


Effects of dominant follicle aspiration and treatment with recombinant bovine somatotropin (BST) on ovarian follicular development in Nelore (*Bos indicus*) heifers

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RESUMEN

Follicle ablation has been recognized as an efficient method of follicular wave synchronization. Treatment with recombinant bovine somatotropin (BST) has been shown to enhance follicular development in *Bos taurus*. This experiment assessed the effects of these treatments in Nelore (*B. indicus*) heifers. Eight cycling Nelore heifers were randomly assigned to 3 different treatments. On Day 2 of a synchronized cycle (Day 0 = day of ovulation), heifers assigned to Treatments 1 and 2 received 2 mL of saline, whereas heifers assigned to Treatment 3 received 320 mg of BST. On Day 5, the first-wave dominant follicle was ablated by ultrasound-guided transvaginal aspiration in heifers in Treatments 2 and 3, and all heifers received an injection of prostaglandin on Day 11. Aspiration of the dominant follicle advanced and synchronized ($P < 0.05$) the day of second-wave emergence (6.9 ± 0.1 vs. 8.4 ± 0.4) and the day of the pre-wave FSH peak (6.0 ± 0.0 vs. 6.9 ± 0.4), and increased FSH peak concentrations (381 ± 21 vs. 292 ± 30 ; pg/mL; $P < 0.01$). Recombinant bovine somatotropin treatment caused a two-fold increase in plasma insulin-like growth factor-I (IGF-I) concentrations ($P < 0.001$) and resulted in a 36% increase in the number of small follicles (<5 mm; $P < 0.001$) compared with saline-treated heifers. In summary, in agreement with previous reports on *B. taurus*, dominant follicle aspiration synchronized ovarian follicular development, and BST treatment increased peripheral concentrations of IGF-I in Nelore heifers. Recombinant bovine somatotropin also increased the number of small follicles, but this response appeared to be inferior to that reported for *B. taurus*.

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