

# Gene may put women with migraine at increased risk of heart disease and stroke

30 July 2008

Women who experience migraine with aura appear to be at an increased risk of heart disease and stroke if they have a certain gene, according to a study published in the July 30, 2008, online issue of *Neurology*, the medical journal of the American Academy of Neurology.

For the study, researchers followed 25,001 Caucasian women for the occurrence of cardiovascular disease, including heart attacks and ischemic stroke. About 18 percent of the women in the study had a history of migraine while 40 percent of those with active migraine reported migraine with aura. Migraine with aura can be described as neurological symptoms that usually last for about 30 minutes and most often lead to visual disturbances. The women were also tested for a certain gene variant in the methylenetetrahydrofolate reductase gene.

During a 12-year follow-up period, 625 cardiovascular disease events occurred.

The study found that women who had both the gene variant and migraine with aura had more than three times the risk of cardiovascular disease, which was driven by four times the risk for stroke compared with women who did not have the gene variant and no history of migraine. An estimated 11 percent of the study population carries the gene variant.

"This gene by itself does not appear to increase the risk for overall and for specific cardiovascular disease, but rather this research suggests a possible connection between the gene variant and migraine with aura. While it is too early to start testing young women with migraine with aura for this gene variant, more focused research will help us to understand these complex links and will help us to potentially develop preventative strategies," said study author Tobias Kurth, MD, ScD, with Brigham and Women's Hospital and Harvard Medical School in Boston, MA. Kurth is also a

member of the American Academy of Neurology.

Since the study only looked at women, investigators say it is not known whether the results would be the same in men.

"Doctors should try to reduce heart disease risk factors and advise young women who experience migraine with aura not to smoke and to consider birth control pill alternatives as these increase the risk of ischemic vascular problems," said Kurth.

Heart disease is the leading cause of death and stroke is the third leading cause of death in the United States.

Source: American Academy of Neurology

APA citation: Gene may put women with migraine at increased risk of heart disease and stroke (2008, July 30) retrieved 4 May 2021 from <https://medicalxpress.com/news/2008-07-gene-women-migraine-heart-disease.html>

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