Clinical Digest

Postdeployment Health

PTSD Severity and Metabolic Syndrome

Metabolic syndrome may be a useful tool for quantifying the cardiovascular and metabolic impact of posttraumatic stress disorder (PTSD), according to researchers from VA San Diego Health Care System, San Diego, CA; University of California at San Diego; Durham VA Medical Center (VAMC), Durham, NC; and Cincinnati VAMC and University of Cincinnati, both in Cincinnati, OH.

They analyzed data on 253 veterans who had enrolled in Gulf War screening and PTSD programs at Cincinnati VAMC. The participants had a mean age of 51 years; 92% were men, 76% were white, and 71% had served in the Vietnam War. They were evaluated for metabolic syndrome through blood pressure, waist-to-hip ratio, and fasting plasma lipid and glucose level measurements. The Clinician Administered PTSD Scale (CAPS) was used to evaluate for PTSD, and diagnostic interviews were used to evaluate for current diagnoses or histories of major depressive disorder (MDD) and substance, alcohol, or nicotine abuse or dependence.

Of the study participants, 64% had MDD, 55% had PTSD, and 41% had both PTSD and MDD. Metabolic syndrome was present in 40% of all the participants, 34% of those with PTSD only, 29% of those with MDD only, and 46% of those with both PTSD and MDD.

After controlling for MDD and substance, alcohol, and nicotine abuse or dependence, the researchers found participants' total CAPS score to be a significant predictor of metabolic syndrome. They found that the risk of metabolic syndrome rose one percentage point with each point on the CAPS. Gender also was a significant and unique predictor of metabolic syndrome risk (with women having a lower risk), while MDD was not.

The researchers say their findings suggest that metabolic syndrome might be more useful than its individual components for assessing PTSD's physiologic burden, as diastolic blood pressure was the only individual measure that differed between the participants with and without PTSD. They add that future studies should attempt to determine "whether metabolic syndrome can sufficiently account for the higher morbidity and mortality" associated with trauma and PTSD.

Source: *BMC Med.* 2009;7(1):1. [Epub ahead of print] doi:10.1186/1741-7015-7-1.

Neurology

DBS for Parkinson Disease: Good News and Bad News

Deep brain stimulation (DBS) is a popular treatment for patients with advanced Parkinson disease (PD). Few studies have compared DBS with best medical therapy (BMT), however, and most studies on DBS have excluded elderly patients.

Researchers from the CSP 468 Study Group sought to fill this knowledge gap in the first phase of an ongoing study funded by the VA Office of Research and Development, the National Institute of Neurological Disorders and Stroke, and Medtronic Neuromodulation (Minneapolis, MN). They studied a sample of 255 patients with PD, enrolled at seven VA medical centers and six affiliated university hospitals, who were responsive to levodopa but had persistently disabling symptoms despite medication use. The patients had a mean age of 62 years, and 25% were aged 70 years or older; 96% of the patients were white and 82% were men.

The patients were assigned randomly to DBS (n = 121) or BMT (n = 134). In the DBS group, 61 patients received globus pallidus stimulation and 60 received subthalamic nucleus stimulation. In the BMT group, movement disorder neurologists managed patients' treatment with pharmacologic and nonpharmacologic therapies, as needed.

By six-month follow-up, patients in the DBS group showed significantly better motor function and quality of life than patients in the BMT group. The researchers' primary outcome measure was time spent in a state of good motor control or unimpeded motor function without troubling dyskinesia. Patient diaries indicated that this time increased by an average of 4.6 hours per day from baseline to follow-up for patients in the DBS group, while it remained constant, on average, for the BMT group.

Neurologists' examinations indicated that motor function improved significantly for 71% of patients in the DBS group and 32% of patients in the BMT group. In addition, patients in the DBS group showed significant improvements on seven of the eight Parkinson Disease Questionnaire 39 subscales used to measure quality of life on follow-up, while patients in the BMT group showed significant improvements on only one of these subscales. The researchers found similar results when looking only at patients aged 70 years and older, although older patients in the DBS group showed greater improvements

than those in the BMT group on only three of the quality of life subscales.

Adverse events were more common among patients in the DBS group. Serious events occurred in 40% of these patients, compared with only 11% of patients in the BMT group. Most of the differences in adverse events occurred during the first three months of follow-up; by six months, 83% of all events and 99% of serious events from both groups had resolved. In the DBS group, 83% of serious adverse events were attributed to the surgical procedure, stimulation device, or stimulation therapy. One patient in this group died secondary to cerebral hemorrhage 24 hours after DBS lead implantation.

In addition, some neurocognitive testing results favored patients in the BMT group. Patients in this group showed average 1- to 2-point improvements on tests of their working memory, processing speed, phonemic fluency, and delayed recall, while those in the DBS group showed 1- to 3.5-point deteriorations on these tests.

The researchers say that, while their results show the benefits of DBS, these benefits "need to be weighed against the risk of complications related to surgery." They add that the second phase of their study will shed light on the clinical significance of the observed adverse events and minor neurocognitive changes—as well as on the question of whether DBS patients view these liabilities as acceptable.

Source: *JAMA*. 2009;301(1):63–73. doi:10.1001/jama.2008.929.