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PTSD linked to insulin resistance and metabolic syndrome, early markers of heart disease

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Patients diagnosed with post-traumatic stress disorder (PTSD) have a significantly higher risk of developing insulin resistance and metabolic syndrome, placing them at greater risk for heart disease and diabetes, according to research being presented at the American College of Cardiology's 62nd Annual Scientific Session. Researchers say public health interventions are urgently needed to prevent PTSD-related metabolic disorder at its early, reversible stage.

This retrospective study included 207,954 veterans in Southern California and Nevada between 46 and 74 years of age (93 percent male) with and without PTSD. All subjects were identified in a primary care setting and had no known history of heart disease or diabetes. Subjects were followed for a median of two years to see whether they developed insulin resistance, which contributes to hardening of the arteries and increases the risk of heart attack, and/or metabolic syndrome, a cluster of conditions including increased blood pressure, high blood sugar levels, excess body fat, and abnormal cholesterol levels that increase the risk of heart disease, diabetes, and stroke. All data were collected through Veterans Administration electronic medical records.

At follow-up, insulin resistance was significantly higher in PTSD participants with 35 percent showing resistance compared to 19 percent without PTSD. Similarly, metabolic syndrome was significantly more likely in the PTSD group at 53 percent compared to 38 percent in the

non-PTSD population. After adjusting for age, gender, ethnicity, high blood pressure, high cholesterol and family history of premature coronary artery disease and obesity, PTSD was still independently associated with higher rates of insulin resistance and metabolic syndrome.

"Because insulin resistance and metabolic syndrome can be reversed during their early stages with lifestyle modifications, including diet and exercise, it's important that all patients at risk be identified early on," said Ramin Ebrahimi, MD, professor of medicine at University of California Los Angeles and a co-lead investigator on the study. "Our findings show that post-traumatic stress disorder is, by itself, an important independent predictor for these conditions in both genders."

Dr. Ebrahimi says current treatment of PTSD is typically limited to managing psychiatric symptoms of the condition. Based on these findings, he and his team are advocating for a more integrated approach to care of patients with PTSD.

"By focusing on the early detection and management of PTSD-related medical conditions, including metabolic disorders and atherosclerosis in conjunction with PTSD-related psychiatric conditions, long-term medical and psychiatric adverse events related to PTSD may be significantly reduced or prevented," Dr. Ebrahimi said.

While initially reserved only for combat veterans, PTSD is rapidly emerging as a prevalent disorder outside the veterans' population. Nearly 8 million Americans have PTSD, according to the National Institute of Mental Health. While researchers say they do not yet know what is behind the link between PTSD and insulin resistance and metabolic disorder, they suspect that, similar to some of the other medical conditions, inflammation and vascular dysfunction may be involved. Ultimately, variations in hormonal levels and genetics may be linked as

contributing or potential causal factors.

Dr. Ebrahimi said "the current findings add more credence to our initial project linking PTSD to atherosclerotic coronary artery disease published two years ago."

The study researchers are also investigating the relationship between early treatment of PTSD and development of insulin resistance and metabolic syndrome, as well as the relationship of simultaneous psychiatric and medical management of PTSD and metabolic disorders and clinical outcomes such as heart attack, stroke and death.

Provided by American College of Cardiology

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