DHEA Helps Some Aspects of Addison's Disease

BY TIMOTHY F. KIRN
Sacramento Bureau

Dehydroepiandrosterone supplementation appears to have some benefit in patients with primary adrenal insufficiency. But it does not change fat mass, improve cognitive or sexual function, or necessarily alleviate physical fatigue, according to a 12-month placebo-controlled trial involving 100 patients.

Dehydroepiandrosterone (DHEA) therapy does improve lean body mass, some aspects of well-being, and bone mineral density at the femoral neck, investigators reported.

The findings support a previous study they conducted, which found DHEA improved patients' sense of well-being, said Dr. Eleanor M. Gurnell of the department of medicine, Addenbrooke's Hospital, Cambridge, England, and colleagues (J. Clin. Endocrinol. Metab. 2008;93:400-9).

They assumed the well-being finding would hold up, and designed the current study to be large enough to provide statistically significant data on whether long-term supplementation would prevent bone density loss, which most Addison's patients experience and which does not improve with glucocorticoid and mineralocorticoid treatment.

Of 106 patients (62 women) with primary adrenal insufficiency, 100 took DHEA (50 mg daily) or placebo for the full 12 months. The median age of the subjects was 46 years, their median duration of having Addison's was 10-11 years.

Serum DHEA levels monitored during the study indicated good compliance by those taking active drug, and raised DHEA levels from decidedly below normal to within the physiologic range for a young adult.

At the outset, bone mineral density was low in the subjects, with about 39% of the men and women having density T scores indicative of osteopenia in the lumbar spine and femoral neck. After 12 months of treatment, the placebo group had a continued mean loss in both the spine and femoral neck. The treated group, however, had a mean gain in the femoral neck (0.004 g/cm^2), though not in the spine.

The treatment did not produce any different changes in body mass index, though it improved total lean body mass and relative truncal lean mass. It did not change fat mass.

Cognitive function measures using the National Adult Reading Test showed no improvement relative to placebo, even when a subanalysis only looked at patients aged over 45 years. Psychological status of the study subjects was measured using three instruments, the Short Form–36, the General Health Questionnaire–30, and the Multidimensional Fatigue Inventory–20. Overall, the study subjects had scores that were worse than those of the general population at baseline, and scores generally improved with DHEA treatment when the subjects were tested again at 12 months. They declined after a 1-month drug washout period at the end of the study.

But only two parameters of psychological status showed a mean improvement that was statistically significant relative to placebo. One was the role-emotional dimension of health on the Short Form–36 when measured at 12 months, and the other was the mental fatigue portion of the Multidimensional Fatigue Inventory–20 when measured at 6 months. By 12 months, there was no significant difference in the mental fatigue portion, however.

The fact that the study documented improvement in psychological status with DHEA treatment, together with a decline when treatment had been stopped for a month, indicated that there probably was some definite improvement, even if it was not statistically significant.

One of the largest differences seen in a psychological parameter at the beginning of the study was in the self-esteem component, a pattern that has been documented in other studies. It suggests there may be a specific psychological abnormality profile associated with Addison's disease.

Regarding side effects, 64% of 31 women on DHEA developed skin spots, 45% noted greasy skin, and 58% reported an increase in axillary hair. There were no observed changes in libido or sexual function in either gender.

The study was supported financially by the National Osteoporosis Society, National Institute for Health Research Biomedical Research Centre, and Wellcome Trust. ■

Screen for Thyroid Problems Before Starting ED Therapy

BY MIRIAM E. TUCKER
Senior Writer

Men with erectile dysfunction should be screened for thyroid disease before any ED-specific treatment is prescribed, researchers concluded based on a study of men treated at a thyroid clinic.

Among men with ED in whom thyroid dysfunction is identified and treated, specific ED treatment with selective phosphodiesterase-5 (PDE-5) inhibitors should be postponed for at least 6 months after euthyroidism is achieved because the thyroid problem may have been principally responsible for the ED, said Dr. Gerasimos E. Krassas of Panagia General Hospital, Thessaloniki, Greece, and his associates.

