

SUPEROVULATORY RESPONSE OF MARES TREATED TWICE DAILY WITH EQUINE PITUITARY EXTRACT UTILIZING CONSTANT AND DECREASING DOSES - Preliminary Results -

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Equine industry needs to incorporate news biotechnology to elevate and conserve their high genetic value. Embryo

transfer was decisive to horse breeding improvement in Brazil. The impossibility to produce more than one embryo by donor, increased the cost involved in the embryo transfer program. To minimize this problem, several experiments were developed trying to improve superovulation rates in mares, however, the drugs routinely utilized in other species have shown to be inefficient in mares. The Equine Pituitary Extract (EPE) is the only compound that has been utilized with success to induce superovulation in mares, however, the response to EPE is low (1 to 3 ovulation/mare). In our laboratory we observed that twice daily administration of EPE increase superovulatory response, with a low embryo recovery rate. Studies in cows, have showed that the high contamination with LH in the FSH base prepared, affect adversely the ovarian response, the embryos quality and the fertility rate. Administration of FSH twice daily with decreasing doses is beneficial to oocyte and follicular maturation in cows. The present report, describe partial results of one study comparing EPE administration in constant and decreasing doses using twice daily injections in mares. This experiment was conducted at University of São Paulo State - UNESP, Botucatu, São Paulo, Brazil, utilizing 14 mares, divided in two treatmental groups of seven animals. The superovulatory treatment started in both groups seven days after ovulation. All mares were treated with 10 mg of Prostaglandin F₂α administered intramuscularly (IM) seven and eight days after ovulation. In Group 1 (constant dose) 25 mg of EPE was administrated twice daily (IM) until the majority of follicles achieved 35 mm of diameter; in Group 2 (decreasing dose) 40 mg, 35 mg, 30 mg, 25 mg, 20 mg, 15 mg, 10 mg of administrated twice daily (IM). The EPE administration was suspended when most of follicles achieved 35 mm of size, or prolonged with 10 mg every 12 h. After EPE treatment was discontinued, 3.000 UI of hCG was administrated intravenously and the mares were inseminated with 1.0×10^9 progressively motile sperm of one fertile stallion. The embryo flushes were performed eight days after first detected ovulation. The results are presented on Table 1.

Table 1.: Superovulatory response in mares treated with EPE in constant and decreasing doses.

Tratament	Mare	Days treated	Interval beginner tratament/ 1th ovulation	Interval 1th / last ovulation	% Mares with ≥ 2 ovulations	Ovulation/ mare	Embryos Recovered/ mare	% Embryo recovered
Constant	7	7.9 ± 2.1 ^a	9.7 ± 2.6 ^a	1.6 ± 1.7 ^a	86 ^a	3.6 ± 1.7 ^a	1.0 ± 1.3 ^a	28 ^a
Decreasing	7	7.6 ± 1.3 ^a	9.6 ± 1.5 ^a	1.3 ± 1.1 ^a	100 ^a	4.8 ± 2.0 ^a	1.8 ± 1.2 ^a	38 ^a

Although no statistical differences ($p > 0.05$) were observed, utilization of decreasing doses of EPE seems to improve the number of embryos recovered per treated mare. Studies are in progress to clarify the reasons for the poor embryo recovery rate, observed in both treatments.

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