International Journal of Science, Environment and Technology, Vol. 15, No 3, 2026, 183 – 185

ISSN 2278-3687 (O)
2277-663X (P)

SUCCESSFUL HORMONAL MANAGEMENT OF MID CYCLE ESTRUS ASSOCIATED WITH CYSTIC CORPORA LUTEA IN A CROSSBRED JERSEY COW

A. Thangamani[1], R. Keerthevasan[2], B. Vigneshwaran[1], A. Sabarinathan[3], V. Prabaharan[4] and A. Elango[5]

[1]Assistant Professor, [4]Professor and Head, Dept. of Veterinary Gynaecology and Obstetrics
[2]Final Year B.V.Sc & A.H student, Veterinary Clinical Complex
[3]Assistnat Professor, Veterinary Clinical Complex
[5]Dean, Veterinary College and Research institute, Salem-636 112
Tamil Nadu Veterinary and Animal Sciences University, Tamil Nadu, India
E-mail: thangamtamil19@gmail.com (**Corresponding author*)

Abstract: A 4 year old crossbred Jersey cow presented with a history of repeat breeding, having failed to conceive after six consecutive artificial inseminations (AI). Comprehensive reproductive evaluation via transrectal palpation and ultrasonography confirmed the animal was in the mid-cycle stage with normal ovarian and uterine morphology. Based on the diagnostic findings, a single-dose prostaglandin (PG) synchronization protocol was implemented, followed by fixed-time artificial insemination (FTAI). Transrectal ultrasonography performed 45 days post-FTAI confirmed a pregnancy.

Keywords: Cystic corpora lutea, Mid cycle estrus, Single PG protocol.

INTRODUCTION

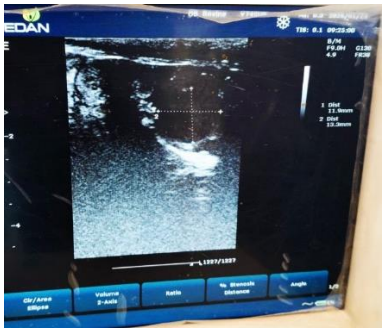
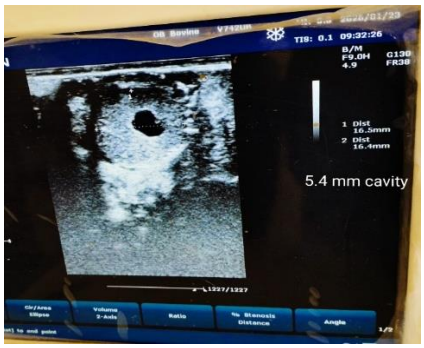
Mid-cycle estrus is of significant clinical and economic importance, as it often misleads farmers and veterinarians under field conditions, resulting in unnecessary artificial inseminations, increased number of services per conception, repeat breeding and economic losses to the dairy industry (Sood and Nanda, 2006). Mid-cycle estrus (MCE) is defined as exhibition of signs of estrus like edematous vulva, scanty cervico-vaginal mucus, mounting on other animal and frequent bellowing during the mid-luteal phase of the estrous cycle and mid cycle estrus being reported as an aberration of estrus cycle in the dairy cows and buffaloes (Sood *et al*., 2009). The present communication documented mid-cycle estrus associated with cystic corpora lutea in a Jersey crossbred cow and its hormonal management.

CASE HISTORY AND CLINICAL OBSERVATION

A 3 year old crossbred Jersey cow presented with a history of repeat breeding, having failed to conceive after six consecutive artificial inseminations (AI). Animal showing estrus signs since yesterday evening onwards and reported that animal showed similar signs 12 days before. External genitalia examination reveals edematous vulval lips and hyperemic

*Received May 4, 2026 * Published June 2, 2026 * www.ijset.net*

vulvar mucous membrane. On rectal examination, the uterus is symmetrical and tonic. External os of cervix is relaxed. Ultrasonographical examination reveals the presence of dominant follicle (Figure 1) of around 11.9 mm x 13.3 mm diameter in right ovary and mature cystic corpora lutea (Figure 2) of around 16.4 mm x 16.5 mm diameter with a cavity of 5.4 mm in the left ovary. Based on history, rectal examination and ultrasonographic findings the cow was diagnosed with repeat breeding due to mid-cycle estrus.

