



US DEPARTMENT OF DEFENSE

BLAST INJURY RESEARCH PROGRAM COORDINATING OFFICE

Pathophysiology of Neurotrauma Assessing the Neuroendocrine Changes Following Head Injury

Scientific evidence suggests that neuroendocrine dysfunction occurring with or resulting from a mild traumatic brain injury (mTBI) is associated with poor health outcomes following injury (*Agha et al. 2004, Tanriverdi et al. 2006, West and Sharp 2014*). Researchers at Naval Medical Research Center (Silver Spring, Maryland) hypothesized that abnormal pre-injury neuroendocrine hormone levels and post-injury neuroendocrine dysregulation would be associated with poor health outcomes or an increased number of post-concussive syndrome-related symptoms (e.g., headache, anxiety, insomnia, etc.). To study this relationship, the researchers have obtained serum from patients injured in a deployed setting and who were seen by clinicians at the Concussion Restoration Care Center in Afghanistan. Serum samples were analyzed at both pre- and post-injury. To date, the findings indicate that Service members who incurred mTBI had significant long-term alterations in neuroendocrine function following injury compared to non-mTBI controls. Moreover, Service members with abnormal baseline neuroendocrine measures and/or post-mTBI neuroendocrine dysfunction were more often associated with reports of poor health outcomes compared to Service members with normal neuroendocrine function.

REFERENCES:

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