

Dehydroepiandrosterone Sulfate Has Not Been Substantiated as an Anabolic Hormone

In their assessment of the relationship between mortality and anabolic hormones, I am surprised that Maggio et al¹ continue to include dehydroepiandrosterone sulfate (DHEA-S) in this group. Despite being the most abundant steroid hormone in the circulation system, the purpose of DHEA-S in humans has yet to be identified. There have been several studies looking at its effects on a number of different physiological and psychological systems that have not shed any light on its role.² With particular respect to the role described by Maggio et al,¹ observational and interventional studies have consistently failed to show a convincing relationship between muscle strength and body composition with DHEA-S levels^{3,4} or have had conflicting results.^{5,6} Thus, to class DHEA-S as an anabolic hormone is an assumption that has yet to be substantiated.

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In reply

We thank Dhatariya for his comments on our study.¹ Dhatariya mentions that there is no reason to include DHEA-S in the group of anabolic hormones. Although some studies in women partially support Dhatariya's arguments,² there is enough evidence in the literature that DHEA-S exerts an anabolic effect on several tissues, which may be direct or mediated by the conversion to testosterone or by the stimulation of insulinlike growth factor 1 secretion.³ A number of observational studies show a significant positive association between serum DHEA-S levels and muscle mass and strength and a negative association with fat mass in both men and women.^{4,5} There is also evidence that DHEA-S is positively associated with bone mineral density (BMD) in the older population.⁶

The potential role of DHEA-S as an anabolic hormone is also supported by some intervention studies. Randomized placebo-controlled trials of DHEA in older men show a significant increase in muscle mass and strength, a sig-

nificant decrease in fat mass,⁷ and a significant increase in BMD.⁸ Similarly, in a recent study, Nair et al⁹ were able to detect a positive and independent association between DHEA and fat-free mass and a negative association with fat mass when men and women in their study population were analyzed together. Moreover, women in the DHEA group had a slight but significant increase in BMD of the distal radius, while men had a significant increase in BMD of the femoral neck.⁹

After an accurate revision of the literature, we recently published a consensus document suggesting that the strength of evidence of the putative anabolic effect of DHEA in older subjects can be defined as level 1b (according to the criteria of the North of England Evidence-Based Guidelines Development Project).³ Interestingly, the anabolic effect of DHEA is even stronger in men with primary adrenal insufficiency.¹⁰

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Opportunity Realized? Medical Consultation for Patients Undergoing Major Surgery

Auerbach et al¹ presented a retrospective analysis of patients who underwent surgery. The use of perioperative consultation in this population was not associated with differences in the adminis-