

increase towards term. No significant difference was seen in early pregnancy in one anencephalic pregnancy studied.

The similar pattern of excretion of these compounds in the Vervet monkey and man suggests they may have an important physiological role in the luteal phase of the menstrual cycle and in early pregnancy.

#### References

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  24. Mechanism of ovulation, H.R. LINDNER, Weizman Institute of Science, Rehovot, Israel
  25. Induction of ovulation in chronic anovulatory syndrome through a weak estrogen supplementation, P. KICOVIC<sup>1</sup>, C. MASSA-FRA<sup>2</sup>, G. D'AMBROGIO<sup>2</sup> and A.R. GENAZZANI<sup>2</sup>, <sup>1</sup>Reproductive Medicine Programme, Medical Unit, Organon, Oss, Holland, and <sup>2</sup>Department of Obstetrics and Gynaecology, University of Siena, Via Paolo Mascagni 46, 53100 Siena, Italy
- The chronic anovulatory syndrome mainly associated with oligomenorrhoea is characterised by estradiol (E2) values which vary very little during the cycle, insufficiently to activate the positive feedback on gonadotropin secretion but sufficiently to induce enough modification of the endometrium for menstrual bleeding.
- 9 subjects with the chronic anovulatory syndrome as the primary cause of sterility and/or oligomenorrhoea, were studied in detail during a control cycle to define their respective endocrine features. Two subjects had moderately elevated basal LH levels while the levels for others were normal. FSH was normal in all cases. Non-chromatographed E2 was in the normal range (120-220 pg/ml) in the follicular phase in 3 subjects while in all the others it ranged from 70-150 pg/ml, values significantly lower than expected but lacking cyclic variation. All subjects were given Epimestrol (3-methyl-ether-17-epi-estriol) at a dose of 5 mg twice a day for 10 days, which induced ovulation and an adequate luteal phase in 7 subjects, 3 of whom became pregnant in the first cycle of treatment (2 did not desire pregnancy). In the 2 subjects who failed to get an adequate luteal phase, the treatment was changed to 5 mg x 3/day for 10 days in 2 cycles. One responded with a short luteal phase and the other with an anovulatory cycle. Treatment was then modified to 5 mg x 4/day for 10 days in the first subject, who responded with an adequate luteal phase and became pregnant; and 5 mg x 3/day for 15 days in the second subject who responded with an adequate luteal phase for 3 cycles.
- The hormonal pattern in all subjects indicated that the LH ovulatory peak was always related to the occurrence of an E2 peak indicating follicular maturation. The LH peak occurred either before, at or after the end of treatment, but always related to the endogenous E2 pattern. The day to day measurement of FSH and LH during follicular maturation in most cases failed to indicate increased basal levels relative to the control cycle, which suggests that Epimestrol, besides having a positive effect on the intrapituitary synthesis and storage of gonadotropins, probably also potentiates the effect of endogenous gonadotropins on the granulosa cells, thus stimulating follicular growth and maturation as found by the present results.
- This study was partially supported by the CNR project "Biology of Reproduction".
26. Oxytocin: a new effect, ovulation induction, N.A. AL-HUSSARY and A.S. AL-JANABI, Dept. of Physiology, College of Vet. Med. Baghdad University, Abu-Ghuraib, Baghdad, Iraq
- The role of oxytocin in controlling ovarian function is still not clear. In the present investigation the effect of injecting oxytocin (Syntocinon®, Sandoz) intraperitoneally on ovarian growth and ovulation was studied. 106 immature female Swiss mice were used. They were injected with one of the following doses of oxytocin: 10, 25, 50 and 75 mU, given either on day 28 or 30 or 32 of age repeated on the same day 3 h later and animals were sacrificed 48 h after the first injection. Some of the animals injected with 50 mU oxytocin on 30 days of age were given concomitantly a single dose of aspirin (200 mg/kg body weight). Another group underwent hysterectomy on day 28 and was sacrificed 48 h later, while others were given a single dose of Prostaglandin F2 $\alpha$  (3 mg/kg) on day 30 and sacrificed 48 h later. The combined ovarian weight (COW) of the animals injected with 50 mU on day 28, 30 and 32 or 10, 25 and 75 mU on day 30 showed a significant increase over the control ( $P < 0.001$  and  $P < 0.005$ ). A significant decrease was seen in animals who received aspirin on day 30 and in hysterectomized animals both treated or untreated with oxytocin in comparison with the intact control. A significant increase in COW was seen in animals injected with PGF2 $\alpha$ . Ovulation occurred in all groups treated with oxytocin (25, 50 and 75) mU with highest rate (80%) in animals receiving 50 mU. These results were confirmed histologically. These results indicate that the ovarian effect of