Original Research

Studies on Efficacy of Combined Therapy of Polyherbal Drugs and Mineral Preparations against Anoestrus in Bovine

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Abstract

The study was conducted to evaluate efficacy of polyherbal and mineral drug for the treatment of this anoestrus in bovine. The trial was conducted at Teaching Veterinary Clinical Complex, College of Veterinary and Animal Sciences, Parbhani and some of the local farms in and around Parbhani district. Twenty anoestrus affected animals were treated with Estrona Forte Bolus and Minarex Bolus. In the present study, out of twenty animals treated, sixteen were exhibiting proper signs of oestrus i.e. 80.00 per cent efficacy and the time interval for onset of oestrus was recorded from the initiation of treatment up to the onset of first behavioral sign of oestrus was 12.06 ± 0.75 days. The study concluded that, combined therapy of polyherbal heat inducer and mineral supplementation, proved to be effective for the treatment of anoestrus and induction of oestrous in bovines.

Key words: Anoestrus, Mineral Supplementation, Polyherbal Drug

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Introduction

Post-partum fertility is one of the major factor of economic importance in cattle and buffalo reproduction. Because of diversity in feeding and management practices, large number of animals exhibit long post-partum anoestrus under field conditions. Prolonged post-partum anoestrus is the major reproductive concern of economic losses to the Buffalo breeders (Parmer *et al.,* 2012). Anoestrus is a multifactorial problem but its occurrence signals the inadequate nutrition, environmental stress, uterine pathology and improper managemental practices. It can be classified based on physiological and pathological conditions of the animals. Diagnosis of oestrous is based on the exploration of the different causative factors. Anoestrus is one of the most commonly occurring reproductive problems of cattle and buffalo in India particular, affecting livestock productivity and economics to a great extent. The problem is more severe in sub urban

and rural areas of the country. It is a functional disorder of the reproductive cycle which is characterized by absence of signs of oestrus manifested either due to lack of expression of oestrus or failure of its detection (Kumar *et al.*, 2014).

In India, mineral supplementation in dairy animals is not a common practice. It is suggested that, the trace element deficiencies are more common in combination than single element deficiency (Kankofer, 2000). In reproductive health turn is not possible without proper mineral supplementation in their diet as most of the roughages, green fodders, concentrates and even most of commercial feeds offered to Indian livestock are deficient in one or more of the mineral element (Upadhyay *et al.*, 2006). Dietary mineral supplementation enhances fertility rate. Many plants are rich source of vitamins and minerals, whereas some have estrogenic property which is useful in restoration of cyclicity in anoestrus animals. Many workers have tried herbal preparations for anoestrus in bovine and reported encouraging results (Hadiya *et al.*, 2015, Walia *et al.*, 2010). The herbal preparations has no harmful side effects and cost effective, mode of administration is simple and practicable (Gupta *et al.*, 2011, Khillare *et al.*, 2010, Ravikumar *et al.*, 2007).

Hence, the present study was undertaken to evaluate the therapeutic efficacy of polyherbal drugs for the treatment of anoestrus in bovine.

Materials and Methods

Twenty clinical cases of bovine (cattle and buffalo) presented to Teaching Veterinary Clinical Complex, College of Veterinary and Animal Sciences, Parbhani and some of the local farms in and around Parbhani town. The study was conducted during October 2016 to March 2017. Animals with history and clinical signs of anoestrus were selected for the present therapeutic trial. As per history all the selected animals did not show any clinical sign of oestrus for more than five months after calving. Gynecological examination of animals were done twice an interval of eight days for confirmation of anoestrus by gynaeco-clinical findings of smooth and inactive ovaries without persistent corpus luteum and no uterine pathology. It was confirmed that all the selected animals were free from any other diseases. It was ensured that all the experimental animals were maintained with good managemental practices during the period of experiment. The deworming of all selected animals with standard dewormer, orally one week before the commencement of treatment.

