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P25. ORIENTATING STUDIES AIMED AT AN ANIMAL MODEL FOR THE STUDY OF HORMONAL EMERGENCY CONTRACEPTION (HEC)

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Abstract: Inhibition of ovulation is an obvious mechanism of HEC in case of progestin levonorgetrel (LNG) and "progesterone receptor modulator /PRM" Ulipristal acetate (ULA). LNG loses its anti-ovulatory effect in humans when the gonadotropin secretion begins to rise, but ULA still blocks or delays ovulation. The clinically superior ULA was studied in the guinea pig as animal model for these and further fertility relevant PRM actions.
a) Anti-ovulatory effects: Tested in the second half of the cycle (day 10-17) by evaluation of ovarian histology on treated cycle day 18.
b) Post-mating HEC-model: ULA treatment (day1and 2) was started at vaginal opening and mating, a still pre-ovulatory stage. Treatment: subcutaneous injection in 0.5 mL oily vehicle (benzyl-benzoate: castor oil 1:5 (v/v)). ULA was tested at 10.0 and 1.0 mg/day, respectively. Controls received 0.5 mL vehicle. Venous blood was collected for plasma progesterone ELISA on study days 3 /4, 8/ 9, and 18. Sacrifice and inspection of uteri day 18. A total of 42 animals were used.
Results and discussion: Of 20 controls 10 were pregnant day 18. Only 1 of 12 animals was pregnant after 10.0 mg ULA ($p<0.0129$, FisherÂ´s Exact Test). After 1.0 mg ULA 6 of 10 animals were pregnant (inactive dose). Progesterone levels suggest ovulatory cycles in all pregnant and non-pregnant controls and following both ULA doses. Post-mating contraceptive effects of ULA thus cannot be attributed to inhibition of ovulation. However, 10mg ULA/day block ovulation given in advanced luteal phase. Postovulatory contraceptive effect of ULA and frequent spontaneous failure to conceive in controls deserve further interest: Note: Ovariectomy may not lead to inhibition of nidation in the guinea pig.
Conclusions: Selection of PRM for HEC a) assessment of anti-ovulatory properties in the late luteal phase, b) assessment of contraceptive effects at time of mating as presented.

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