

Researchers find a partially shared genetic profile between schizophrenia and bipolar disorder

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Both schizophrenia and bipolar disorder can be disabling conditions, and both present clinically with significant mood and psychotic symptoms. These two illnesses also share genetic variants that might be involved in the predisposition to both disorders. A new study scheduled for publication in the July 15th issue of *Biological Psychiatry* sought to analyze the patterns of gene expression in the brains of individuals diagnosed with one of these disorders to search for a common "characteristic [genetic] signature."

Using microarray gene expression, Drs. Ling Shao and Marquis Vawter tested whether there was a core set of genes shared in the predisposition or long term consequences of both illnesses. The researchers found 78 dysregulated genes, representing genes involved in nervous system development and cell death, which displayed differential expression compared to control subjects. As Dr. Vawter further explains, "the pattern of dysregulation was similar in the prefrontal cortex for both illnesses and pointed to key processes. Part of the set of core genes could be explained by medication responses; however most of these core genes did not appear to be correlated to medication response."

John H. Krystal, M.D., Editor of *Biological Psychiatry* and affiliated with both Yale University School of Medicine and the VA Connecticut Healthcare System, adds: "The new findings by Drs. Shao and Vawter provide evidence that there are a large number of genes that show a

similar pattern of abnormal regulation in their sample of post-mortem brain tissue from individuals who had been diagnosed with schizophrenia or bipolar disorder. This overlap could provide insight into the neurobiology of both disorders." Better understanding of the neurobiology related to the shared genes may offer a window into discovery of common brain mechanism(s) that could guide the identification of new and more effective treatments.

The authors also mention in their article recent discussions that have focused on considering schizophrenia and bipolar disorder as a single illness viewed along a continuum of mood and psychotic symptoms. Dr. Krystal concurs, noting that "we have traditionally treated these diagnoses as unrelated conditions even though many of the same medications, such as antipsychotic medications, are used to treat both conditions." Thus, there may be a need for our understanding of psychiatric diagnoses to evolve to fit the growing support of some common disease-related mechanisms that cross diagnostic boundaries, as evidenced by the findings in this study.

Source: Elsevier

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