Genetic Test for Bipolar Risk a Real Possibility

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A genetic test to measure a person's risk for developing bipolar disorder is moving closer to reality, according to researchers at the Indiana University (IU) School of Medicine in Indianapolis.

Neuroscientists and geneticists have been promising to unlock the genetic mystery of brain disorders for years, and they're starting to narrow in on medical disorders such as Parkinson's disease. Accurately pinpointing the genes associated with complex problems such as mood disorders has been much tougher.

Now, Alexander Niculescu III, MD, PhD, from IU, and his colleagues are reporting in the *American Journal of Medical Genetics Part B: Neuropsychiatric Genetics* that a test of a cluster of genes that they and others have found to be associated with bipolar disorder might increase the ability to predict who is most at risk for developing it.

Rather than simply look at the presence or absence of certain genes, however, Niculescu's team also looked at the types of actions carried out by the genes. The two taken together are known as convergent functional genomics (CFG). Niculescu and his colleagues claim that CFG provides a more accurate and consistent picture of genetic risk for complex medical problems such as psychiatric disorders.

The authors caution, however, that the test can't predict with absolute certainty whether a person will develop bipolar disorder. It would merely assess a person's risk or vulnerability.

"The coupling of a high score with certain environmental factors may be a predictor, not a certainty, that the individual will develop bipolar disorder," Niculescu said. "Genes explain a small portion of the risk of developing the illness. Unlike some genetic predisposition to diseases like Huntington's or cystic fibrosis, the variances in genes that can predispose people to mood disorders are found in all of us."

"What we are learning," he concluded, "is that it may take a combination of factors—too many gene variances in the wrong environment and you are at high risk."

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