Polygenic Risk Score Predicts Tx Response in Schizophrenia

WEDNESDAY, Nov. 7, 2018 — A polygenic risk score (PRS) for schizophrenia can predict 12-week posttreatment symptom scores among patients with first-episode psychosis, according to a study published online Nov. 5 in the American Journal of Psychiatry.

Jian-Ping Zhang, M.D., Ph.D., from the Donald and Barbara Zucker School of Medicine at Hofstra/Northwell in Hempstead, New York, and colleagues examined whether a PRS for schizophrenia could predict antipsychotic efficacy in four cohorts of patients with first-episode psychosis (510 patients). Participants received initial treatment with antipsychotic medications and were genotyped on standard single-nucleotide polymorphism arrays. The PRS was computed based on a large-scale genome-wide association study for schizophrenia.

The researchers found that a higher PRS significantly predicted higher symptom scores at the 12-week follow-up in the discovery cohort. The strongest result was seen with a PRS threshold set at P < 0.01. This threshold was used to replicate findings in the other three cohorts. In the combined replication analysis, a higher PRS significantly predicted greater posttreatment symptoms. The results were individually significant in two of the replication cohorts. The PRS was significantly predictive of adjusted 12-week symptom scores across the four cohorts. Compared with patients with a high PRS, those with a low PRS were more likely to respond to treatment (odds ratio, 1.91 in the two Caucasian samples).

“Polygenic risk scores represent the combined effects of many thousands of genetic variants across the entire genome, and better represent the very complex genetic nature of schizophrenia,” Zhang said in a statement.

Several authors disclosed financial ties to the pharmaceutical industry.

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