Changes in blood flow in ovine follicles and serum concentration of estradiol 17 beta (E2) and nitric oxide (NO) around the time of ovulation in Ossimi ewes

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Abstract:

The aim of the present study was to examine the relation between follicular blood flow of the ovulatory follicle and the levels of serum E2 and nitric oxide (NO) in Ossimi ewe. Seven cyclic ewes were synchronized with a double injection PGF2α. The follicular wave was examined daily until ovulation (disappearance of the large dominant follicle ultrasonographically) with transrectal color Doppler ultrasonography (8–10 MHz linear array transducer). The number of recruited follicles was 4.8 ± 0.9 (3–8 follicles) with diameter of 2.8 ± 0.1 mm. The interval from PGF2α injection to follicle deviation was 2.35 ± 0.07 days. The diameter of the first largest follicle (LF1) at recruitment day was 4 ± 0.3 mm while the diameter of the second largest follicle (LF2) was 3.7 ± 0.1 mm. The diameter of LF1 at the day of deviation was 5.1 ± 0.5 mm while the diameter of the LF2 was 4 ± 0.7 mm. The diameter of the ovulatory follicle was 6.1 ± 0.5 at day of ovulation. We detected the blood flow area of the ovulatory follicle at D2. At ovulation, the blood flow area and blood flow area percent increased significantly to be 11.9 ± 0.6 mm2 and 44 ± 3.4% respectively. The results showed a positive correlation between E2 and NO (r = 0.85, P

Keywords:

Doppler E2 P4 Nitric oxide Follicles Ewes

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