

Veterans with blast traumatic brain injury may have unrecognized pituitary dysfunction

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In soldiers who survive traumatic brain injury from blast exposure, pituitary dysfunction after their blast injury may be an important, under-recognized, and potentially treatable source of their symptoms, a new study finds. The results were presented Saturday at ICE/ENDO 2014, the joint meeting of the International Society of Endocrinology and the Endocrine Society in Chicago.

"Our study suggests that deficiencies in the pituitary's growth hormone and testosterone are commonly seen after blast traumatic brain injury, especially in patients who are overweight. Because multiple symptoms common with blast traumatic [brain injury](#) are also seen with growth hormone and testosterone deficiencies, perhaps treating these hormone deficiencies will help improve the symptom burden and quality of life for these veterans," said lead study author Jeffrey S. Taylor, MD, endocrinology fellow at Virginia Commonwealth University Medical Center in Richmond, Virginia.

Blast [traumatic brain injury](#) (bTBI) is increasingly common in military personnel returning from combat. A common consequence of bTBI in general is pituitary hormone dysfunction, which can occur even without mechanical head trauma and can interfere with the soldier's recovery, long-term health, and overall well-being. A soldier's depression, [post-traumatic stress disorder](#) (PTSD), and certain medications may further complicate diagnosing possible pituitary dysfunction, so it often goes unrecognized and untreated.

Expanding on their prior research of the incidence of pituitary dysfunction in male post-bTBI veterans, Dr. Taylor and his colleagues looked at 37 male veterans who had been exposed to combat-related blasts. They evaluated them for bTBI and tested them for hormone dysfunction while screening for and minimizing their use of medications that might interfere with their lab tests.

Of these veterans, 23 had mild and 2 had moderate TBI. Overall, 27% were obese and almost all the men had PTSD. Their exposure to the blast ranged from 2 to 113 months prior to the time their blood samples were taken.

The most common finding involved growth hormone deficiency and hypogonadism associated with low testosterone, especially in their overweight patients, suggesting that these hormone deficiencies occur frequently after bTBI and that treating them may improve their symptoms.

The authors called for further study to address several challenges.

"One challenge in diagnosis is that certain medications commonly used for these patients can interfere with needed laboratory testing. Another is that, although our data suggest that [growth hormone](#) deficiency and hypogonadism occur frequently after bTBI, these conditions also appear to be strongly associated with obesity. PTSD and depression may also affect pituitary function. Further study is needed to clarify the extent to which these conditions affect diagnosing true pituitary dysfunction among bTBI survivors and to determine if hormone replacement will benefit them," Dr. Taylor said.

Provided by The Endocrine Society

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