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Cuervo-Arango, J. J., Beg, M. A., & Ginther, O. J. (2011). Follicle and systemic hormone interrelationships during induction of luteinized unruptured follicles with a prostaglandin inhibitor in mares. *Theriogenology*, 76(2), 361-373.

Abstract:

The objective was to determine differences in follicle and reproductive hormone characteristics in mares with ovulatory and flunixin meglumine (FM)-induced anovulatory cycles. Estrous mares were given 1500 IU hCG when the follicle was ≥ 32 mm (0 h). In Experiment 1, control mares (n = 7) were not treated further. The remaining mares (n = 11) were given 1.7 mg/kg FM i.v. twice daily, from 0 to 36 h after hCG treatment. Blood samples and ultrasonographic examinations were performed every 12 h. All control mares ovulated normally between 36 and 48 h. In contrast, eight of 11 FM mares did not ovulate, but developed luteinized unruptured follicles (LUFs). Three FM-treated mares did not develop conventional LUFs. Plasma progesterone concentrations were lower ($P < 0.05$) in LUF mares at 96, 120, and 216 h than in controls, whereas plasma LH concentrations were higher ($P < 0.05$) between 108 and 120 h in LUF mares than in controls. Plasma concentrations of PGFM and estradiol did not differ significantly between groups. In Experiment 2, the three mares that did not develop LUFs were treated, during the consecutive cycle, with the same dose of FM but with increased frequency at zero, 12, 24, 30, 36, and 48 h after hCG. One mare formed a LUF, whereas the other two did not. These two mares had lower LH concentrations than LUF or control mares in the two consecutive cycles. In conclusion, systemic treatment with FM blocked ovulation in 73% of treated mares. Mares with LUFs had lower progesterone and higher LH concentrations than control mares.

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