

Genes may not be to blame for link between migraine and heart disease

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A new study suggests that genes may not be to blame for the increased risk of heart disease some studies have shown in people with migraine, especially those with migraine with aura. The research is published during Headache/Migraine Awareness Month in the inaugural issue of the journal *Neurology Genetics*, an open access, or free to the public, online-only, peer-reviewed journal from the American Academy of Neurology. Aura are sensations that come before the headache, often visual disturbances such as flashing lights.

"Surprisingly, when we looked for shared gene variants that might help explain part of the link between migraine and [heart disease](#), we found no shared gene variations between migraine with aura and heart disease," said study author Aarno Palotie, MD, of the Broad Institute of MIT and Harvard. "This is surprising because the evidence is stronger that people with migraine with aura have an increased risk of heart disease than people with migraine without aura."

Migraine without aura and heart disease did share some genetic variations, but researchers were surprised to find that those shared genes actually protected against heart disease.

"In other words, people with migraine without [aura](#) seem to have a lower load of genetic factors increasing the risk of heart disease," said Anne Ducros, MD, PhD, of the University of Montpellier in Montpellier, France, who wrote an editorial accompanying the study. "We now need to understand why people with migraine who are born with a protective

or neutral genetic risk for heart disease end up with an increased risk for heart problems."

For the study, the researchers analyzed two large genome-wide association studies of migraine and heart disease. The migraine study involved 19,981 people with migraine and 56,667 people who did not have migraine. The heart disease study involved 21,076 people with heart disease and 63,014 people who did not have heart disease. These studies have identified genetic variations that increase the risk for these two diseases.

The researchers used four methods to analyze the results to look for shared genetic variants that overlap between the two diseases.

Ducros said the other [genetic factors](#) not captured by these studies could play a role in the link between migraine and heart disease. Also, nongenetic factors could play a role. "For example, [migraine](#) has been associated with obesity, avoidance of exercise, smoking and depression, all of which increase the risk of heart disease," she said.

Provided by American Academy of Neurology

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