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PLASMA AND PROSTATIC TISSUE CONCENTRATIONS OF ANDROGENS IN BPH: EFFECT OF CYPROTERONE ACETATE AND FLUTAMIDE. F. Sciarra, V. Toscano, C. Lubrano, M. Casanica, R. Tenaglia, F. Di Silverio; Istituto di V Clinica Medica e di Urologia, Patologia Urologica, Università di Roma La Sapienza

Plasma and prostatic tissue concentrations of testosterone (T), dihydrotestosterone (DHT) and 3 α -androstane-20-one (3 α A) were evaluated in 32 patients with BPH, aged between 54-77 years. The first group included 12 untreated patients, the second 10 patients treated with Cyproterone Acetate (100 mg/day for 20-30 days) and the third 10 patients with Flutamide (750 mg/day for 20-30 days). Plasma and tissue specimens were obtained by means of transurethral resection in the last day of treatment. Plasma T was 469 \pm 182 ng/dl, DHT 66 \pm 19 ng/dl and 3 α A 12.9 \pm 6.7 ng/dl; in prostatic tissue T was 0.75 \pm 0.5 ng/gr, DHT 5.8 \pm 2.2 ng/gr and 3 α A 0.39 \pm 0.17 ng/gr in the untreated patients. After Cyproterone Acetate a 60% decrease in prostatic DHT was found, compared to the values of the untreated patients, associated to a significant reduction in plasma T, DHT and 3 α A. After Flutamide, the 40% decrease in tissue DHT was associated to a significant elevation in plasma T, whilst DHT and 3 α A were slightly modified. In conclusion, whilst both treatments reduce DHT concentrations in prostatic tissue, in plasma androgens show a different pattern, decreasing after Cyproterone Acetate and increasing after Flutamide. Whether this behaviour during a long-term treatment may impair the antiandrogen action of Flutamide has to be ascertained.

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TESTOSTERONE; ITS PRECURSORS AND ESTRADIOL CONCENTRATIONS IN TESTICULAR TISSUE AND PERIPHERAL BLOOD SERUM

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Although spermatogenesis depends on a high testosterone concentration surrounding the seminiferous tubules, it is uncertain, whether incomplete defects of androgen biosynthesis can hinder the normal spermatogenic cell development. In 20 patients undergoing a testicular biopsy for infertility diagnosis, we measured intratesticular concentrations of testosterone estradiol and some precursors. We compared them to the peripheral serum levels of these steroids.

It was observed, that the intratesticular ratio of androstenedione to testosterone is lower than that in the peripheral serum (mean 0,1 and 0,3), while that of 17-hydroxyprogesterone to testosterone is strikingly higher in the testis (1,0 as compared to 0,2 in serum). 6 patients had higher peripheral levels of progesterone, 2 those of 17-OH-progesterone than normal control persons, but a normal testicular concentration. The only determination of serum levels would have suggested an abnormal steroid metabolism. Our results indicate, that most of the changes in steroid concentration in testicular tissue and peripheral serum are due to individual differences and do not correspond to spermatogenic activity.