



International Journal of Veterinary Sciences and Animal Husbandry



ISSN: 2456-2912

NAAS Rating (2026): 4.61

VET 2026; 11(1): 309-311

© 2026 VET

www.veterinarypaper.com

Received: 16-10-2025

Accepted: 19-11-2025

V Vasanth

PG Scholar, Department of
Veterinary Clinical Medicine,
Veterinary College and Research
Institute, Namakkal,
Tamil Nadu, India

S Sivaraman

Ph.D., Associate Professor,
Veterinary Clinical Complex,
Veterinary College and Research
Institute, Salem, Tamil Nadu,
India

D Sumathi

Professor, Department of
Veterinary Medicine, Veterinary
College and Research Institute,
Namakkal, Tamil Nadu, India

P Balachandran

Professor, Department of
Veterinary Pathology,
Veterinary College and Research
Institute, Namakkal,
Tamil Nadu, India

KM Palanivel

Professor and Head, Department
of Veterinary Medicine,
Veterinary College and Research
Institute, Namakkal,
Tamil Nadu, India

Corresponding Author:

S Sivaraman

Ph.D., Associate Professor,
Veterinary Clinical Complex,
Veterinary College and Research
Institute, Salem, Tamil Nadu,
India

Retrospective study of incidence of ketosis in postpartum dairy cows

V Vasanth, S Sivaraman, D Sumathi, P Balachandran and KM Palanivel

DOI: <https://www.doi.org/10.22271/veterinary.2026.v11.i1e.2972>

Abstract

A retrospective study on the incidence of ketosis in postpartum dairy cows was conducted for a period of one year. A total number of 152 postpartum cattle were brought to the Large Animal Medicine unit, Veterinary Clinical Complex of Veterinary College and Research Institute, Namakkal-637002. The recently calved cows showing the clinical signs of dullness, reduced feed intake and milk yield, selective feeding, pica, reluctant to move, shaky gait were selected for the study to assess the incidence of ketosis. Ketone body evaluation in blood and urine were done to confirm the ketosis. The highest incidence was noticed in the 3rd calving Cross Breed Jersey cows at 3-4th week of post-partum.

Keywords: Postpartum cows, ketosis, incidence, ketone bodies

1. Introduction

Ketosis is the most frequently encountered metabolic disorder in high-yielding dairy cows during the first 6-8 weeks of lactation (Guliński, 2021) [7]. It is a major metabolic disorder characterized by elevated ketone bodies in blood, urine and milk (Serrenho, 2022) [6]. Oetzel (2007) [8] categorized ketosis into 2 types. Type I ketosis was spontaneous or underfeeding ketosis was the classic form of ketosis that occurred in cows that were 3 to 6 weeks post-calving when cows were at their peak production and type II Ketosis included any cows that mobilize body fat prior to or at calving and animals were in negative energy balance which ended up in fatty liver. The two main metabolic disorders of dairy cows that can harm the liver and endanger the health of dairy cows are fatty liver and ketosis (Cao *et al.*, 2017) [5]. Hence, the diagnosis of ketosis should be made early to prevent the milk production loss.

Materials and Methods

Incidences of ketosis in post-partum dairy cows were evaluated for a period of one year between January 2025 to December 2025. A total number of 152 cattle were brought to the Large Animal Medicine Unit, Veterinary Clinical Complex, Veterinary College and Research Institute, Namakkal. The recently calved cows showing the clinical signs of dull, reduced feed intake and milk yield, selective feeding, pica, reluctant to move, shaky gait were selected for the study. Incidence of ketosis was analysed based on the factors such as age, breed, stage of lactation, milk production. A detailed clinical examination, ketone body evaluation was done to assess the severity of ketosis.

Results and Discussion

The incidence of various post-partum disorders presented to LAC-OP-M unit of VCC, VCRI, Namakkal was given in the Figure 1. During the study period the incidence of post-partum disorders in dairy cows mastitis was 22.88%, downer cow syndrome was 21.05%, milk fever was 18.42%, traumatic pericarditis was 11.84%, metritis was 6.5% and hypokalemia was 5.2%. Among them the incidence of ketosis was 7.8%. The highest incidence of ketosis was noticed in the recently calved dairy cows, with 41.66% in 3rd calving followed by 25% in cows at 2nd calving, 16.66% in 4th calving and 8.33% in 1st and 5th calving (Fig. 3). These findings agreed with Mir and Malik (2002).

