion, our study provides some of the strongest evidence to date for the independent predictive value of ED in a modern, multiethnic, well-phenotyped cohort," the authors conclude.

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