Postoperative bromocriptine therapy for 8-15 weeks always re-established ovulatory cycles. One of the above mentioned patients became pregnant twice; the first time she had a miscarriage, the second time a normal twin delivery at term. Eight other patients having adenomas, were treated with bromocriptine therapy (7.5 mg/day) only; in all cases ovulatory cycles were re-established after a few weeks of therapy; in addition four patients became pregnant and delivered normal babies at term.

In 73 hyperprolactinaemic patients, without radiological signs of adenoma, bromocriptine therapy, normalized prolactin levels and relieved clinical symptoms. Fourteen of them, desiring babies, became pregnant after a few weeks of therapy and delivered 14 normal babies at term.

60. 20αOH/17αOH progesterone relationships with prolactin and androgens in normal, hyperprolactinemic and hirsute women, G. MAGRINI, F. MÉAN and J.P. FELBER, Division de Biochimie Clinique, Département de Médecine, C.H.U.V., 1011 Lausanne, Switzerland

It is generally admitted that prolactin (PRL) influences steroidogenesis in women, and a biphasic action of PRL on progesterone (P) secretion has been reported.

On the other hand, P metabolism to 20αOH-progesterone (20αOHP) has been suggested to regulate locally intracellular P concentration. As conflicting data on the possible effects of PRL on P metabolism and androgen secretion have appeared in the literature, in this study progestin and androgen levels were evaluated in various groups of women presenting either hyperprolactinemia or hyperandrogenic hirsutism, as well as in a control group. Plasma 20αOHP, 17αOHP, testosterone (T), androstenedione (A), DHEA-S, cortisol and PRL were measured by specific radioimmunoassays.

In the group of 10 hyperprolactinemic women, the mean 20αOHP/17αOHP ratio of plasma levels in the follicular phase decreased significantly, compared with the control group, but returned close to control values in the hyperprolactinemic group during bromocriptine treatment.

As a significant decrease in the 20αOHP/17αOHP ratio was also observed in the group of 19 hirsute patients presenting with severe hyperandrogenism as well as cycle disturbances, the findings suggest that both pathological conditions leading to hypersecretion of either PRL or androgens, might exert similar lowering effects on the 20α/17α balance, in favour of the formation of the androgenic precursor, 17αOH-progesterone. Moreover, the results show significant modifications in the ratios between individual plasma androgen or progestin levels, depending on the stage of the menstrual cycle (early, mid-late follicular, periovulatory or luteal).

61. Influence of SHBG on activity of 17β-hydroxysteroid oxidoreductase in human erythrocytes, M. EGLOFF, N. SAVOURE, J. TARDIVEL-LACOMBE, C. MASSART, M. NICOL and H. DEGRELLE, U.E.R. Biomédicale des Saints-Pères et Laboratoire Associé au CNRS n° 87, 45 rue des Saints-Pères, Paris, and U.E.R. Médicales de Rennes, Villejean, 35000 Rennes, France

In order to clarify the precise point of action of SHBG on the peripheral conversion of androstenedione (inactive androgen) to testosterone (active androgen), we studied a simple experimental model with a partially purified human SHBG. The human erythrocyte is, on the one hand, in direct contact with steroids and plasma binding proteins, and, on the other, it contains an active 17β-hydroxysteroid oxidoreductase. We have prepared a highly purified SHBG from human late pregnancy serum in four steps: ammonium sulphate precipitation, affinity chromatography on blue sepharose CL-6 B, gel filtration on ACA 44 and electrofocusing. The conversion rate of tritiated androstenedione to testosterone was evaluated in the incubation medium by measuring radioactivity after TLC. Contrary to the effect of other plasma proteins, the increase in SHBG concentration induces an increase in the conversion rate. Denaturated SHBG has no influence. These results suggest a new biological role of SHBG in the peripheral conversion of androgens.

62. Spironolactone as an antiandrogen in the therapy of female hirsutism, M. MESSINA, P. BIFFIGNANDI, C. MANIERI, E. GHIGO and G.M. MOLINATTI, Chair of Endocrinology, University of Turin, 14 Corso Polonia, 10126 Turin, Italy

Many reports have offered explanations of the antiandrogenic action of spironolactone. In particular it has been recently demonstrated that spironolactone interacts with 5α-dihydrotestosterone (DHT) receptors at a cytosolic level in some androgen target tissues (1).

In view of these findings, we studied the therapeutic effects of spironolactone in eight women suffering from idiopathic hirsutism. The drug was administered in a dosage of 400 mg daily for the first 10 days and of 200-300 mg daily after this. Clinical improvement was assessed after 50, 100 and 150 days of therapy.

A quite complete disappearance of hirsutism and seborrhoea in seven out of eight subjects after about 100 days of therapy was evident. All patients showed menstrual irregularities: polymenorrhoea in seven cases and amenorrhoea in one. Arterial pressure and electrolyte patterns were not altered by the administration of the drug. Moreover, the concentration of plasma testosterone was significantly decreased ($P < 0.001$) in all patients compared with pre-treatment levels, during the first decade of therapy.

Presented data suggest that spironolactone is very effective as an antiandrogen in the treatment of female hirsutism.

Reference
1. Rifka S.M., Pita J.C., Vigersky R.A., Wilson YlA. and Loriaux D.L.: Interaction of digitalis and spironolactone with human sex steroid receptors. J. clin. Endocr. Metab. 46 (1977) 338.

ADDENDA

6. Diagnostic and prognostic methods,
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A convincing correlation between estrogen receptor content of human breast cancer and the response of the tumor to endocrine treatment has been established.

For practical purpose it is important that the method of the ER assay is standardized as much as possible.

A second EORTC workshop, in 1979, has resulted in agreement on standard procedures. Not less important is the decision about a cut-off point between ER negative and positive. By shifting this cut-off point the correlation between ER and clinical features will change. A method to obtain optimal prediction of clinical hormone sensitivity from ER values will be demonstrated.

Relations between ER and histological grading of the tumor, between ER and CEA content of tumors, will be discussed.

Data on ER and the course of inoperable breast cancer will be presented.

Correlation between presence of ER and the prevalence of bone metastases, and the treatment-induced hypercalcemia will be shown.

63. Endogenous estradiol-17β concentrations in breast tumours determined by mass fragmentography and by radioimmunoassay: relationship to receptor content,
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Several reports have recently appeared concerning the presence of endogenous steroids and particularly estradiol-17β, in mammary tumours related to their role in mammary tumour development. We compared the values obtained for estradiol-17β measured by radioimmunoassay (RIA) and by gas chromatography coupled with mass fragmentography (GC-MF) with the use of an internal standard in 60 samples of primary breast tumour. Regression analysis for the data obtained by RIA (x) and GC-MF (y) gives the equation $y = 0.901 x 92.566$; the correlation coefficient is 0.875. However, if only the lower values (≤ 100 pg/g) are used for the regression analysis, no correlation is found between the two methods. These results suggest that if high values measured by RIA and GC-MF agree well, careful attention must be drawn on the interpretation of the low values obtained by RIA. So, it appears that the use of mass fragmentography is of better validity in providing an accurate methodology to measure steroid concentration in tumour extracts. Using the GC-MF methodology we have measured the oestradiol concentration together with oestradiol and progesterone receptor content. "Receptor positive" tumours contained a statistically significant higher estradiol concentration (541 pg/g tissue) than those "receptor negative" (171 pg/g tissue). There was also a positive correlation between the receptor level and the estradiol-17β content. A long term program will appreciate whether endogenous estradiol-17β concentration in conjunction with receptor assays can provide a better prognostic evaluation for endocrine therapy in breast cancer than that provided by the receptor alone.