EFFECT OF TIME OF eCG TREATMENT ON PREGNANCY RATES IN BOS INDICUS X BOS TAURUS RECIPIENTS SYNCHRONIZED WITH PROGESTERONE VAGINAL DEVICES AND TRANSFERRED WITHOUT ESTRUS DETECTION


Departamento de Reproducao Animal, FMVZ-USP, Sao Paulo, Brazil, 05508-000
Instituto de Reproduccion Animal Cordoba (IRAC), J.L. de Cabrera 106, X5000GVD Cordoba, Argentina
Field veterinarian
EFFECT OF TIME OF eCG TREATMENT ON PREGNANCY RATES IN BOS INDICUS X BOS TAURUS RECIPIENTS SYNCHRONIZED WITH PROGESTERONE VAGINAL DEVICES AND TRANSFERRED WITHOUT ESTRUS DETECTION

NASSER, L. F.¹; REIS, E. L.¹; OLIVEIRA, A. M.³; BÓ, G.A.²; BARUSELLI, P. S.¹

Departamento de Reproducao Animal, FMVZ-USP, Sao Paulo, Brazil, 05508-000
Instituto de Reproduccion Animal Cordoba (IRAC), J.L. de Cabrera 106, X5000GVD Cordoba, Argentina
Field veterinarian

It has been shown recently that treatments with progesterone (P4) releasing devices combined with estradiol benzoate (EB) plus P4 on Day 0, eCG and PGF on Day 5 and a second application of EB one day after device removal (Day 9) can be used successfully to transfer bovine embryos at a self-appointed time, without the necessity of estrus detection. Although the treatment solved one of the major problems in recipient management like estrus detection, it requires handling the recipients at least five times for treatments and embryo transfer. An experiment was designed to evaluate if reducing one day of handling, by the administration of eCG and PGF at the time of removal of the P4 device (Day 8) results in comparable pregnancy rates than giving eCG on Day 5. A secondary objective was to determine the effect of injectable P4 at the time of device insertion plus EB treatment. Crossbred Bos taurus x Bos indicus beef heifers (n=301), were randomly assigned to 4 treatment groups in a 2 by 2 factorial design. All Heifers received a P4 device (DIB, Syntex, Argentina) plus 2 mg EB im (Syntex) at unknown stages of the estrous cycle (Day 0), with or without 50 mg of P4 given im at the same time. Heifers were further subdivided to receive PGF (0.150 mg d-cloprostenol, Prolise, Tecnopec, Brazil) and 400 IU of eCG (Novormon, Syntex) im on Days 5 or 8. In all heifers, DIB devices were removed on Day 8 and 1 mg EB im was administered on Day 9. Day 10 was arbitrarily considered as the day of estrus. On Day 17, heifers were bled for plasma P4 concentrations and examined by ultrasonography to determine the number of CL and their diameter. Heifers that had >1 CL or a single CL with diameter >18 mm received an in vitro produced (IVP) embryo by non-surgical transfer performed by the same veterinarian. Pregnancy rates were determined by ultrasonography 30 days later. The effects of Day of eCG administration (Day 5 or Day 8), P4 of treatment (E2 or E2+P4) and the Day x P4 treatment interaction on the numbers of CL and plasma P4 were analyzed by ANOVA and the proportion of recipients selected and pregnant were analyzed using non-parametric tests (NPAR1WAY). There was no significant effect of P4 treatment or the P4 by Day of eCG interaction in any of the parameters evaluated. However, there was a significant effect of Day of eCG administration on plasma P4 concentrations (Day 5 = 2.4 ± 0.3 vs Day 8 = 1.7 ± 0.2; P=0.03) and the number of CL (Day 5 = 1.4 ± 0.1 vs Day 8 = 1.1 ± 0.0; P=0.02) on Day 17. Furthermore, the proportion of recipients pregnant/treated tended (P=0.1) to be higher in heifers in the Day 5 Group (71/151, 47.0%) than in those in the Day 8 Group (61/150, 40.7%). Although delaying the eCG and PGF administration from Day 5 to Day 8 saves one trip through the chute for treatments, it resulted in lower plasma P4 concentrations and tended to decrease pregnancy rates in bovine embryo recipients synchronized with DIB devices and EB and
transferred at a fixed time. Furthermore, the administration of injectable P4 at the time of DIB insertion did not affect pregnancy rates.