

Scientists Identify Genes Linked to Migraines

Inheriting any one of 3 gene variants raises risk for severe headaches by up to 15%, researchers say

-- Mary Elizabeth Dallas

SUNDAY, June 12 (HealthDay News) -- Researchers have identified three genes linked to migraine headache and found that people who inherit any one of these genes have a 10 to 15 percent greater risk for the condition.

Migraine headache -- an abnormality in the response of nerve cells to stimuli -- is characterized by recurring severe headaches, which often result in nausea as well as sensitivity to light and sound.

In examining genetic data from more than 23,000 women, including over 5,000 migraine sufferers, the researchers found an association between the headaches and variations in three genes: TRPM8 (which plays a role in sensitivity to cold and pain), LRP1 (a gene involved in the transmission of signals between neurons) and PRDM16.

"While migraine remains incompletely understood and its underlying causes difficult to pin down, identifying these three genetic variants helps shed light on the biological roots for this common and debilitating condition," the study's lead author, Dr. Daniel Chasman, assistant professor in the preventive medicine division at Brigham and Women's Hospital and Harvard Medical School, said in a hospital news release.

One migraine expert called the findings "very exciting."

"The thinking for a long time was that migraine is most commonly a multi-genetic condition with potentially many genetic variations that contribute," noted Dr. Audrey Halpern, clinical assistant professor in the department of neurology at NYU Langone Medical Center in New York City. "We clearly understand now that migraine is a condition characterized by disordered sensory processing."

Although the study authors said the findings are encouraging, they noted that more research is needed to better understand exactly how each of these three genes is associated with migraine.

Halpern agreed that much more study lies ahead to unravel the genetics of migraine.

"This current research will help us more fully understand what happens during migraine, but there is also much more to learn," she said. "We've always known it's a genetic condition -- but the last 10 years we've learned it's a neurological condition. This study brings those two ideas together."

The report is published in the June 12 online edition of the journal *Nature Genetics*.

More information

The U.S. National Library of Medicine has more about [migraines](#).

SOURCES: Audrey Halpern, M.D., clinical assistant professor, department of neurology, NYU Langone Medical Center, New York City; Brigham and Women's Hospital, news release, June 12, 2011