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MEASUREMENT OF TESTOSTERONE AND ITS 5-ALFA-REDUCED METABOLITES IN HUMAN PROSTATIC TISSUE USING ISOTOPE DILUTION MASS SPECTROMETRY.

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5- $\alpha$ - dihydrotestosterone (DHT) has been widely measured in human prostatic tissue using RIA since seems to be involved in pathogenesis of human prostatic hyperplasia (BPH) ( J.Clin.Invest. 72,1772,1983) and to be the best index for the follow-up of patients affected by prostatic cancer under endocrine treatment (JCEM,58,36,1984). A GC/MS method for the simultaneous determination of testosterone (T) , DHT , 3 $\alpha$ - and 3 $\beta$ -diols in prostatic tissue based on the isotopic dilution technique was developed. Trideuterated internal standards of each compound were previously synthesized in our laboratory. After previous extraction and purification on Sep-Pak C- 18 cartridges and Lipidex DEAP columns, T and its metabolites were measured as TBMS, TBDMS oxime/TBDMS ether and HFBS. Quantitative analysis was performed on a VG 7070 EQ mass spectrometer equipped with a fused silica capillary column using the Selected Ion Recording technique. Steroid values ( mean  $\pm$  SD ng/gr tissue) found in 10 human hypertrophic prostates were:

T:0.73  $\pm$  0.15; DHT:4.04  $\pm$  0.19; 3 $\alpha$ -diol: 0.34  $\pm$  0.09; 3 $\beta$  diol : 0.006  $\pm$  0.001

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THERAPEUTIC APPROACHES IN PROSTATIC CANCER. Di Silverio F. and Sciarra F.;Istituto di Urologia,Patologia Urologica e V Clinica Medica,Università di Roma "La Sapienza".

Medical or surgical castration in patients with advanced prostatic carcinoma,using combination therapy (orchietomy + cyproterone acetate or GnRH agonist or Flutamide) gives satisfactory clinical results in 80% of the cases. DNA content of the tumoral cells using flow-cytometry,tissue dihydrotestosterone (DHT) concentrations,tumor grade (G1-G3) and androgen receptors (AR) are the parameters of prognostic value to predict the clinical response to hormonal therapy. The results obtained in 26 patients aged 58-72 years are summarized in the table.

G1 (9)	diploid (9)	AR+ (8) AR- (1)	DHT 2.1-2.8 ng/gr
G2 (12)	diploid (7) aneuploid(5)	AR+ (6) AR- (1) AR+ (1) AR- (4)	DHT 1.6-2.1 ng/gr
G3 (5)	multicloneupl.(3) monocloneupl.(2)	AR+ (2) AR- (3)	DHT 0.8-1.6 ng/gr

The follow-up ranged from 3 to 28 months. The first group of 16 patients G1-G2,diploid,AR+ (14) or AR- (2),with tissue DHT of 1.8-2.8 ng/g,responded positively to the endocrine treatment;showing a complete or partial objective remission. The second group of 10 patients G2-G3,aneuploid, AR+ (3) or AR- (7),with tissue DHT of 0.8-1.6 ng/g did not respond to treatment, the condition being objective stable or progressive. However,some of these patients are still responsive to Flutamide. In conclusion,the combination therapy has a more potent antiandrogen action than monotherapy: moreover, combined measurement of DNA and DHT in tumor tissue are of prognostic value,being strictly correlated with the clinical response to the endocrine therapy.