	
Right ovary-Follicle (11.9 mm x 13.3 mm diameter)	**Left ovary- 16.4 mm x 16.5 mm diameter with a cavity of 5.4 mm (Cavitary CL)**

TREATMENT AND DISCUSSION

Following a diagnosis of mid-cycle estrus, the cow was managed with a single-prostaglandin protocol followed by fixed-time artificial insemination (FTAI). On day 0, 500 mcg of cloprostenol sodium was administered intramuscularly. Guided by follow-up ultrasonography, the first AI was performed 72 hours later, with a second insemination (repeat AI) conducted the following day. The owner was advised to return for a pregnancy diagnosis at 45 days post-FTAI, at which time transrectal ultrasonography confirmed pregnancy.

Mid-cycle estrus has been described as a false or non-fertile estrus, caused by transient estrogen secretion from a dominant follicle during the luteal phase, while progesterone concentrations remain functionally significant. Although behavioral estrus is evident, ovulation does not occur and insemination during this phase does not result in conception. As per Satheshkumar *et al*. (2018) per rectal and ultrasonographical examination revealed presence of dominant follicle and corpus luteum on same or different side ovaries and which is in accordance to our report. Cystic corpora lutea (cavitary CL)- usually develops following a normal ovulation, but contain a fluid filled cavity from 5 mm to 7-10 mm or more in diameter (Roberts, 2004 and Thangamani *et al*., 2025). Animals exhibiting mid cycle estrus behaviour had higher estrogen secretion from dominant follicle and due to lower production of P_4 from corpus luteum (CL) or luteal

deficiency causes the overriding of estrogen and animal exhibits the signs of estrus during mid-luteal phase (Gupta *et al*., 2023). Perusal of literature revealed this is the first case of midcycle estrus due to cystic corpora lutea in crossbred cow. In the present case single-prostaglandin protocol adopted as opined by Thangamani *et al*. (2024). The FTAI was performed 72 hours later, with a second insemination (repeat AI) conducted the following day. The cow was found pregnant at 45 days post-FTAI.

CONCLUSION

The present communication documented successful hormonal management of mid cycle estrus associated with cystic corpora lutea in a crossbred Jersey cow

REFERENCES

[1]. Gupta C, Ganesh Kumar S, Ramprabhu R, Satheshkumar S and Edwin S C. 2023. Successful management of mid cycle estrus in Murrah buffaloes- a preliminary case study. *Buffalo-bulletin*,42(1):1-8.

[2]. Roberts, S. J. (2004). *Veterinary Obstetrics and Genital Diseases*. 2nd Ed New Delhi, India: CBS Publication and Distributions. 2004.

[3]. Satheshkumar, S. (2018). Physiological and Endocrinological Characterization of Mid-Cycle Oestrus in Crossbred Cows. *International Journal of Livestock Research*. 8:128 -134.

[4]. Sood, P. and Nanda, A.S. (2006): Effect of lameness on estrous behavior in crossbred cows. *Theriogenology.* 66: 1375- 1380.

[5]. Sood, P., Vasishta, N.K., Singh, M. and Pathania, N. (2009). Prevalence and certain characteristics of mid-cyclic estrus in crossbred cows. *Veterinarski Arhiv*. 79(2): 143-149.

[6]. Thangamani, A., Manokaran, S., Reshma, A., Sarath, T., Rajkumar, R and Elango, A. (2024). Mid-cycle estrus in bovines: major aberration to farm and dairy industry. *Vigyan Varta*, 5(10):78-82.

[7]. Thangamani, A, Manokaran, S, Sarath, T, Reshma, A, Rajkumar R and Elango, A. (2025). Trans-gluteal aspiration of ovarian follicular cyst: A novel field-based technique to treat non-responsive follicular cyst. *The Science World*, 5(1), 6012-6019.