

THE USE OF TISSUE CULTURE IN THE SCREENING OF HORMONE SENSITIVITY OF ENDOMETRIAL CARCINOMA. J. HUSTIN. University of Liège, Belgium.

Numerous clinical studies have stressed the frequent hormone responsiveness of endometrial carcinoma. Nordqvist (*Acta obstet. gynec., scand.*, 1964, **43**, 296) has demonstrated *in vitro* a direct cancerocidal effect of progesterone.

We have tried to assess the response of endometrial cancer submitted *in vitro* to various steroids. Pregnenolone (25 µg/ml of medium) markedly enhanced the survival and the cell capacity of mitosis division. Oestradiol 17-β did not influence survival. On the contrary, progesterone (60–100 µg/ml) and various synthetic progestogens induced constant necrosis without preliminary secretory conversion. This necrosis has not been encountered in non-gynaecological tumours. Progesterone must be in cell contact for several hours to display its necrotizing effect.

We suggest that endometrial cancer cells most often retain steroid binding receptors. The particular effect of pregnenolone might suggest the presence of a steroid metabolizing system affecting cell growth.

RADIOIMMUNOASSAY OF CASEIN IN THE SERUM OF NORMAL SUBJECTS AND OF PATIENTS WITH VARIOUS MALIGNANCIES. J. C. HENDRICK and P. FRANCHIMONT. Institute of Medicine, University of Liège, Belgium.

Radioimmunoassay of casein was carried out using the double antibody solid phase (DASP) method. Incubation was at room temperature for 24 h. This short incubation period was necessitated by the rapid degradation of labelled casein. Thus, 5 days after labelling, the casein no longer reacted with antibody but became nonspecifically bound to proteins and to DASP in the absence of specific antibody.

The characteristics of the radioimmunoassay for casein were very satisfactory, as indicated by the smallest detectable amount, the precision and the reproducibility as measured by the coefficient of variation within assay.

The immunological reaction was determined by antigenic groups specific to human

casein, there being no cross-reaction whatever with bovine casein.

Casein was not usually detectable in the serum of men or normal women who were not lactating. In contrast, all the sera of lactating women contained this natural milk product. In the patients with breast cancer before treatment, casein was found in 72%. In contrast, in benign breast lesions this phosphoprotein was found only rarely.

PREGNENOLONE METABOLISM IN PATIENTS WITH CARCINOMA. N. O'HIGGINS, P. CARSON and N. DESHPANDE. Hammersmith Hospital and Imperial Cancer Research Fund, London.

In patients with mammary carcinoma, low blood and urinary levels of androgens have been associated with a poor prognosis. Whether this is due to reduced adrenal synthesis of androgen or altered utilization of androgen precursor is unknown.

We have studied 20 patients with mammary carcinoma and have measured production and metabolic clearance rates of pregnenolone, which is a precursor both of the androgen, dehydroepiandrosterone (DHA), and of cortisol. The DHA:cortisol ratio did not vary between those with early and advanced disease. Of 14 patients with advanced disease treated by endocrine methods 10 responded favourably and 4 poorly. The mean DHA:cortisol ratio in the responders (1.2) was significantly higher than in the non-responders (0.5).

Pregnenolone metabolic studies may therefore provide a useful guide to predicting hormonal responsiveness in mammary carcinoma.

SERUM OESTRADIOL 17β IN NORMAL PREMENOPAUSAL WOMEN AND IN PATIENTS WITH BENIGN AND MALIGNANT BREAST DISEASE. L. G. SKINNER, P. C. ENGLAND, K. M. COTTRELL and R. A. SELWOOD. Clinical Research Laboratories, Christie Hospital and Department of Surgery, University Hospital of South Manchester.

Evidence exists of a relationship between ovarian function and development of breast disease. This study compares levels in premenopausal women with benign and malignant disease with the pattern of serum oestradiol 17β in normal women.