In breed wise incidence of ketosis in post-partum dairy cows, 58.33% in Cross Bred Jersey cows followed by 41.66% in Holstein Friesian cows (Fig. 2). The breed wise incidence of this study agreed with the findings of Lei *et al.* (2021) ^[1]. The highest incidence of ketosis noticed in dairy cows were 33.33% in 3-4th week of lactation followed by 25% in 6-7th week, 16.66% in 1-2nd week and 5-6th week of lactation (Fig. 4). The stage of lactation in this study was similar to the findings of Biswal *et al.*, (2016) ^[4]. In this present study the

body condition of the ketosis cows were emaciated in 75% of cows (Fig. 5). According to Barletta *et al.*, (2017) ^[2] decrease in BCS during early lactation is common because of the mobilization of body reserves to meet the demands of milk production. Bewley *et al.*, (2008) ^[3] stated that most practical method for assessing changes in energy reserves in dairy cattle is body condition scoring and the ketosis cows had body condition score. Most studies indicated the incidence of ketosis in cows had higher prepartum body condition.

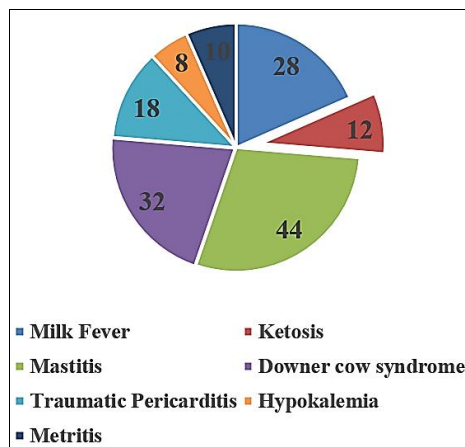


Fig 1: Incidence of various postpartum conditions in cows

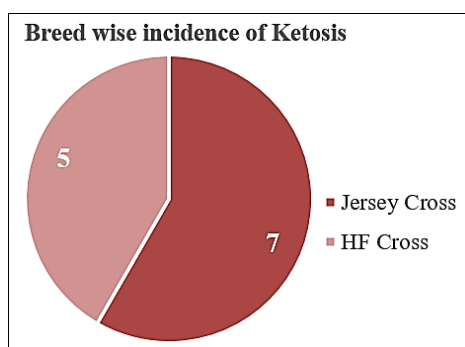


Fig 2: Breed wise incidence of ketosis in cows

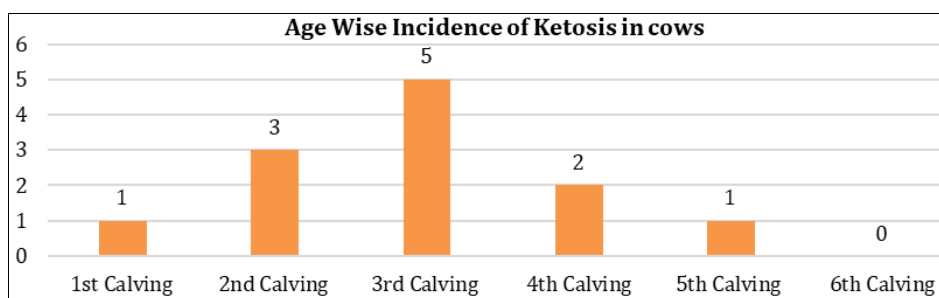


Fig 3: Age wise incidence of ketosis in cows

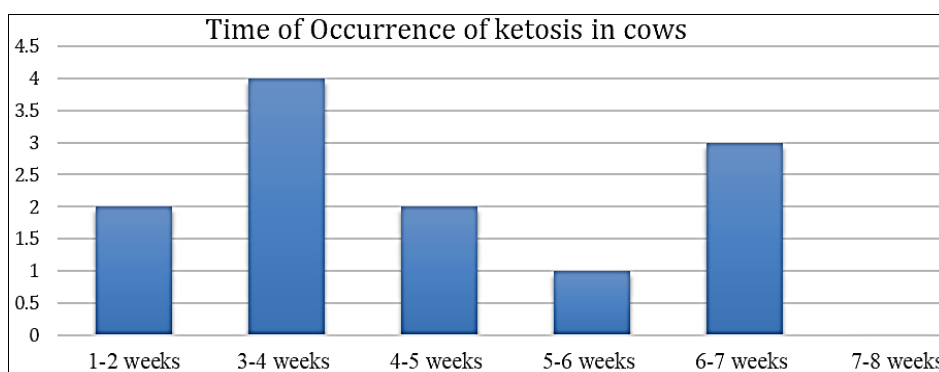


Fig 4: Incidence of time of occurrence of ketosis in cows

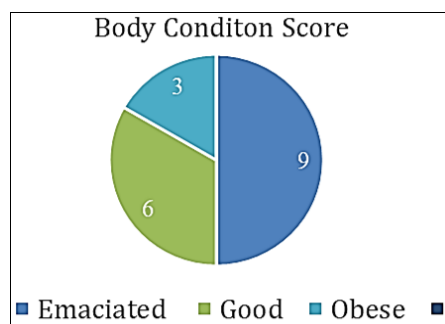


Fig 5: Body Condition Score (BCS) in Ketosis cows

Creative Commons (CC) License

This is an open-access journal, and articles are distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 International (CC BY-NC-SA 4.0) License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Conclusion

Among the post-partum disorders the incidence of ketosis was 7.8%. The highest incidence of ketosis was noticed in the recently calved dairy cows with 41.66% in 3rd calving. Higher incidence of ketosis (58.33%) was recorded in Cross Bred Jersey cows followed by Holstein Friesian cows (41.66%). Third to fourth week of lactation cows had more incidence of ketosis (33.33%). The body conditions of the ketosis cows were emaciated.

