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INTRAMUSCULAR INJECTION OF ALFAPROSTOL DECREASES POSTPARTUM  
INTERVAL AND INCREASES PREGNANCY RATE IN BRAHMAN CROSSBRED  
EMBRYO RECIPIENT COWS

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SUMMARY

Treatment with a single 5 mg intramuscular injection of Alfaprostol between 29 and 42 days after calving shortened the postpartum interval in mature Brahman crossbred cows but not in Brahman crossbred heifers. Pregnancy rates to first embryo transfer were increased in Brahman crossbred cows and heifers by treatment with Alfaprostol between 29 and 42 days after calving. A single intramuscular injection of 5 mg Alfaprostol given between 29 and 42 days after calving increased reproductive efficiency in Brahman crossbred cows but was not as effective in heifers. This may become an economical management tool for the mature cow herd.

OBJECTIVE

This experiment was designed to determine the effect of a single 5 mg injection of Alfaprostol upon postpartum interval and pregnancy rate in embryo recipient Brahman crossbred cows and heifers when given at various times after calving.

PROCEDURE

Brahman crossbred embryo recipient cows (143 head) and heifers (132 head) were assigned to receive a 5 mg intramuscular injection of Alfaprostol (183 head) or to serve as controls (92 head). The treatment was administered between 20 and 60 days after calving. All animals which were estrous cycling before treatment were eliminated from the analysis. All cows were observed twice daily for estrus following treatment until determined pregnant following embryo transfer.

RESULTS

Cows which were treated with Alfaprostol between 29 and 35 days after calving had a shorter ( $p < .05$ ) postpartum interval compared with control cows (Table 1). A tendency for decreased postpartum interval

was found in cows treated between 36 and 49 days after calving. Cows treated at later stages after calving did not respond to treatment. Heifers failed to have shortened postpartum intervals due to treatment with Alfaprostol in this experiment.

All embryo recipient females (131) receiving an embryo transfer following the first postpartum estrus were pooled for analysis of pregnancy rate to first embryo transfer (Table 2). Females receiving 5 mg of Alfaprostol between 29 and 42 days after calving had higher ( $p < .05$ ) pregnancy rates to first embryo transfer than did controls or cows receiving treatment at 50 days or greater after calving.

TABLE 1. EFFECT OF ALFAPROSTOL ON POSTPARTUM INTERVAL IN BRAHMAN CROSSBRED COWS AND HEIFERS

Treatment	Day of Treatment After Calving	n	Postpartum Interval (Days; $\bar{x} \pm SE$ )	
			Cows	n Heifers
Control	--	31	78.8±4.2 <sup>a</sup>	22 76.1± 4.1 <sup>a</sup>
Alfaprostol	29-35	13	53.5±2.7 <sup>b</sup>	7 78.4±17.0 <sup>a</sup>
Alfaprostol	36-42	18	59.7±3.0 <sup>b</sup>	10 88.2±15.0 <sup>a</sup>
Alfaprostol	43-49	21	67.5±3.1 <sup>ab</sup>	20 81.6± 4.4 <sup>a</sup>
Alfaprostol	50-56	6	69.5±4.8 <sup>ab</sup>	7 91.2±12.0 <sup>a</sup>
Alfaprostol	>56	13	90.2±7.3 <sup>a</sup>	6 99.1± 7.0 <sup>a</sup>

a,<sup>b</sup> Means with different superscripts differ p<.05.

TABLE 2. EFFECT OF ALFAPROSTOL ON PREGNANCY RATE IN EMBRYO RECIPIENT BRAHMAN CROSSBRED FEMALES

Treatment	Day of Treatment After Calving	Pregnancy Rate (%)
Control	---	40 <sup>a</sup>
Alfaprostol	29-35	72 <sup>b</sup>
Alfaprostol	36-42	67 <sup>b</sup>
Alfaprostol	43-49	56 <sup>ab</sup>
Alfaprostol	>50	43 <sup>a</sup>
Alfaprostol	All	59 <sup>b</sup>

a,<sup>b</sup> Means with different superscripts differ Chi Square p<.05.

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