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Short communication

Effect of progesterone supplementation during mid luteal phase on conception in repeat breeder crossbred cows

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ABSTRACT

Total 30 repeat breeder crossbred cows were selected for the present study. These cows failed to conceive when treated with post insemination intrauterine infusion of broad-spectrum antibiotic and with GnRH analogue on day of insemination. Single dose (500mg) hydroxyprogesterone caproate was administered I/M in the animals of the treatment group (n=20) between day 6 to 8 post insemination, following the confirmation of presence of presence of CL on one ovary. Treated animals exhibited significantly higher (0.05) conception rate compared to control group (n=10).

Key words: Conception rate, progesterone, repeat breeder cows

Repeat breeding in cattle has been recognised as a serious problem affecting the economy of dairy industry. Higher embryonic mortality has been reported to be a major cause of repeat breeding than fertilization failure. Endogenous insufficiency of progesterone may be one of the reason for low conception rate in cattle (Britt and Holt, 1988). Progesterone analogues have been administered to sustain early pregnancy (Sreenan and Diskin, 1983). Since progesterone is responsible for maintaining a quisient favourable environment in the uterus for embryo development, it is logical to consider that supplementation with this hormone may improve conception rate in repeat breeder crossbred cows .A trial was conducted to study the effect of progesterone administration during mid luteal phase post-insemination on conception in repeat breeder crossbred cows.

A trial was conducted on 30 repeat breeder crossbred cows belonging to private dairy farms. The repeat breeder cows studied failed to conceive after treatment with Receptal (GnRH analogue) on day of insemination and post insemination intrauterine infusion of broad spectrum antibiotic. A subclinical endometritis and / or ovulatory disturbance as possible reason for foe repeat breeding in these animals was therefore, ruled out. The experimental animals were divided in treatment (group I, n= 20) and control (group II, n=10) groups.

Following observation of standing estrtus, animals in both the groups were inseminated with frozen semen between 12 to 18 hours post estrus. Gynaecoclinical examination of animals in both the groups was carried out between day 6 to 8 after insemination and rectal palpation confirmed the presence of corpus luteum on one of ovaries, The animals of treatment group having CL on one ovary were treated with a single dose (500 mg) of hydroxyprogesterone caproate (Duraprogen, Unichem Bombay) I/M on day of examination. Pregnancy diagnosis was carried out on day 60-post insemination by per rectal palpation.

All the animals of the treatment group and 9 animals of control group revealed presence of corpus luteum between day 6 to 8 post insemination indicating 100% and 90% ovulation in the two groups, respectively. Out of 20 treated animals, 14 (70%) conceived after treatment with progesterone while 2 (20%) animals conceived from control group. The treatment group had significantly higher ($P<0.05$) conception rate as compared to control group. The higher conception rate in animals of treatment group might be due to supportive role of exogenous hydroxy progesterone. Supplementation of progesterone by improved uterine

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environment for embryo survival and development (Balkrishnan *et. al.* 1994). Erb *et. al.* (1976) reported that in 50% of the cows that ovulated , yet failed to conceive had lover plasma progesterone level than in animals that conceived on day 6 onwards after estrus . Datta *et. al.* (1989) recorded significantly lover serum progesterone level in repeat breeder jersey cows on day 8 . 13 and 16 post estrus . Corpus luteum may thus produce insufficient progesterone causing embryonic mortality. It is not possible to differentiate between a normal and abnormal corpus luteum through rectal palpation. Lack of facilities to estimate the serum progesterone level under field conditions pose a problem to pin point progesterone deficiency as possible cause of repeat breeding. The results of present study indicate a possible use of exogenous supplementation of progesterone between day 6 to 8 for enhancing conception rate in repeat breeder cows.

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