The study included 71 men (mean age 51 years) who presented to a thyroid clinic, 27 of whom had clinical hyperthyroidism (18 with Graves' disease, 9 toxic nodular or multinodular goiter) and 44 with clinical hypothyroidism (thyroid-stimulating hormone greater than 10 mU/L), including 37 with positive thyroid antibodies, they reported online in the Journal of Clinical Endocrinology and Metabolism (doi:10.1210/jc.2007-2259).

None of the patients were on thyroid medication prior to the study. Patients with diabetes, cardiovascular, or urological diseases were excluded, as were those with abnormal levels of total testosterone or sex hormone binding globulin. A similar number of age-matched normal men were recruited as controls.

All of the subjects filled out the validated Sexual Health Inventory for Males (SHIM), a five-item questionnaire that assesses a man's ability to attain and then maintain an erection. Scores of 21 or less, indicating some degree of ED, were found in 79% of the men with thyroid dysfunction (19 were hyperthyroid and 37 were hypothyroid), compared with 34% of the controls, a significant difference.

Among the men with any degree of ED, 38% of those with thyroid dysfunction had SHIM scores of 10 or less, indicative of severe ED, compared with 25% of the controls. Of the 21 patients with severe ED, 8 were hyperthyroid and 13 hypothyroid.

There was no difference in SHIM scores between hyperthyroid and hypothyroid patients. In the patients with hypothyroidism, SHIM scored correlated positively with free thyroxine (FT4) levels and negatively with thyroid-stimulating hormone (TSH) levels. In contrast, SHIM scores did not correlate with either FT4 or TSH levels in patients with hyperthyroidism, Dr. Krassas and his associates reported.

Scores on the SHIM improved significantly at 1 year after treatment of the thyroid dysfunction: Only 20 of the patients—7 with hyperthyroid and 13 hypothyroid—still had SHIM scores of 21 or less, and of those, only 7 had severe ED (SHIM less than 10), proportions similar to those among the controls.

In addition, no difference was found between hypothyroid patients having positive thyroid antibodies and those with negative antibodies, nor between patients with Graves' disease and those with nodular or multinodular toxic goiter, they said. ■

Ultrasound Helps Identify Bone Defects in Women With Type 2

BY JOHN R. BELL
Associate Editor

Ultrasound findings from a cross-sectional study of 162 postmenopausal women might help explain the paradox that women with type 2 diabetes can have higher bone mineral density than nondiabetic women and yet have a greater risk of fractures.

The study confirmed previous reports that bone mineral density (BMD) as measured by dual x-ray absorptiometry (DXA) is higher in women with type 2 diabetes than in women without diabetes. Yet a new diagnostic tool, quantitative ultrasound, revealed that the speed of sound through bone was lower in diabetic women. This may indicate that their denser bone is in some way of lesser quality, compared with the bone of women without type 2 diabetes.

The findings suggest that quantitative ultrasound is a useful tool in detecting impaired bone quality in postmenopausal women with type 2 diabetes, and that it might have greater promise than DXA in detecting bone defects in diabetic patients, the authors wrote.

Dr. Bei Tao of Shanghai (China) Jiao-tong University School of Medicine and colleagues enrolled 76 postmenopausal women with type 2 diabetes and 86 nondiabetic postmenopausal women. In the diabetic women, mean BMD as measured by DXA was 1.06 g/m^2 in the lumbar spine, 0.80 g/m^2 in the femoral neck, and 0.74 g/m^2 in the total hip, compared with 0.90 g/m^2, 0.80 g/m^2, and 0.74 g/m^2, respectively, in the nondiabetic women.

Quantitative ultrasound was used to assess the axial speed of sound along the distal third of the radius, the proximal phalanx of the third finger, and the midshaft of the tibia. The speed of sound was higher at all three locations in the nondiabetic women, compared with the diabetic women (see box), the investigators reported online in the Journal of Clinical Endocrine Metabolism (2008 Mar. 4 [doi:10.1210/jc.2007-1760]).

Among the nondiabetic women, BMD at each site correlated significantly with the speed of sound measurements. But among the diabetic women, only the speed of sound at the phalangeal site correlated significantly with all three BMD values; the speed of sound in the tibia correlated with none of the BMD values, and the speed of sound in the radius correlated with only the BMD of the femoral neck. ■