Acknowledgements

The authors are thankful to the Dean, Veterinary College and Research Institute, Namakkal for providing required facilities to carry out this study.

References

1. Alves Caipira Lei M, Simões J. Invited review: Ketosis diagnosis and monitoring in high-producing dairy cows. *Dairy*. 2021;2(2):303-325.
2. Barletta RV, Maturana Filho M, Carvalho PD, Del Valle TA, Netto AS, Rennó FP, Wiltbank MC. Association of changes among body condition score during the transition period with NEFA and BHBA concentrations, milk production, fertility, and health of Holstein cows. *Theriogenology*. 2017;104:30-36.
3. Bewley JM, Schutz MM. An interdisciplinary review of body condition scoring for dairy cattle. *Prof Anim Sci*. 2008;24(6):507-529.
4. Biswal S, Nayak DC, Sardar KK. Prevalence of ketosis in dairy cows in milk shed areas of Odisha state, India. *Veterinary World*. 2016;9(11):1242-1247.
5. Cao Y, Zhang J, Yang W, Xia C, Zhang HY, Wang YH, Xu C. Predictive value of plasma parameters in the risk of postpartum ketosis in dairy cows. *J Vet Res*. 2017;61(1):91-97.
6. Couto Serrenho R, Williamson M, Berke O, LeBlanc SJ, DeVries TJ, McBride BW, Duffield TF. An investigation of blood, milk, and urine test patterns for the diagnosis of ketosis in dairy cows in early lactation. *J Dairy Sci*. 2022;105(9):7719-7727.
7. Guliński P. Ketone bodies - causes and effects of their increased presence in cows' body fluids: A review. *Veterinary World*. 2021;14(6):1492-1503.
8. Oetzel GR. Herd-level ketosis: diagnosis and risk factors. *Preconference Seminar C*. 2007;7:67-91.

How to Cite This Article

Vasanth V, Sivaraman S, Sumathi D, Balachandran P, Palanivel KM. Retrospective study of incidence of ketosis in postpartum dairy cows. *International Journal of Veterinary Sciences and Animal Husbandry*. 2026; 11(1): 309-311.