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Veterinarni Medicina

Growth of the dominant follicle and endometrial folding after administration of hCG in mares during oestrus

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[fulltext]

The purpose of the trial was evaluation of follicular growth and endometrial folding in mares after human chorionic gonadotropin (hCG) treatment in comparison with untreated mares during oestrus. In addition, the influence of follicle size at the time of hCG treatment on these parameters was evaluated. HCG (3000 IU) was administered intravenously in 17 mares bearing dominant follicles 35–40 mm in diameter (Group A) and in 13 mares with larger follicles (Group B). Ten mares with follicles ≥ 35 mm were untreated (Group C). Ultrasonographical examination of the mares continued in 6 h intervals until ovulation. Growth of the dominant follicle was faster in Group A

than in Groups B and C (1.3 vs. 0.3 and 0.7 mm/6h, $P < 0.05$) but diameters of the preovulatory follicles were similar – 44, 48 and 44 mm in Groups A, B and C, respectively. Similarly, reduction of endometrial folding (on a three point scale) during observation was higher in Group A than in B and C (2.1 vs. 1.2 and 1.8, A : B $P < 0.05$) but endometrial folding values in the term before ovulation were not different (0.6, 0.9 and 0.6 in Groups A, B and C). A positive correlation between the speed of follicular growth and reduction of endometrial folding was found (r_s – 0.479, $P = 0.003$). Irregularity in follicle shape (the difference between the longest axis and its perpendicular axis) at the beginning of observation (3.3, 4.0 and 3.2 mm) was lower than before ovulation (7.4, 10.4 and 9.2 mm) in all groups ($P < 0.01$). The interval from the beginning of observation until ovulation was significantly shorter in Groups A and B versus C (37 and 31 vs. 103 h, $P < 0.01$). The results show that growth of dominant follicles after hCG is influenced by the size of the follicles at the time of treatment and correlates with reduction in endometrial folding as well as irregularity

of follicle shape. Nevertheless, hCG treatment does not influence the size and shape of preovulatory follicles or endometrial folding immediately before ovulation.

Keywords:

mare; induction of ovulation; ultrasonographical examination; follicle growth; follicle shape; ovulation

[fulltext]