Hormonal status impacts genetic variation, CIMT link

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(HealthDay)—Hormonal status seems to interact with genetic variants to influence cardiovascular phenotypes, especially those within the innate immunity pathway related to carotid artery intima-medial thickness (CIMT), according to a study published online Oct. 27 in *Physiological Genomics*.

Virginia M. Miller, Ph.D., from the Mayo Clinic in Rochester, Minn., and colleagues examined the correlation of treatment outcomes with variation in 764 candidate genes in 606 women. Participants were randomized to either oral conjugated equine estrogens or transdermal 17? estradiol, each with progesterone, for 12 days each month, or placebo pills and patch as part of the Kronos Early Estrogen Prevention Study.

The researchers found that the 20 single nucleotide polymorphisms (SNPs) within the innate immunity pathway most related to CIMT after four years were not those linked to CIMT before menopausal hormone therapy. SNPs within the innate immunity pathway altered the treatment effect on four-year change in CIMT among the 403 women who completed the study in their assigned treatment group. With changes of coronary artery calcification of more than 5 Agatston units after four years there were no SNPs by treatment effects.

"Results of this study suggest that hormonal status may interact with genetic variants to influence cardiovascular phenotypes, specifically, the pharmacogenomic effects within the innate immunity pathway for CIMT," the authors write.

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More information: Abstract
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