

# Centre for Neuro Skills Presents an Abstract

## Detection of Growth Hormone Deficiency in Adults with Chronic Traumatic Brain Injury

Lisa A. Kreber, Ph.D.; Grace S. Griesbach, Ph.D.; Mark J. Ashley, Sc.D.

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This study examined the prevalence of growth hormone deficiency (GHD) in patients with traumatic brain injury (TBI) during the post-acute phase of recovery and whether GHD was associated with increased disability, decreased independence, and depression. A secondary objective was to determine the accuracy of insulin-like growth factor-1 (IGF-1) levels in predicting GHD in patients with TBI. Anterior pituitary function was assessed in 235 adult patients with TBI through evaluation of fasting morning hormone levels. GH levels were assessed through provocative testing, specifically the glucagon stimulation test. GHD was diagnosed in a significant number of patients, with 45% falling into the severe GHD ( $\leq 3$  lg/L) category. IGF-1 levels were not predictive of GHD. Patients with GHD were more disabled and less independent compared with those patients who were not GHD. Those patients with more severe GHD also showed decreased levels of cortisol and testosterone. Symptoms of depression were also more prevalent in this group. In addition, patients with severe GHD had delayed admission to post-acute rehabilitation. This study confirms the high prevalence of GHD in patients with TBI and the necessity to monitor clinical symptoms and perform provocative testing to definitively diagnose GHD.

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