

Chronic Fatigue Patients Show Reduced Adrenal Cortisol and DHEA Hormones

Cleare, A. J. (2003). "The neuroendocrinology of chronic fatigue syndrome." Endocr Rev 24(2): 236-52.

Chronic fatigue syndrome (CFS) is a common and disabling problem; although most likely of biopsychosocial origin, the nature of the pathophysiological components remains unclear. There has been a wealth of interest in the endocrinology of this condition, which will be reviewed in this article. Most studied has been the hypothalamic-pituitary-adrenal (HPA) axis; although the quality of many studies is poor, the overall balance of evidence points to reduced cortisol output in at least some patients, with some evidence that this is linked to symptom production or persistence. There is evidence for heightened negative feedback and glucocorticoid receptor function and for impaired ACTH and cortisol responses to a variety of challenges. However, there is no evidence for a specific or uniform dysfunction of the HPA axis. Given the many factors that may impinge on the HPA axis in CFS, such as inactivity, sleep disturbance, psychiatric comorbidity, medication, and ongoing stress, it seems likely that HPA axis disturbance is heterogeneous and of multifactorial etiology in CFS. Studies assessing GH, dehydroepiandrosterone and its sulfate, melatonin, leptin, and neuroendocrine-monoamine interactions are also reviewed. There is some evidence from these studies to suggest alterations of dehydroepiandrosterone sulfate function and abnormal serotonin function in CFS, but whether these changes are of functional importance remains unclear. To obtain a clearer assessment of the etiological and pathophysiological relevance of endocrine changes in CFS, it is suggested that more prospective cohort studies be undertaken in groups at high risk for CFS, that patients with CFS are followed up into recovery, and that multidimensional assessments are undertaken to unravel the influence of the various confounding factors on the observed endocrine changes in CFS.