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# Twin pregnancy increases gestational loss in Nelore heifers submitted to FTAI

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The present study aimed to compare the maintenance of single or twin pregnancies between 30 and 60 days, and, between 60 days and calving, in Nelore heifers (*Bos taurus indicus*) submitted to FTAI. A total of 953 pubertal Nelore heifers (CL detection on Day 0) aging from 22 to 26 months received an auricular ear implant containing 3mg of Norgestomet (Crestar, MSD Animal Health, Brazil) associated with 2mg of Estradiol Benzoate IM (Estrogin, Biofarm, Brazil) on Day 0. On Day 8, the device was removed and 0.265mg of Cloprostenol Sodium (Ciosin, MSD, Brazil), 300IU of eCG (Novormon, Zoetis, Brazil) and 0.5mg of Estradiol Cypionate (ECP, Zoetis, Brazil) were administrated intramuscularly. The FTAI was performed by the same inseminator 48 hours after device withdrawal (Day 10). Ultrasonography (Aloka SSD 500, Tokyo, Japan) was performed 30 days after AI (Day 40) to determine pregnancy rate and the frequency of single or twin pregnancies. The animals were divided into 2 groups: Single Gestation Group (SGG) and Twin Gestation Group (TGG). Pregnancy loss between 30 and 60 days was established as the absence of fetus(es) or presence of dead fetus(es) on Day 70-ultrasonography examination on previous pregnant heifers. Moreover, the pregnancy loss between 60 days and parturition was defined as the visual detection of placenta prior to the predicted calving date (292 days after FTAI) and/or no calving until 60 days after this prediction. The results were analyzed by PROC GLIMMIX the SAS® (Statistical Analysis System, version 9.3 Institute Inc., Cary, NC, USA, 2003). The pregnancy rate on Day 40 was 50.2% (478/953). The gestational status verified was: SGG=93.3% (446/478) and TGG=6.7% (32/478). The maintenance of the pregnancy between 30 and 60 days after the FTAI was greater (P=0.03) in the SGG (96.4%; 430/446) than in the TGG (65.6%; 21/32). Pregnancy loss between 30 and 60 days was lower (P <0.001) in SGG (3.6%; 16/446) than in TGG (34.4%; 11/32). Similarly, pregnancy loss between 60 days after FTAI and calving was lower (P<0.0001) in SGG (11.6%; 50/430) than in TGG (71.4%; 15/21). Therefore, we concluded that gestational loss after FTAI was higher in Nelore heifers holding twin pregnancies when compared to heifers presenting single fetus gestation.
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