Immune-inflammatory biomarkers higher in severe mental illness, type 2 diabetes mellitus

August 11 2022

Individuals with severe mental illness or type 2 diabetes mellitus

(T2DM) have increased levels of peripheral immune-inflammatory biomarkers, which may contribute to neurocognitive and social deficits, according to a study recently published in the *Frontiers of Neurology*.

Marta Garés-Caballer, M.D., from the University of Valencia in Spain, and colleagues conducted a prospective one-year follow-up cohort study involving 165 participants at baseline (30 with schizophrenia, 42 with bipolar disorder, 35 with major depressive disorder, 30 with T2DM, and 28 healthy controls) and 125 participants at one-year follow-up. Executive domain, global social functioning score, and peripheral blood immune-inflammatory and oxidative stress biomarkers were determined.

The researchers found increased peripheral levels of inflammatory markers, such as interleukin-10 and tumor necrosis factor-α, and oxidative stress biomarkers, such as reactive oxygen species (ROS) and mitochondrial ROS, were seen among participants with severe mental illness and T2DM. For participants with severe mental illness, the different combinations of the exposed biomarkers anticipated 46.0 to 57.3 percent of the total executive domain and 23.8 to 35.7 percent of the global social functioning score.

"Our current results elucidated the predictive power of peripheral biomarkers for immune-inflammatory activity in relation to social and executive functioning in patients with [severe mental illness] and T2DM," the authors write.

One author disclosed financial ties to the pharmaceutical industry.

More information: Marta Garés-Caballer et al, Immune–Inflammatory Biomarkers Predict Cognition and Social Functioning in Patients With Type 2 Diabetes Mellitus, Major Depressive Disorder, Bipolar Disorder, and Schizophrenia: A 1-Year Follow-Up Study, *Frontiers in Neurology* (2022). DOI:

10.3389/fneur.2022.883927