EFFICACY OF CRESTAR, $PGF_{2\alpha}$ and GnRH COMBINATION IN TREATMENT OF POST PARTUM ANESTROUS BUFFALOES*

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ABSTRACT

Twelve post partum anestrous buffaloes were divided into two equal groups. Group I was treated with Crestar ear implant + $PGF_{2\alpha}$ + GnRH for induction of estrus. Group II served as untreated control. In group I, estrus was induced in 100% (n=6) treated buffaloes with an average duration of 42.38±11.09 hrs Ovulation occurred in 83.33% (n=5) buffaloes of which three conceived. None of the buffaloes from control group exhibited estrus during experimental period. Intensity and the duration of induced estrus was also studied.

Keywords : Anestrous buffaloes, Crestar, $PGF_{2\alpha}$, GnRH, Efficacy

INTRODUCTION

Post partum anestrous is an important cause of low reproductive efficiency in buffaloes. The condition is responsible for longer intercalving periods leading to reduced milk yield and calf crop during the lifespan of the animal resulting in colossal monetary losses. This compels the owner to sell empty buffaloes at lesser price. In urban area most of these buffaloes are sent to abattoir which results in depletion of valuable germ plasm.

Several therapies are being tried to combat the problem of post partum anestrous. Norgestomet ear implant in combination with other hormones are being presently used for induction of estrus in post partum anestrous animals. In present study, Crestar ear implant with $PGF_{2\alpha}$ and GnRH has been tried to treat post partum anestrous buffaloes during summer.

MATERIALS AND METHODS

Apparently, twelve (n=12) healthy buffaloes with history of post partum anestrous for more than 90 days were selected for the trial. The selected anestrous buffaloes were randomly divided into two groups, each group comprising of six buffaloes and were treated as under.

Animals in group I received 3 mg Norgestomet ear implant along with 2 ml of the Crestar injection (3 mg Norgestomet and 5 mg Estradiol valerate) by i/m route. The day of implant insertion was considered as day 0. On day 7, all the buffaloes were administered with 500 µg Cloprostenol (Clostenol 2 ml) i/m. On day 9, implant was removed and 5 ml Receptal (Buserelin 200 µg) was administered. Animals in group II served as control.

Efficacy of the treatment was assessed in terms of induction percentage, time required for estrus induction, ovulation and conception rate. Simultaneously, duration and intensity of estrus was also studied.

The buffaloes, which exhibited estrus were bred naturally and thereafter observed for recurrence of estrus. The buffaloes which repeated were rebred. Pregnancy diagnosis was carried out on day 60 post service. Intensity of estrus was also recorded during the study based on the expression of behavioural symptoms using score card method described by Shrivastava and Kharche (1985).

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RESULTS AND DISCUSSION

Estrus was induced in all the 6 (100%) buffaloes in group I, whereas none of the control buffaloes exhibited heat. In present study, Crestar ear implant + $PGF_{2\alpha}$ + GnRH treatment induced estrus in (100%) buffaloes. The present findings are in total agreement with Yadav *et al.* (2001) who reported 100% estrus induction in buffaloes treated with Norgestomet + $PGF_{2\alpha}$ + GnRH. Patel *et al.* (2003) also reported 100% induction rate in buffaloes treated with Crestar ear implant, however these workers used PMSG instead of GnRH.

None of the animal from control group in present study exhibited estrus during experimental period. Similar observations were recorded by Kumar and Mandape (2004) and Shukla (2006).

Average time required for onset of estrus from the end of treatment was recorded to be 42.38±11.09 hrs with a range of 22.30 to 88.00 hrs in treated group. The present findings are in agreement with those of Joshi *et al.* (1990) and Balsubramanian and Quayam (1992) who reported average period of 48.00 and 47.23 hrs, respectively.

Average length of induced estrus was 13.66±0.98 hrs ranging from 10 - 16 hrs in treated group. The average duration of estrus in normal cycling buffaloes was reported to be 17.65±4.47 hrs by Gill *et al.* (1973). However, Chede (1990) reported duration of estrus as 28.61±2.86 hrs and 28.35±1.46 hrs in Synchromate-B treated buffaloes. The average length of induced estrus (13.66±0.98 hrs) is shorter than reported by earlier workers for natural/induced estrus. The difference may be due to GnRH used in present study which might have enhanced ovulation through release of LH.

The intensity of estrus was reported to be weak, intermediate and intense in 3 (50%), 2 (33.33%) and 1 (16.66%) buffaloes, respectively.

Five (83.33%) of the six inducted buffaloes had palpable corpora lutea confirming ovulatory estrus. The present findings are almost similar to those of Kumar and Mandape (2004) who reported 80% ovulation rate in ear implant treated buffaloes during summer season.

Out of the six treated buffaloes, three conceived with a conception rate of 50%. Present findings are in agreement with those of Luthra *et al.* (1994) who reported 57% conception rate. However, Yadav *et al.* (2001) reported conception rate of 83.33%. These results indicate that Crestar ear implant treatment is quite effective for inducing estrus in post partum anestrous buffaloes even in summer.

Though in present investigation, the conception rate at in induced estrus was recorded to be 50%. Yet, it should be acceptable proposal during summer season.

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