Animal Reproduction

Abstracts - 35th Annual Meeting of the Brazilian Embryo Technology Society (SBTE)
FTAI/FTET/AI

The use of eCG diluted in D-cloprostenol reduces the number of injections required for TAI protocols in postpartum Bos indicus beef cows with same pregnancy efficiency as the convention treatment

Roberta Machado Ferreira Saran [1], Laura Fernandes Pupim [2], Luiz Felipe Chaves de Albuquerque [3], Reuel Luiz Gonçalves [4], João Paulo Mendes Lollato [4], José Nélio de Sousa Sales [5], Pietro Sampaio Baruselli [1]

[1] FMZ/USP - Departamento de Reprodução Animal - Universidade de São Paulo (São Paulo - SP - Brasil), [2] UB - Universidade Brasil (Fernandópolis, SP - Brasil), [3] FFlores - FFlores Consultoria Rural (Campo Grande, MS - Brasil), [4] Biogénesis - Biogénesis Bagó Saúde Animal Ltda. (Curitiba, PR - Brasil), [5] UFLA - Departamento de Medicina Veterinária - Universidade Federal de Lavras (Lavras, MG - Brasil)

Resumo

Using eCG in TAI protocols is an essential strategy to improve P/AI in females with low body condition score (BCS), short postpartum period, and in anestrous. We assessed if the dilution of eCG in PGF2a would enable administration of both drugs in a single injection, reducing the number of shots to accomplish TAI protocols with same reproduction efficiency. The study was done in 2020 and assigned 642 Bos indicus (Nelore) cows (346 primiparous, 296 multiparous) with 2.60 ± 0.03 BCS and ranging 30-60 days postpartum from 3 farms in MS State, Brazil. Cows were kept in pasture. At the onset of the protocol (D0) they received an intravaginal device with 0.5 g P4 (Repro one, Globalgen) and 2 mg estradiol benzoate (Bioestrogen, Biogénesis Bagó) IM. On D8, device was removed and 1 mg estradiol cypionate (Croni-Cip, Biogénesis Bagó) was given IM. At that time, cows were randomly allocated in 3 groups. Cows in Control Group (CG) received only 150 µg D-cloprostenol (PGF; Croniben, Biogénesis Bagó) IM. Cows in Traditional Group (Trad) were treated with 150 µg PGF and 300 IU eCG (Ecegon, Biogénesis Bagó) IM, given in two injections apart. Cows in Group Combined eCG+PGF received eCG diluted in PGF and given in a single injection. The eCG+PGF was set by diluting 3 vials of lyophilized eCG (total 15,000 IU) in 100 mL PGF and the dose used was 2 mL/cow (equivalent to 300 IU eCG + 150 µg PGF). TAI was done 48 h after device removal. Pregnancy was checked 30 days after TAI. The occurrence of estrus was evaluated, and the diameter of the dominant follicle (DDF) was measured on D8 and D10 in the ovaries of all cows to access follicular growth rate (FGR). Data was analyzed with SAS. The DDF on D8 was similar for groups (CG: 10.3 ± 0.13; Trad: 10.2 ± 0.13; eCG+PGF: 10.5 ± 0.15 mm; P = 0.73), yet, it was greater on D10 in cows receiving eCG (CG: 11.7 ± 0.16b; Trad: 12.4 ± 0.12a; eCG+PGF: 12.5 ± 0.15a mm; P < 0.0001) with greater FGR in those cows (CG: 0.7 ± 0.04b; Trad: 1.1 ± 0.05a; eCG+PGF: 1.0 ± 0.04a mm/d; P = 0.005). The eCG treated cows also had greater estrus rate (CG: 56.2%b; Trad: 66.7%a; eCG+PGF: 66.7%a; P = 0.05) and greater P/AI (CG: 50,5%b; Trad: 66.7%a; eCG+PGF: 66.2%a; P = 0.0005) than control cows, regardless of form of eCG administration (apart or combined with PGF). Thus, the use of eCG diluted in PGF was as efficient as eCG given apart from PGF in TAI protocols of postpartum B. indicus cows, keeping pregnancy outcomes greater than for the control cows (without eCG). The combination of eCG+PGF also has the advantage of reducing the number of injections in TAI protocols, minimizing errors, enabling faster managements and improving cows` welfare.

Acknowledgments

Farms Boqueirão, Invernada and São Guilherme (MS State, Brazil).