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# A pilot study employing Dehydroepiandrosterone (DHEA) in the treatment of chronic fatigue syndrome

P B Himmel <sup>1</sup>, T M Seligman

Affiliations

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## Abstract

Patients with chronic fatigue syndrome (CFS) frequently associate the disease onset with a period of high physical and/or emotional stress. Alterations in hypothalamic-pituitary adrenal axis (HPA) function have been demonstrated. Although Cortisol production in patients with CFS has proven to be low, Dehydroepiandrosterone (DHEA) production has not been measured. DHEA output may be altered in this population. The purpose of this uncontrolled, prospective, 6 month study of 23 white women, ages 35-55 was to identify CFS patients with suboptimal serum levels of DHEA-sulphate (DHEA-S), defined as DHEA-S <2.0 microg/mL, and to treat those patients with oral DHEA. DHEA-S levels were re-measured after 4-6 weeks of oral DHEA therapy (25 mg). If DHEA-S remained <2.0 microg/mL, or if no clinical response was achieved after 4-6 weeks of therapy, then an increased dose of DHEA was given. Physical and psychological impairment and disability status were measured by the MHAQII before DHEA intervention and at 3-month intervals. Of initially screened patients with CFS, 76% (116 of 153) were ages 35-55, and 89% (103 of 116) had suboptimal (<2.0 microg/mL) production of DHEA-S. Supplementation with DHEA to CFS patients lead to a significant reduction in the symptoms of CFS: pain (improved by 18%,  $p = 0.035$ ), fatigue (decreased by 21%,  $p = 0.009$ ), activities of daily living (improved by 8.5%,  $p = 0.058$ ), helplessness (decreased by 11%,  $p = 0.015$ ), anxiety (decreased by 35%,  $p < 0.01$ ), thinking (improved by 26%,  $p < 0.01$ ), memory (improved by 17%,  $p < 0.05$ ), and sexual problems (improved by 22%,  $p = 0.06$ ) over the period of the trial. Further study is necessary to determine the safety and efficacy of supplementation of DHEA to this population in a controlled setting.

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