PTSD Treatment Breakthrough

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Studies Find Breakthrough in PTSD Treatment

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By Kelly Kennedy

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Brain scans, blood tests may help predict condition

Two new studies seem to provide more evidence that post-traumatic stress disorder is a chemical change in the brain caused by trauma — and that it might be possible to diagnose, treat and predict which troops are most susceptible to it using brain scans or blood tests.

In one study, Christine Marx of the Duke University Medical Center and Durham Veterans Affairs Medical Center wondered why PTSD, depression and pain often occur together.

Researchers already knew that people with PTSD show changes in their neurosteroids, which are brain chemicals thought to play a role in how the body responds to stress.

Previous animal studies showed that blood neurosteroid levels correlated to brain neurosteroid levels, so Marx measured the blood neurosteroid levels of 90 male Iraq and Afghanistan veterans. She found that the neurosteroid levels correlated to symptom severity in PTSD, depression and pain issues, and that those levels might be used to predict how a person reacts to therapy, as well as to help develop new therapies.

Marx is researching treatment for people with traumatic brain injuries using the same kind of brain chemical, and early results show that increasing a person’s neurosteroid level decreases his PTSD symptoms.

Marx’s work was funded by the Veterans Affairs Department, National Institutes of Health, Defense Department and NARSAD, an organization that funds brain and behavior research.

A second study, conducted by Alexander Neumeister of Yale University School of Medicine, found that veterans diagnosed with PTSD along with another syndrome, such as depression, alcohol abuse, substance abuse or suicidal ideation, had different brain images on a CT scan than did those who had been diagnosed only with PTSD.

Neumeister became curious after realizing that veterans dealing only with PTSD responded differently to treatment than did those with PTSD and another diagnosis.

He said the finding is important for two reasons.

First, these differences “can have huge implications for treatment,” he said in a statement issued by the American College of Neuropsychopharmacology, which released the two studies during its annual meeting Dec. 6-10.

For example, he said, treating a person with antidepressants addresses only the depression diagnosis — not the PTSD or the substance abuse issues. All of the issues need to be addressed, he said.

His second reason addresses the stigma behind seeking help for PTSD. Service members have said they fear being perceived as weak or cowardly, or their military careers will be hurt, if they seek help for mental health issues.

“Once veterans see this is a neurobiological disorder in which their brain acts differently in terms of circuitry and chemical function, oftentimes it motivates them to seek treatment,” he said.In his report, Neumeister also said that depression with trauma is “biologically distinct” from depression without a history of severe trauma.

In other words, PTSD, depression and substance abuse can all be seen as a physical, chemical injury to the brain that occurs when the brain is exposed to trauma. As researchers work more with PTSD, they may be able to determine why some people are more susceptible to this chemical change than others, researchers said.

Neumeister’s work was funded by VA, NIH, NARSAD, the National Center for PTSD and the Patrick and Catherine Weldon Donaghue Medical Research Foundation.

FINDINGS AT A GLANCE

• Study: Duke University Medical Center and Durham Veterans Affairs Medical Center

• Findings: Levels of a brain chemical called neurosteroids correlate to symptom severity in post-traumatic stress disorder, depression and pain, and could possibly be used to predict reaction to therapy.

• Study: Yale University School of Medicine

• Findings: Veterans diagnosed with PTSD and other mental health issues have different brain images on a CT scan.