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Incidence of periparturient complications and calving pattern in cross bred dairy cows of Jammu region

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Abstract

The present study was conducted with an aim to access the incidence of peri-parturient reproductive disorders and to determine the seasonal calving pattern in cross bred cows of Jammu region. A total of 2638 calving records of cross bred dairy cows between 2010 – 2016 were screened retrospectively for peri-parturient reproductive disorders. The most common reproductive problems recorded in the present study were retained placenta (13.34%), still birth (6.36%), abortions (5.68%) and dystocia (2.19%). Incidence of retained placenta, still birth and dystocia were higher in winter season than in rainy and summer season. Whereas the incidence of abortion was higher in rainy season. Highest numbers of calving were recorded in winter season.

Keywords: Cattle, calving pattern, disorders, reproductive

1. Introduction

The peri-parturient period in cattle refers to the 2-3 weeks pre- and post-partum characterized by changes in endocrine status of the animal, to provide for lactogenesis and parturition (Kimura *et al.*, 2006) [5]. During this period, immuno suppression commonly occurs and cows exhibit great susceptibility to a number of diseases. Peri-parturient disorders can dramatically affect reproductive efficiency of animals causing considerable economic loss to the dairy industry due to slower uterine involution, reduced reproductive rate, prolonged inter-conception period and calving interval, high cost of medication, drop in milk production, reduced calf-crop and early depreciation of potentially useful cows. Hence, a retrospective was planned to assess the incidence of peri-parturient reproductive disorders and determine seasonal calving pattern in cross bred dairy cattle of Jammu region.

2. Material and Methods

To assess the incidence of peri-parturient complications, a total of 2638 calving records maintained at Military dairy and others cattle farms of Jammu during the period from 2010 - 2016 were utilized for present study. The study animals were of different age group, parities and body condition scores and were regularly dewormed and vaccinated and were managed by semi-intensive production system.

3. Result

The year wise total number of calving, total normal calving, total number of male and female born with average birth weight has been presented in Table 1.

The overall incidence of Dystocia, retention of placenta, abortions and stillbirth was 2.19%, 13.34%, 5.68% and 6.36% respectively. Higher incidence of Dystocia and R.O.P were reported in cows delivered male calves than female calves. (Table 2)

Seasonal analysis revealed higher number of calving in winter (49.46%) and summer (27.21%) season than in rainy season (23.31%). Dystocia followed calving trend, being higher in winter and summer season than in rainy. The occurrence of retained placenta was higher in winter and rainy season than in summer (Table 3).

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Table 1: Year wise number of calvings

Year	Total calving	Total normal calving	No. of female born	No. of male born	Average birth wt. Female	Average birth wt. Male
		n (%)	n (%)	n (%)		
2010-11	334	279 (83.53%)	143 (42.81%)	183 (54.79%)	24.13±1.12	26.43±1.44
2011-12	469	357 (76.11%)	191 (40.72%)	242 (51.59%)	24.85±1.17	25.27±1.25
2012-13	498	392 (78.71%)	225 (45.18%)	248 (49.79%)	25.34±1.05	25.75±1.47
2013-14	436	275 (63.07%)	183 (41.97%)	223 (51.14%)	24.05±1.44	24.96±1.61
2014-15	456	295 (63.44%)	198 (43.42%)	221 (48.46%)	25.00±1.32	25.15±1.53
2015-16	445	312 (70.11%)	199 (44.71%)	232 (52.13%)	25.28±1.83	25.10±1.19
Total	2638	1910 (72.40%)	1139 (43.17%)	1349 (51.13%)	24.12±1.28	25.44±1.39

Table 2: Incidence of peri-parturient reproductive disorders in cross bred dairy cattle.

Year	Dystokia			R.O.P			Abortions	Still Birth
	Total	F	M	Total	F	M		
2010-11	5 (1.49%)	-	5 (100.0%)	33 (9.88%)	13 (39.39%)	20 (60.60%)	8 (2.40%)	10 (2.99%)
2011-12	12 (2.55%)	3 (25.00%)	9 (75.00%)	55 (11.72%)	17 (30.90%)	38 (69.09%)	36 (7.67%)	13 (2.77%)
2012-13	16 (3.21%)	6 (37.50%)	10 (62.50%)	57 (11.44%)	28 (49.12%)	29 (50.87%)	25 (5.02%)	11 (2.20%)
2013-14	3 (0.68%)	-	3 (100.0%)	78 (17.88%)	32 (41.02%)	46 (58.97%)	30 (6.88%)	52 (11.92%)
2014-15	16 (3.50%)	5 (31.25%)	11 (68.75%)	66 (14.47%)	27 (40.90%)	39 (59.09%)	37 (8.11%)	35 (7.76%)
2015-16	6 (1.34%)	3 (50.00%)	3 (50.00%)	63 (14.15%)	30 (47.61%)	33 (52.38%)	14 (3.14%)	47 (10.56%)
Total	58 (2.19%)	17 (0.64%)	41 (1.55%)	352 (13.34%)	147 (5.57%)	205 (7.77%)	150 (5.68%)	168 (6.36%)

Table 3: season wise proportional occurrence of peri-partum reproductive disorders in cross bred dairy cattle.

