Researchers identify 20 novel gene associations with bipolar disorder

May 1 2019

Bipolar disorder is characterized by transitions between depression and mania. Credit: Wikipedia

In the largest study of its kind, involving more than 50,000 subjects in 14

countries, researchers at the Icahn School of Medicine at Mount Sinai and more than 200 collaborating institutions have identified 20 new genetic associations with one of the most prevalent and elusive mental illnesses of our time—bipolar disorder. The study is reported in the May 2019 issue of *Nature Genetics*.

The elevated morbidity and mortality associated with bipolar disorder make it a major public health problem and leading contributor to the global burden of disease. The identification of genes associated with it can help identify therapeutic targets for treatment and prevention.

Bipolar disorder, a neuropsychiatric condition characterized by dramatic shifts in a person's mood, affects approximately 60 million people globally, 10 million of them in the United States. Unlike other illnesses, bipolar disorder has been found to affect men, women, and people of all ethnic groups equally. While genetic and environmental factors have been demonstrated to play a role in the illness, the exact cause of bipolar disorder remains unknown.

To identify genes associated with the disorder, researchers conducted a genome-wide association study (GWAS)—a study type used to look for differences in the genetic code that are associated with a particular trait, such as having a mental illness. While some of the study findings reinforced hypotheses regarding the neurobiology of the disease—for example, its high heritability as previously demonstrated in twin studies—the study also demonstrates new biological insights. The study was initiated by the late Pamela Sklar, MD, Ph.D., who was Chief of the Division of Psychiatric Genomics at Mount Sinai.

In examining the genetic relationships between bipolar disorder and other psychiatric illnesses, the researchers discovered that eight of the genes they found to be associated with bipolar disorder harbored schizophrenia associations as well. Depression, in addition to other

psychiatric-relevant traits such as autism spectrum disorder and anorexia nervosa, was also found to have genetic ties to the disorder.

"The crux of this international collaborative study was, in essence, to connect the dots," said Eli Stahl, Ph.D., Assistant Professor of Genetics, and Psychiatry, at the Icahn School of Medicine at Mount Sinai. "By discovering new genes associated with bipolar disorder and demonstrating their overlap with genes found in other psychiatric disorders, we bring ourselves closer to finding the true genetic underpinnings of the disease and improving patient outcomes."

Provided by The Mount Sinai Hospital

Citation: Researchers identify 20 novel gene associations with bipolar disorder (2019, May 1) retrieved 21 April 2023 from https://medicalxpress.com/news/2019-05-gene-associations-bipolar-disorder.html