

Clinical response to microminerals with vitamin E supplementation in anoestrus Deoni cows

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ABSTRACT

Micromineral with Vitamin E supplementation for a period of 15 days resulted into initiation of follicular development and 75 per cent animals showed ovulatory oestrus within 6 to 9 days post treatment in post partum anoestrus Deoni cows. All the responded animals conceived with 1.9 services per conception.

Key words: Anoestrous, microminerals, Deoni cows

Post partum anoestrus is a major cause of infertility amongst Indian cattle. Hormonal and non-hormonal therapies are used by practicing veterinarians for induction of oestrus. However, Herd health and profitability suffers commonly due to underlying nutritional deficiencies (Morrow, 1986). Macro and microminerals have profound effect on animal reproduction. No therapy for induction of oestrus in post partum anoestrus animals will give expected response in deficient nutritional status of the animal. Present study was designed to clinically evaluate efficacy of microminerals with Vitamin E supplementation for induction of oestrus in lactating Deoni cows.

Thirty multiparous, brucella free, post partum anoestrus lactating Deoni cows having 5-6 months post partum period and optimum health scores were selected from Cattle Breeding Farm, Udgir for present study. The animals were examined per rectally at an interval of 10 days thrice and only on the basis of absence of ovarian cyclicity, diagnosis of true anoestrus condition was confirmed.

In treatment group, 20 anoestrus Deoni cows were administered orally Gynolactin Bolus along with regular concentrates at the dose rate of one bolus per day for 15 days. Ten cows were kept as untreated control. Routine nutritional and managerial practices were adopted with all the animals during the trial. The animals were observed daily by rectal examinations

for detection of oestrus and related ovarian changes a period of thirty days after treatment. Responded animals were bred by a fertile bull and the pregnancy was confirmed after 90 days of breeding.

Gynolactin is a non-hormonal micromineral preparation with vitamin E supplementation (Jeps Pharma Pvt.Ltd., New Delhi) which contains cobalt 0.056 gms., copper 0.7 gms., iodine 0.140 gms., iron 1.4gms., manganese 0.56 gms., zinc 0.28 gms., selenium 0.004 gms. and vitamin E 0.1 gm per bolus.

Initiation of development of follicles and availability of palpable follicles on ovaries was recorded in 15 cows within four days of completion of treatment. However, exhibitory oestrus was manifested by only 13 cows (65%) within 6 to 9 days of completion of treatment. The type of oestrus in responded animals was of intermediate type with copious oestral discharge. The duration of oestrus was recorded as 23.04±2.18 hours. The standing (exhibitory) oestrus was observed in thirteen cows and all these animals in oestrus were found ovulated. Ovulations were confirmed by palpation of mature corpus luteum on day 7th of oestrous cycle. The continuation of cyclicity was observed at regular interval of 21 days in animals which failed to settle at induced, second or third oestrus. All these animals were found pregnant 90 days post breeding with 1.9 services per conception. Two cows failed to show oestrus even after initiation of follicular development. There was no complete maturation of follicles and subsequently there were no follicular developments. Five animals failed to respond the

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therapy and possibly nutritional infertility may not be the only cause of anoestrus in those animals. Not a single animal from control group showed ovarian activity during the period of study.

Copper, cobalt and iron are related with normal haemoglobin and red blood cell development. The impaired fertility due to their deficiencies may be related to anaemia. Effect of iodine is well established in thyroid function and basal metabolic rate. Manganese is required for activation of many enzyme systems and may be specifically involved in luteal tissue metabolism. Selenium is a component of the glutathione peroxidase system and interacts with vitamin E to prevent tissue damage due to peroxide production (Morrow, 1986). Thus, supplementation of aforesaid microminerals through Gynolactin might have resulted in better conditioning of anoestrus animals for induction of oestrus under present trial.

Shivprasad and Maurya (1999) reported 33.33 per cent efficacy of the same treatment and 75 per cent efficacy of the treatment with double dose on alternate days in field conditions. Since the deficiencies of various micronutrients are more in field cases than organised farm animals, the same supplement has also proved its efficacy even under field conditions. Sarkar *et al.* (1999) reported low profiles of blood haematological values in anaemic (PCV- 23.09 %) and anoestrus (PCV- 24.40%) animals as compared to healthy (PCV 31.60 %) animals. On treatment of the animals with Cofecu tablets, 79.41 per cent efficacy with increased haematological values has been reported

for induction of oestrous and conceptions. Vadnere and Singh (1989) reported that levels of iodine, calcium, inorganic phosphorus, copper and iron were significantly lower in postpartum crossbred cows.

Dietary deficiencies of macrominerals are well combated by the commercially available feed supplements but micromineral levels with these commercial feed supplements are generally less and hence, optimum supplementation of all the microminerals results in stimulus for ovarian rebound and initiation of ovarian activity and hence, the high response to the micromineral supplementation is recorded in present study.

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