The efficacy of estrona forte bolus and minarex bolus were assessed on the basis of duration of expression of oestrus following treatment. The oestrus detection was done on the basis of history of oestrus symptoms exhibited by the animals from owners. Further, confirmation of oestrus was done by per rectal examination. All the experimental animals were observed for oestrus on the basis of usual signs such as vulvar edema, cervical mucus discharge, stands to be mounted, bellowing, sniffing and licking of vulva and also by

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owner's observation. The oestrus response was expressed in percentage. The time required for onset of oestrus was calculated from the initiation of treatment (day 1) up to the exhibition of first sign of oestrus and it was expressed in days. Twenty anoestrus affected animals were treated per orally with Estrona forte bolus (2 boli once daily for 5 days) and minarex bolus (1 bolus BID daily for five days). Estrona forte bolus and minarex bolus are indicated in certain condition like anoestrus, infertility, silent heat, delayed maturity and irregular ovarian functions. The treatment was discontinued if cow exhibited oestrus within five days after giving Estrona forte bolus. Those cows failed to exhibit oestrus within 15th days were retreated once again. Therapeutic efficacy was determined on the basis of oestrus symptoms exhibited by the animals.

Estrona forte bolus and minarex bolus are manufactured by M/s Rakesh Pharmaceuticals, Gandhinagar, Gujarat. Estrona forte bolus and Minarex bolus contains Bol, Kashish Bhasma, Tribang Bhasma, Tankan Khar, *Aloe indica*, Tuthya Bhasma, Manjusha, Harmala, Upkunchika, Narang Varnak and calcium, phosphorus, copper, manganese, cobalt, iron, zinc, iodine, magnesium, respectively. The data collected from various observations during the present study was analysed by descriptive statistics for calculating mean and standard error (Snedecor and Cochran, 1994).

Results and Discussion

Oestrus Induction

Out of treated twenty animals, sixteen animals (80.00 %) exhibiting estrous and six animals (20.00%) did not exhibited oestrus within 15th days of treatment. Therefore, those animals were treated once again with same dose, in which only two animal shows oestrus induction signs. This combination therapy for oestrus induction contributes towards ovarian activity and uterine tonicity. Similar to these findings, Tanwar *et al.* (2015) reported induction of oestrus was 80.00 per cent in buffaloes treated with mineral and vitamin supplementation.

The percentage of induction of oestrus in the present investigation was higher than the observation made by Sawale (1998) and Deshpande (2000) and Kankal *et al.* (2008) who reported induction of estrous 70.00, 65.00 and 16.66 per cent with Estrona forte bolus in bovines, respectively without mineral supplementation. Some other workers also reported lower percentage of induction of estrous with different herbal products with or without mineral supplementation (Ahmed *et al.*, 2003, Srivastava *et al.*, 2003, Chandel *et al.*, 2009, Gupta *et al.*, 2011, Sonali Jana, 2015, Markandeya *et al.*, 2014 and Sahatpure *et al.*, 2016). Higher oestrus response (87.00%) was reported by Pugashetti *et al.* (2009) by using Estrona capsule. Higher findings were also reported by Ravikumar *et al.* (2007), Hussain *et al.* (2009) using different herbal products without mineral supplementation.

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Time Interval for Onset of Oestrus

The time interval for onset of oestrus was recorded from the initiation of treatment (day 1) up to the onset of first behavioral sign of oestrus was 12.06 ± 0.75 days (range 7-19 days). The present observations are in close agreement with Deshpande *et al.* (2000), who reported mean time interval for onset of oestrus within period of 12.76 days with Estona forte bolus in buffaloes. Whereas, Srivastava *et al.* (2003) reported mean time interval for onset of oestrus within period of 13.0 ± 4.0 days with Prajana in delayed pubertal heifers. The time interval for onset of oestrus in the present investigation was higher than the observation recorded by several earlier workers (Ahmed *et al.*, 2003, Ravikumar *et al.*, 2007, Chandel *et al.*, 2009, Gupta *et al.*, 2011, Markandeya *et al.*, 2014, Sahatpure *et al.*, 2016 and Bawaskar *et al.*, 2017) with different herbal estrous inducer.

The time interval for onset of oestrus in the present investigation was lower than the observation made by Sawale (1998), Kankal *et al.* (2008) and Pugashetti *et al.* (2009) who reported mean time interval for onset of oestrus within period of 14.71, 16 and 13.8 days with Estrona forte bolus in buffaloes, cows and Estrona capsule in cows, respectively. Whereas, Sonali Jana (2015) reported average estrous interval of 35 and 60 days in cows treated with two specially formulated area specific mineral mixture. The difference in the induction of oestrus and time interval for onset of oestrus may be due to variation in composition of drug, breed, species, age, nutritional status, environment, managemental practices, endocrine status, dose level and observation period.

Conclusion

It can be concluded that from the present study, this combined therapy of polyherbal heat inducer (Estrona Forte Bolus) and mineral supplementation (Minarex Bolus) proved effective for the treatment of anoestrus in bovine.

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