

Case Report

# Therapeutic Management of Prolonged Postpartum Anoestrus in a Crossbred Jersey Cattle without Hormonal Intervention: A Case Report

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## ABSTRACT

The present case study discuss about the therapeutic management of prolonged postpartum anoestrus in a crossbred Jersey cattle without any hormonal intervention. A three and half years old cattle having approximate 250 kg body weight was presented to an animal health camp held on Burdhaman district in West Bengal state (India) with a history of postpartum anoestrus. According to the cattle owner the animal hasn't shown any symptoms of estrus cycle even after five months of first calving. On per-rectal examination the animal failed to reveal distinctly palpable corpus luteum in the ovaries with apparently normal uterus. In this case, at first the cattle was dewormed then managed with supportive therapy by giving vitamins and minerals supplements. For better result ovarian massage was given also. The owner informed that animal came to heat after one month of treatment and now the animal is three months pregnant after conceiving through artificial insemination.

**Keywords:** Crossbred cattle, anoestrus, therapeutic management

Anoestrus is one of the major reproductive complication in cattle which causes huge economic losses in the dairy industry. It is a multicausative factors associated problem but mainly occurs due to inadequate nutrition, environmental stress, uterine pathology and improper managerial practices (Kumar *et al.* 2014). Anoestrus condition is generally observed in postpartum period especially when the animal suffers from negative energy balance. Poor feeding for long period impairs the follicular development. Inactive ovary, also called as true anoestrus is a condition in which the animals are failure to return normal cyclicity or cycle associated with ovarian structures (Zulu *et al.* 2002). Although various attempts had been put in different ways to eliminate the problem of infertility, till today anoestrus is a significant problem in dairy herds. In this study true anoestrus has been managed by using nutritional supplements with ovarian massage as it is known that positive energy balance enhance

the hormone secretion that play major role in growth of ovarian follicle, ovulation, corpus luteum formation and fertilization (Bisinotto *et al.* 2012).

## CASE HISTORY

A three and half years old cattle having approximate 250 kg body weight was presented to an animal health camp held on Burdhaman district in West Bengal state (India) with a history of prolonged postpartum anoestrus. According to the cattle owner the animal hasn't shown any symptoms of estrus cycle even after five months of first calving. Deworming and vaccination status was irregular. On physical examination animal was revealed

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healthy body condition and on clinical examination there were normal body temperature, heart rate and respiratory rate. On per-rectal examination the animal failed to reveal distinctly palpable corpus luteum in the ovaries with apparently normal uterus.

### Diagnosis and treatment

On the basis of per-rectal examination the problem was diagnosed as true anoestrus, the failure of normal cycling to return after calving due to inactive ovaries which has major impacts on fertility. Ovarian massage was given to the animal to active the ovary function. Then the cattle was dewormed firstly. For medical intervention Injectable Vitamin A (Intavita H®) and Injectable phosphorus (Urimin®) @ 10 ml intramuscularly for three occasions at alternative days were given to the animal with Mineral mixture (Powder Minerex forte®) @ 30 gm orally daily for 20 days. Germinated gram which is rich in vitamin A was also suggested to add in the diet of animal. The cattle owner informed that animal came to heat on the next month of treatment and now the animal is three months pregnant after conceiving through artificial insemination.



**Fig. 1:** Per-rectal examination of reproductive organ and massaging of both ovaries

### DISCUSSION

Among the major reproductive disorders of economic importance in cattle anoestrus is most significant disorder which generally occurs after parturition. Although there are several methods to treat anoestrus with hormonal and nutritional therapy (Dutta *et al.* 2019; Rahaman *et al.* 2021) but many studies have also supported only

nutritional therapy for anoestrus. According to Jana *et al.* (2015) the cattle treated with Mineral mixture alone showed nearer to 70.00% oestrus induction. The higher oestrus induction (100%) response was recorded by Noonari *et al.* (2016) in crossbred cows and on the other hand, lower oestrus induction response (50.00%) was recorded by Chaudhry *et al.* (2019) after treated with mineral mixture. Mineral supplementation might show beneficial effect on postpartum ovarian activity by increasing number of ovarian follicles along with follicular growth. But the differences in oestrus response might be due to animal's body condition, parity and season of study. In the present study the prolonged postpartum anoestrus is managed through nutritional intervention with massaging of both ovaries. Vitamin and mineral supplements were given in the injectable and oral form which provide positive energy balance to animal and massage helps in growth of the ovarian follicle which prove fruitful in present case.

### CONCLUSION

At the end it can be concluded that proper nutritional supplements and management can sort out the problems of prolonged postpartum anoestrus in dairy animals by maintaining the energetic status which play a key role to improve the fertility.

### REFERENCES

- Dutta, L.J., Nath, K.C., Deka, B.C., Bhuyan, D., Borah, P., Saikia, G.K., Bora, D.P., Deka, R., Acharya, C., Bharali, D. 2019a. Therapeutic management of true anestrus crossbred cows through nutritional and hormonal intervention. *J. Entomology and Zool. Stud.*, **7**(3): 09-12.
- Jana, S., Verma, M.S., Wadhwa, D., Sharma, K.B., Kumar, R. 2015. Studies on the effect of supplementation of area specific mineral mixture on micro mineral status and cyclicity in post-partum anestrus cows. *Indian J. Ani. Reprod.*, **36**: 10-14.
- Kumar, P.R., Singh, S.K., Kharche, S.D., Govindaraju, C.S., Behera, B.K. and Shukla, S.N. 2014. Anestrus in Cattle and Buffalo: Indian Perspective. *Adv. in Anim. and Vet. Sci.*, **2**(3): 124-138.
- Zulu, V.C., Nakao, T. and Sawamukai, Y. 2002. Insulin-like growth factor-I as a possible hormonal mediator of nutritional regulation of reproduction in cattle. *J. Vet. Medical Sci.*, **64**: 657-65.
- Bisinotto, R.S., Greco, L.F., Ribeiro, E.S. and Martinez Lima, F.S. 2012. Influence of nutrition and metabolism on fertility of dairy cows. *Anim. Reprod.*, **9**: 260-272.



Chaudhry, V., Kumar, A., Mohan, G., Verma, R. and Srivastava, S. 2019. The study of therapeutic efficacy of mineral mixture, herbal and ethno veterinary medicine on anoestrous buffalo heifers. *Indian J. Anim. Res.*, **53**(12): 1639-1644.

Noonari, A.S., Naeem, M., Ali, M. and Waqas, M.S. 2016. Impact of vitamin mineral mixture on ovarian resumption and post-partum anoestrus incidence in crossbred (Holstein Friesian × Sahiwal) dairy cows. *Pakistan J. Agriculture, Agricultural Engineering and Veterinary Sciences*, **32**(1): 95-102.

Rahman, C., Bhuyan, M., Dutta, L.J., Deka, R., Baruti, M., Gayari, I. and Thakuria, S. 2021. Induction of Postpartum Oestrus in Lakhimi Cows through Hormonal and Nutritional Interventions. *Indian J. Anim. Res.* DOI: 10.18805/IJAR.B-4547.

