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JOURNAL ARTICLE

Effect of finasteride on adrenal steroidogenesis in men

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Finasteride, a 5 alpha-reductase inhibitor, does not bind to the androgen receptor and has no other known hormonal activity. To determine what effect, if any, it has on adrenal steroidogenesis, 10 healthy men received 5 mg finasteride daily for 28 days. Adrenocorticotropic hormone (ACTH) stimulation tests were performed before and after 4 weeks of finasteride administration (5 mg daily). Serum levels of 17-hydroxypregnenolone, 17-hydroxyprogesterone, deoxycorticosterone, corticosterone, aldosterone, cortisol, dehydroepiandrosterone, and androstenedione were measured before and 60 minutes after i.v. ACTH. Finasteride decreased serum dihydrotestosterone levels from 31 +/- 5 to 4.4 +/- 1.2 ng/dl (P < 0.001). There were no significant changes in basal or ACTH-stimulated serum levels of adrenal steroids. There was also no significant decrease in the product to precursor ratio for the seven adrenal enzymes tested. Finasteride increased mean serum androstenedione levels by 17% (P = 0.10) and significantly increased the androstenedione to 17-hydroxyprogesterone ratio (P = 0.02 before ACTH and 0.05 after ACTH). These changes are most likely due to inhibition of androstenedione metabolism by 5 alpha-reductase. In conclusion, finasteride has no detectable effect on adrenal steroidogenesis, other than that which can be explained by inhibition of the 5 alpha-reductase enzyme.