

Age-related Changes of Plasma Steroids in Normal Adult Males

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Received 23 November 1981. Available online 12 December 2002.

Abstract

Plasma cortisol, 17-hydroxyprogesterone (17-OH-P), testosterone (T), 5 α -dihydrotestosterone (DHT), estrone (E1) and estradiol (E2), were measured in 94 normal adult men aged between 20–99. using RIA methods after chromatographic separation of steroids on Sephadex LH-20 columns.

All plasma steroids except 17-OH-P, were age dependent: cortisol, testosterone and DHT decreased significantly with age, whereas estrone and estradiol were significantly increased in elderly men. Cortisol, testosterone. T/DHT ratio and estradiol levels were significantly correlated with age.

The age related changes of plasma steroids in elderly men, were suggestive of decreased cortisol secretion, and decreased testicular function with increased peripheral conversion of androgens into estrogens. Testosterone was positively correlated with its precursor (17-OH-P) and respectively its peripheral metabolites (DHT and E2). The negative correlation between estrone and 17-OH-P found in elderly men, suggested that increased estrogen level in aging males may be considered able to inhibit the testicular androgen production.

[†] With the expert technical assistance of Melania Busneanu and Mihaela Buda-Rotaru.