33. Discontinuous therapy with bromocriptine in hyperprolactinaemic patients with amenorrhea, D. FONZO, G. GALLONE, G.P. PAPINI, R. SIVIERI and F. CERESA, Clinica Medica II, Istituto di Medicina Interna, Università di Torino

Hyperprolactinaemia is present in 15-25% of cases of amenorrhea and bromocriptine restores normal ovulatory cycles in virtually all hyperprolactinaemic patients. However, the mechanisms by which prolactin inhibits the cyclic pituitary-ovarian activity remain to be elucidated. We have observed that most of the patients treated with bromocriptine, despite long-lasting amenorrhea, often ovulate within 30 days: prolactin suppression in these patients is followed by hormonal changes that mimic a spontaneous ovulatory cycle, which is apparently initiated concomitantly with therapy. With the aim of elucidating the temporal relations between hyperprolactinaemia and the neuroendocrine events which eventually lead to ovulation and menstruation, we monitored the hormonal profile of 7 hyperprolactinaemic patients with amenorrhea and galactorrhea not related to a pituitary tumour. After an initial period of continuous bromocriptine therapy (2.5 mg t.i.d.) during which all patients presented regular hormonal profiles and had regular menses within 35 days, bromocriptine therapy was limited to the first 10 days of the cycle. All patients menstruated after 28 to 35 days and hormonal profiles were undistinguishable from the previous cycles with the exception of prolactin. Subsequently in three of the patients bromocriptine therapy was limited to the first five days of the cycle: these patients had two consecutive cycles with a shortened luteal phase. The data obtained indicate that hyperprolactinaemia inhibits ovulation and menstruation only when present in the first few days of the cycle. Normal prolactin levels appear to be crucial only in this initial phase when normal oestrogen levels (which are low in hyperprolactinaemic patients) are needed to allow a sufficient hypothalamic oestrogenic impregnation, in order to initiate the sequence of neuroendocrine events which will lead automatically to ovulation, even if interruption of bromocriptine allows a new rise of prolactin.

34. Failure of progesterone to enhance prolactin response to TRH in estrogen-primed ovariectomized women, P.M. KICOVIC, F. FRANCHI and M. LUISI, Postgraduate School of Endocrinology and Endocrine Unit of the CNR, University of Pisa, Pisa, Italy

It is not yet known whether progesterone (P) plays some role in the estrogen-modulated regulation of TRH-stimulated prolactin (PRL) release in women. The present study was undertaken to assess the effect of P on PRL response to TRH in 6 ovariectomized women aged 32-45 and primed with 25 µg/day of ethynylestradiol (EE) for 8 days. Circulating PRL was measured daily at 10:00 h prior to, and during, EE priming. P was administered by continuous i.v. infusion at a rate of 20 mg/24 h during the last 48 h of EE priming. TRH (200 µg i.v.) was administered 3 times — before EE, and on days 6 (EE alone) and 8 (EE + P): circulating PRL was determined frequently during the 2 h following TRH. PRL and P were assayed in plasma by radioimmunoassays. Data were statistically evaluated by means of Student's t-test. EE priming led to a significant increase in mean circulating PRL levels ($P < 0.001$) from 4.4 to 9.0 (on day 6) and 9.4 ng/ml (on day 8). Mean ΔPRL following TRH rose from 34.8 ng/ml before EE to 39.5 ng/ml on day 6 (NS). Intravenous infusion of P resulted in a sharp rise in plasma P, which was maintained at levels between 16.3 and 20.6 ng/ml. Following TRH on day 8, mean ΔPRL was 38.8 ng/ml, which was not different from mean ΔPRL on day 6. In the light of the present data it seems unlikely that P plays a role in the estrogen-modulated regulation of TRH-stimulated PRL release in women.

Supported by the CNR (Rome) - Grant no. 78.02319.04/115.1130.

35. Androgen secretion and skin metabolism in hirsutism, P. MAUVAIS-JARVIS, Department of Reproductive Endocrinology, Faculté de Médecine Necker, 75730 Paris Cedex 15

Hirsutism in women may result from either one of the following factors:

1. Hypersecretion of virilizing androgens by the ovaries or the adrenals, or
2. Hypersensitivity of androgen target cells to circulating androgens.

Therefore an in vivo and in vitro study has been carried out in 40 hirsute women with the aim of clarifying the respective roles of these 2 factors in the genesis of hirsutism. The concentration of testosterone (T), androstenedione (A) and dihydrotestosterone (DHT) in the plasma and 5α-androstene-3α,17β-diol (Adiol) in the urine were measured in 24 women presenting with idiopathic hirsutism, in 12 patients with polycystic ovaries (PCO) and in 4 women with adrenal virilism due to acquired congenital adrenal hyperplasia (CAH). Simultaneously, in vitro, the conversion of radioactive T into DHT and Adiol was calculated in the homogenates of pubic skin from each patient. Values for the levels of T, DHT in the plasma and Adiol in the urine of hirsute patients were all above control levels for normal women ($P < 0.001$). This finding was particularly marked in patients with CAH and PCO. Conversion of ^{3}H-T to 5α-reduced metabolites by homogenates of skin obtained from hirsute patients was significantly greater than by homogenates of skin from normal women ($P < 0.001$) but was the same as the value for normal men. The highest values for conversion were obtained from the patients with idiopathic hirsutism. These results indicate that androstenedione is the principal androgen secreted in hirsutism whatever its origin (idiopathic, adrenal or ovarian). In sexual skin this steroid may be converted to DHT and 3α- and 3β-androstanediols and the increased activity of T 5α-reductase may result in an exaggerated "utili-