

22 cases of human breast cancer. Of 17 patients in whom the tumour was receptor positive, 11 received endocrine treatment (ovariectomy alone, or ovariectomy associated with tamoxifen in 7 premenopausal women, and tamoxifen only in 4 postmenopausal women). Two patients with a receptor positive and 1 with a receptor negative tumour, all of whom received endocrine treatment, died from carcinomatous disease 1-3 years after radical mastectomy, and one with a receptor positive tumour died from senility. 13 patients (11 with a receptor positive and 2 with a receptor negative tumour) are still alive 2-5 years and 5 almost 1 year, after mastectomy. Thus only 2 out of 17 patients with receptor positive cancer and one out of the 3 patients with receptor negative cancer died 1-3 years after mastectomy.

The retrospective study of 24 women with breast cancer who were treated by radical mastectomy, and also ovariectomy in five women presenting with lymphnode metastases or of child bearing age, revealed that 4 patients, of whom 1 was ovariectomized, died from carcinomatous disease 2-3 years, and one (ovariectomized) from cardiovascular accident 2 years after radical mastectomy. Seven of the remaining 19 patients (1 ovariectomized) are still alive after more than 6 years, 10 (2 ovariectomized) after more than 2 years and 2 almost one year after surgery.

From a comparison of the two groups it becomes clear that the high survival rate in the latter group of patients is presumably due to the presence of a hormone dependent tumour. Whilst receptor studies may be employed in determining the choice of treatment their main usefulness is to be found in evaluating the prognosis.

8. Endocrine treatment of breast cancer, O. PEARSON, Case Western Reserve, Cleveland, Ohio, U.S.A.
9. Suppression of corpus luteum function by D-Leu⁶(des-Gly-NH₂¹⁰, Proethylamide³) GnRH in premenopausal women with breast cancer, G. TOLIS, A. CHAPDELAIN, K. ROBERTS, N. PAPANDREOU, M. PAPACHARALAMBOUS and N. FRIEDMAN, Royal Victoria Hospital, Maisonneuve Hospital, Aghios Panteleimon Hospital and Abbott Labs, Montreal, Athens, Chicago

Mastectomy, radiotherapy, adjuvant chemotherapy and ovariectomy are employed in conjunction for the treatment of premenopausal breast cancer. In an effort to suppress ovarian function we administered an analogue of GnRH, which in the experimental animal induces down regulation, to three such patients. 10 µg were injected daily for 8 days beginning on the 7th, 8th or 9th day of the cycle. Serum FSH, LH, estradiol, progesterone and prolactin (PRL) were measured daily prior to injection. In addition on days 1, 2, 5 and 8 blood was collected continuously for 12 h to assess pituitary FSH and LH secretory release patterns. The acute increments in LH and FSH were 8- to 16-fold and 5- to 9-fold, respec-

tively, during the first day; the increments however during days 5 and 8 were decreased by 50 %. No change in basal FSH, LH and PRL levels was recorded throughout the sampling period of 8 days; the values of LH and FSH remained within the range for the follicular phase. Plasma estradiol in 2 out of 3 increased to midcycle levels by the 5th post-injection day but was not followed by a mid-cycle LH surge nor by a rise in serum progesterone which remained at follicular levels. In all three patients vaginal bleeding occurred 4-6 days earlier than expected thus shorting the luteal phase in one cycle and causing anovulation in two cycles. Normal length cycles were recorded in the subsequent months.

The above data indicate that repetitive administration of this GnRH analogue can effectively suppress corpus luteum formation and/or function in premenopausal women with breast cancer and may thus be used in the future as an adjuvant for the treatment of this disease or as an ovulation inhibitor. The reestablishment of regular cycles upon discontinuation of this peptide indicates the reversibility of the above effect on ovulation and underscores the potential of this agent as a contraceptive.

PROSTATE CANCER

10. Carcinoma of the prostate: endocrine aspects of aetiology, G.D. CHISHOLM and F.K. HABIB, Department of Surgery/Urology The Medical School, Edinburgh EH8 9AG, Scotland

The evidence for an endocrine (androgen/oestrogen) role in the aetiology of carcinoma of the prostate will be examined from 3 groups of data.

1. Epidemiological data: Necropsy studies have shown that patients with cirrhosis of the liver have less prostatic cancer than controls. Anthropometric studies have shown no characteristic differences from controls but patients with cancer of the prostate tend to have more body hair and to be less obese. The differences in the incidence between negroes in Africa and USA have been ascribed to genetic differences. Sexual activity, marital status, circumcision and the number of children have been studied in respect of the incidence of carcinoma of the prostate and the findings will be reviewed. The data concerning the relationship between benign prostatic hypertrophy and prostatic cancer will be examined.

2. Plasma measurements: Sex hormone changes with age have shown that there is a decrease in testosterone, dihydrotestosterone (DHT), androsterone and dehydroepiandrosterone; there is a marked increase in oestradiol and SHBG, LH and FSH also increase with age.

In attempting to define sex hormone differences between normal controls, benign prostatic hypertrophy and carcinoma of the prostate, differing results have been reported but most series have shown no differences for