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SHORT COMMUNICATION

Efficacy of Crestar® and its combination with Folligon® on post-partum anoestrus in buffalo*

ANAND SINGH, M.S. SAXENA[1†] AND SHIV PRASAD[2]

Department of Animal Reproduction, Gynaecology & Obstetrics
College of Veterinary Sciences, G.B.P.U.A.&T., Pantnagar - 263 145 (UA)

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ABSTRACT

The effect of Crestar® alone and in combination with Folligon® was studied in 24 post-partum anoestrous buffaloes under field conditions. In control group (n = 8) the self-recovery was observed only in one buffalo (12.5%) in 23.0 days. In buffaloes treated with Crestar® (n = 8) the oestrous recovery was 87.5% ($P < 0.01$) in an average duration of 2.142±0.508 days and in buffaloes treated with Crestar® in combination with Folligon® the oestrous recovery was 87.5% ($P < 0.01$) in an average duration of 3.428±0.202 days indicating that both the treatments can be effectively used to induce oestrum in post-partum anoestrous buffaloes.

Key words : Post-partum anoestrum, progestagens, Crestar, folligon

Anoestrus is the most prevalent form of infertility encountered in buffaloes and is the most frustrating and challenging problem. The incidence of anoestrus has been reported varying from 14.69% (Luktuke *et al.*, 1973) to 61.0% (Sreemannarayana and Narashimha Rao, 1997) and various factors viz., nutritional, hormonal, managemental, pathological and others may be implicated in causation of anoestrum (Chauhan and Kessay, 1984). Various success rate have been reported by various workers using different progestagen preparations. Singh *et al.* (1984) reported 25.0 to 38.9% success rate with PRID. Shanker *et al.* (1999) reported 87.5 and 100% recovery while Hattab and Osman (2000) reported only 6.7% and 76.9% recovery respectively with Crestar® and Crestar® + PMSG treatment. Hattab *et al.* (2000) could not induce oestrus in anoestrous buffaloes with Crestar®. There is paucity of information and the results are inconclusive. The present study was conducted to determine the efficacy of Crestar® and Crestar® in combination with PMSG in treating anoestrus in buffaloes.

The study was conducted on buffaloes, which were in anoestrus for 7 to 30 months. Two per-rectal examinations at 10-11 days apart were conducted to determine ovarian non-cyclicity in buffaloes before including them in the experiment. External behavioural expressions of oestrus symptoms together with the rectal findings, thereafter, was the basis for true return of oestrus in the experimental buffaloes. Random categorization of the animals into 3 groups (I, II and III) was made to study the therapeutic response of hormonal treatments. Group-I consisted of anoestrous buffaloes, which did not receive any treatment and served as control (n = 8). Group-II of anoestrous buffaloes (n = 8) were treated with Crestar® (Intervet, International B.V. Boxmeer, Holland). After cleaning and disinfecting the site with an antiseptic solution, an ear implant containing 3 mg of Norgestomet was inserted sub-cutaneously in the middle of the ear with the help of applicator. At the time of implant insertion, the anoestrous buffaloes were also administered with 2 ml of the Crestar® injection containing 3 mg Norgestomet and 5 mg of Oestradiol valerate by intramuscular route. The day of implant insertion was considered as day 0 and the implant was removed on day 11. Group-III of anoestrous buffaloes were treated with Crestar® as in group-II but were also given 500 I.U. PMSG (Folligon®, Intervet, International B.V. Boxmeer, Holland) by intramuscular route at the time of implant removal. Animals were closely observed for oestrus symptoms after implant removal. Chi-square analysis of data was done as per Snedecor and Cochran (1994).

In control group (n = 8) only one anoestrous buffalo (12.5%) had self recovery in 23 days. Out of eight anoestrous buffaloes treated with Crestar®, seven buffaloes (87.5%) responded in an average duration of 2.142±0.508 days following implant removal indicating that Crestar® therapy was effective in inducing oestrus in anoestrous buffaloes ($P < 0.01$).

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[1]Professor & Head
[2]Associate Professor

†Corresponding author

The buffaloes treated with Crestar® + PMSG (n = 8) had recovery rate as 87.5% in an average duration of 3.428±0.202 days following implant removal indicating that Crestar® + PMSG therapy was also equally effective in inducing oestrum in anoestrous buffaloes ($P < 0.01$). The buffaloes treated with Crestar® + PMSG (n = 8) had recovery rate as 87.5% in an average duration of 3.428±0.202 days following implant removal indicating that Crestar® + PMSG therapy was also equally effective in inducing oestrum in anoestrous buffaloes ($P < 0.01$). Progestagen may be involved not only in the secretion of GnRH but also in the responsiveness of pituitary to GnRH (Monniaux and Gibson, 1984). The use of PMSG along with Crestar® may be useful as PMSG is known to increase blood estrogen and in turn leads to induction of behavioural oestrus signs. Narasimha Rao and Suryaprakasam (1991) reported improved fertility by using progestagen along with PMSG. However, Smith *et al.* (1979) reported no improvement in oestrus response by using progestin + PMSG than using progestin alone. The results of the present study with Crestar® (87.5% success) are similar with that reported by Shanker *et al.* (1999), however, Hattab and Osman (2000) could get only 6.7% success rate with Crestar therapy. The results of oestrus response by using Crestar® + PMSG in anoestrous buffaloes are similar with the results obtained by Shanker *et al.* (1999) and Hattab and Osman (2000). More controlled studies on larger number of buffaloes are needed for further standardization of such research.

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