



PW1525 - Monitoring of the ovulatory response to the first GnRH injection and luteolysis rate in cows submitted to modified Ovsynch protocol

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Timed AI protocols such as Ovsynch have been developed to increase the submission rate for artificial insemination that might consequently increase the conception rate. However, fertility regarding the Ovsynch is still sub-optimal, mainly as a result of failure of ovulation to the first GnRH injection in the Ovsynch protocol or accomplishment of complete luteolysis after the PGF2 α injection. Therefore, the objectives of the present study were to monitor the ovulatory response to the first GnRH injection (G1) through partially decreasing the progesterone (P4) at G1 by injecting half of the dose of PGF2 α and luteolysis rate by inclusion of additional PGF2 α injection 24 hours after the first PGF2 α in the Ovsynch protocol.

Twenty dairy Holstein Frisian cows (50 \pm 3 DIM) with CL>25 mm, follicle >8.5 mm and progesterone (P4) level >2.0 ng/ml on day -2 (day 0 - initiation of the protocol) were included in the study and submitted to modified Ovsynch protocol, consisted of GnRH (d0); PGF2 α d7 and d8; GnRH d9; and 16 h later TAI. Cows were allocated into two groups: CON group, (n=10) no further treatment and EXP group (n=10) receiving half of the dose of PGF2 α (250 μ g cloprostenol Veyx[™]) on day -2. Ultrasonographic examination of the ovaries (Mindray DP-50 Vet, with 7.5 MHz rectal linear probe) and blood samples for P4 determination were done on days -2, -1 in EXP group and on days 0, 1,2,7,8 and 9 in both groups. Measurement of blood serum progesterone level was performed by enzyme-immune assay (EIA) (HUMAN, Progesterone ELISA Test - Germany). The lower detection limit was 0.04 ng/ml and the intra- and inter-assay coefficients of variation were <10%.

The results have shown that 50% of the cows in the EXP group experienced partial luteolysis (PL-cows) after receiving half of the dose of PGF2 α whilst the remaining cows underwent complete luteolysis. The PL-cows had lower P4 concentrations at G1 compared with the CON group (2.54 \pm 1.13 ng/mL vs 6.95 \pm 1.97 ng/mL, (mean \pm SEM), respectively). Ovulatory response to G1 (identified by presence of the accessory corpus luteum on d7) was greater for PL cows than CON cows (50% vs 20% respectively). Inclusion of the second PGF2 α on d8 in the Ovsynch results in complete luteolysis in all cows in both groups (PL and CON). It can be concluded that administration of half-dose of PGF2 α 2 d before G1 increases the ovulatory response at G1, however, the latter could be achieved if P4 concentrations is partially decreased. Additionally, administration of additional PGF2 α injection 24 hours after the first PGF2 α in the Ovsynch protocol increases the luteolysis rate. However, in order to confirm the results of the present study, higher number of experimental animals should be included in the further investigations.

PW1526 - Application of Predi'Bov[®] to improve the conception rate of Holstein heifers inseminated with sexed semen.

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Conception rate (CR) of cattle inseminated with sexed semen is lower than CR obtained with conventional semen because of its reduced lifespan and its poor reproductive efficiency. Dairy heifers inseminated after