profiles on treatment with the patient's own control cycles showed that nine were resistant to HMG, eleven had an accelerated follicular growth and the remaining seven showed an immediate excessive increase in oestradiol which was not followed by ovulation. Examination of the luteal phases (progesterone levels) demonstrated that on treatment ten were improved whilst the remaining seventeen were either unaffected or were worse. Five patients became pregnant during HMG treatment. It was impossible to predict from control hormonal profiles how a patient would respond to HMG.

Reference

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POSTERS

BREAST CANCER

39. Significance of plasma sex hormone binding globulin (SHBG) binding capacity in breast cancer and fibrocystic breast disease, G.P. GAIDANO, L. BERTA, E. ROVERO, P. ANSELMO, P. ROSATTI and C. NAVELLO, Istituto di Medicina Interna dell'Università di Torino, II Cattedra di Patologia Speciale Medica, Strada S. Vito 34, 10133 Torino

Plasma sex hormone binding globulin (SHBG) binding capacity was determined in women with breast cancer and with benign breast disease in order to compare these clinical conditions with respect to age of onset of disease and to plasma hormonal characteristics.

14 women with breast cancer were subdivided into 2 groups: 6 premenopausal women aged 28 to 45 years in the oestrogenic phase of the menstrual cycle and 8 postmenopausal women aged 50 to 75 years. The patients never received any treatment (hormonal or cytostatic) and did not show hepatic or renal failure. Neoplasia had been recognized and surgically removed 3 months to 2 years prior to the study. In 9 women aged 18 to 35 years the diagnosis of fibrocystic breast disease was made by biopsy. The control groups consisted of 19 premenopausal women aged 20 to 45 years in the oestrogenic phase of the menstrual cycle and 8 postmenopausal women aged 50 to 75 years.

With respect to the controls, mean values of plasma SHBG binding capacity (expressed as µg of DHT bound/100 ml plasma) were significantly lower in premenopausal women with breast cancer (1.68 ± 0.6, $P < 0.01$), while no difference was observed in the other groups. Plasma prolactin and 17β-oestradiol did not show any difference in all the groups examined as compared to controls. Mean values of SHBG binding capacity observed in women with fibrocystic breast disease were significantly higher than those of premenopausal breast cancer patients ($P < 0.02$).

Our data support the hypothesis that breast cancer in pre- and postmenopausal women are aetiologically two distinct diseases.

The lower levels of SHBG binding capacity observed in premenopausal women may be related to increased adrenal secretion of androgens which have been shown to decrease SHBG synthesis. On the other hand, a primary decrease of SHBG cannot be excluded. In this condition, the oestrogen "free fraction" rises and could play a role in the evolution of neoplasia.

In fibrocystic breast disease different plasma hormonal characteristics have been suggested: increase of adrenal androgen levels; relative or absolute progesterone deficiency. The balance of all these factors as well as plasma total oestrogen levels in the normal range, could explain the behaviour of the SHBG binding capacity observed in our cases.

Assay of plasma SHBG binding capacity could play a significant role both in epidemiological studies of populations at risk for different types of breast cancer and in monitoring the evolution of fibrocystic breast disease.

40. Neutral urinary steroids and estrogen receptors in breast cancer, D. VANDEKERCKHOVE, E. VANLUCHENE, W. AERTSENS and J. DE BOEVER, Dept. Gynaecology, Academic Hospital, Ghent

We determined urinary 11-deoxy-17-ketosteroid (11-DOCS) and corticosteroid excretion in 49 early breast cancer (EBC) patients and in 25 control patients with no evidence of cancer or endocrinological disease. In both groups of hospitalized patients, two consecutive 24-h urine specimens were collected, both before mastectomy and before the various other surgical operations. In 34 EBC-patients a collection was also obtained on the 10th postoperative day. Urine samples were analysed by capillary gas chromatography (1). In 35 EBC-patients the estrogen receptor (ER) content of the tumor was determined: 13 patients had no detectable ER-levels while in 22 patients 250 to 19,541 fmol ER per gram tissue were measured.

No significant difference in pre-operative 11-DOCS excretion between controls and EBC-patients was found. In the post-mastectomy specimens 11-DOCS levels were significantly lower ($P < 0.1$) than in the pre-operative samples, but were not different from the control group. These findings are at variance with the observation that a majority of EBC-patients had subnormal 11-DOCS-excretion (2), but show a lowered post-operative excretion. We found no significant difference between 11-DOCS excretion in controls, ER-negative