Season	Calving n (%)	ROP n (%)	Dystokia n (%)	Abortion n (%)	Still birth n (%)
Summer (March-June)	718 (27.21%)	99 (28.12%)	18 (31.03%)	48 (32.00%)	42 (25.00%)
Rainy (July-Sept)	615 (23.31%)	102 (34.09%)	10 (17.24%)	60 (39.47%)	42 (25.00%)
Winter (Oct-Feb)	1305 (49.46%)	151 (42.89%)	30 (51.72%)	42 (28.00%)	84 (50.00%)
Total	2638	352	58	150	168

4. Discussion

The number of calves born in the present study was 2488. Out of this 1349 was male and the rest 1139 were female and the ratio (male: female) was 54:46. Our findings are in agreement with the findings of Tesfu *et al.* (2014) [12] who reported sex ratio of 52:48 in dairy farms subjected to artificial insemination. In present study, the overall incidence of retained placenta was higher (13.34%) than reported by Pande *et al.* (2014) [6] and Gupta *et al.* (1999) in buffaloes. This variation in the incidence of RFM may be attributed to variations in predisposing factors to which the animals are subjected to among which include nutritional status and management. Higher incidence of retained placenta was recorded in dams with male fetuses than with female fetuses. Our finding are in agreement with that of Erb *et al.* (1958) [3] who reported 56% cases of retained placenta associated with birth of male calves. Moreover, retained placenta in cattle is also associated with dystocia, abortion, short or long gestation and twinning (Bhattacharyyn *et al.*, 2009) [2] which also are important predisposing factor for occurrence of RFM. The reported incidence of dystocia varies widely between 2-11% (Roberts, 1984). Our study reports incidence of 2.19% which is in agreement with the findings of Sekhar and Rajani (2014) [9] who reported 2.9% prevalence of dystocia among cross bred cows of Chittoor District of Andhara Pradesh. High incidence of dystocia was observed with male calves which might be attributable to their higher birth weight (Patil *et al.*, 2014) [7]. The Higher occurrence of dystocia in winter and summer season than rainy in the present study may be attributed to higher number of calvings occurring in these season.

The incidence of abortion (5.68%) recorded in this study is similar to the findings reported earlier by Shiferaw *et al.* (2003) [10] and Kassahun (2003) [4]. This finding was also similar with the findings of Sekhar and Rajani (2014) [9] who have reported prevalence of 6.7% in dairy farms and at

farmers in Andhra Pradesh. The lower incidence of abortion may be attributed to the increasing practice of AI in the study area where the semen is collected from bulls free from brucellosis and also due to the effect of vaccination against brucellosis in female animals.

Incidence of still birth in the present study was estimated to be 6.36% which fairly agrees with 6% reported by Atashi (2011) [1]. The incidence of still birth was higher in winter season than in summer and rainy season. Similar findings were reported by Silva del Rio *et al.* (2007) [11] who observe higher incidence of still birth in cold season compared to warmer season. Mayer *et al.* (2001) also reported calving season as a significant factor affecting the incidence of still birth parturition.

5. Conclusion

The outcome of this study strongly suggest that retention of placenta is one the most important peri-parturient reproductive problem in cattle herd. Greater awareness about seasonal predisposition of certain disorders may draw attention towards a proactive approach for better management.

6. References

1. Atashi H. Factors affecting stillbirth and effects of stillbirth on subsequent lactation performance in a Holstein dairy herd in Isfahan. Iranian Journal of Veterinary Research. 2011; 12(1):24-34.
2. Bhattacharyyn HK, Fazali MR, Buch BA. Retained foetal membrane in cows of Kashmir valley: prevalence and management. Haryana Veterinarian. 2009; 48:14-16.
3. Erb RE, Hinze PM, Gildow EM, Morrison RA. Retained fetal membranes- the effect on dairy cattle. Journal of American Veterinary Medicine Association. 1958; 133:489-496.

4. Kassahun M. Major clinical reproductive problems of smallholder dairy cows in and around Awassa. DVM thesis. Faculty of Veterinary Medicine, Addis Ababa University, Debre Zeit, Ethiopia, 2003.
5. Kimura K, Reinhardt TA, Goff JP. Parturition and hypocalcaemia blunt calcium signals in immune cells of dairy cattle. *Journal of Dairy Science*. 2006; 89:2588-2595.
6. Pande N, Agrawal RG, Agrawal R, Shrivastava OP, Jain SK. Prevalance of periparturient reproductive disorders and calving pattern in buffaloes. *Intas Polivet*. 2014; 15(2):205-207.
7. Patil AS, Rathod R, Nagaraja BN. Retrospective studies on occurrence of dystocia and its management in domestic animals. *Intas Polivet*. 2014; 15(2):269-276.
8. Roberts SJ. *Veterinary Obstetrics and Genital Diseases (Theriogenology)*. 3rd ed. CBS Publishers and Distributors, New Delhi, India, 1986.
9. Sekhar CC, Rajani N. prepartum and postpartum reproductive problems in bovines- A retrospective study of 711 cows. *Intas Polivet*. 2014; 15(2):199-204.
10. Shiferaw Y, Bekena M, Tenhagen BA, Kassa T. Reproductive performance of crossbred dairy cows in different production systems in the central highlands of Ethiopia. *Tropical Animal Health Production*. 2003; 35(6):551-561
11. Silva del Rio N, Stewart S, Rapnicki P, Chang YM, Fricke PM. An observational analysis of twin births, calf sex ratio, and calf mortality in Holstein dairy cattle. *Journal of Dairy Science*. 2007; 90:1255-1264.
12. Tesfu T, Gebrekidan B, Afera B. Assessment and comparison of sex ratio following artificial insemination and natural mating in small scale and modern dairy farms in mekelle. *Journal of reproduction and infertility*. 2014; 5(20):58-64.