INCIDENCE OF POSTPARTUM METRITIS IN SURTI BUFFALOES IN AMUL MILK SHED AREA OF GUJARAT

R.D. Patil, J.A. Patel and S.B. Patel

Department of Animal Reproduction, Gynaecology and Obstetrics

College of Veterinary Science and Animal Husbandry

Anand Agricultural University, Anand-388 001

Recevied 3-8-2011 Accepted 20-10-2011

ABSTRACT

The incidence of metritis in dairy bovines of Amul milk shed area of Anand for the year 2009-10 was recorded as 17.34 % of the total reproductive disorders (24595) and as 0.78 % of the total clinical cases (540416) attended. The highest incidence of metritis was noticed during monsoon (42.07 %) followed by winter (35.98 %) and the least in summer (21.95 %). The incidence of metritis had a close positive association with the calving rate and THR - a climatic component, suggesting that peripartum care and calving hygiene apart from elevating climatic and production stress can reduce the incidence of postpartum metritis and thereby the economic loss to the farmers.

KEYWORDS : Buffaloes, Reproductive disorders, Metritis, Incidence, Amul milk shed area.

INTRODUCTION

The buffalo is backbone of the farmer's economy of India and other countries, benefiting nearly half of humanity. Buffaloes contribute more than one-third of total milk production in Asia and are the second largest producer of milk in the world (Singh and Barwal, 2010). In Gujarat, the bovine population consists of 6.83 million indigenous cattle, 1.15 million crossbred cattle and 8.77 million buffaloes (Livestock Census, Gujarat, 2007). Periparturient disorders, particularly RFM and postpartum metritis, in dairy animals have been recognized as the most important factors affecting their productivity and fertility (Wilde, 2006). The incidence of postpartum metritis has been reported from 3 to 36 % (Chenault et al., 2004). The most significant predisposing factors for metritis are the peripartum complications, season and unhygienic stable/calving (Smith and Risco, 2002). Postpartum metritis causes high economic losses due to drug cost, production loss, prolonged days open, involuntary culling, and even death of the animal (Palmer, 2003). As per recent study of Jeyakumari et al. (2003), the overall mean loss due to metritis in India was accounted to Rs. 2174.55 per clinical case. Looking to this high magnitude of loss that occurs due to metritis in dairy sector, the knowledge of incidence of the postpartum metritis in dairy animals would help to design control strategies for the same. Hence this study was designed in Amul milk shed area of Gujarat and is documented.

MATERIALS AND METHODS

The data were collected from Amul Research and Development Association (ARDA), Anand over one year period (March 2009 to February 2010) to work out the incidence of the reproductive disorders and postpartum metritis in particular in the Amul milk shed area of Anand district of Gujarat. In all, 540416 clinical cases of different nature including 24595 cases of reproductive disorders in cattle and buffaloes treated by the Veterinarians of ARDA, during the year were analyzed to know the overall, monthly and seasonal incidence of postpartum metritis in dairy bovines of the area. The year was divided into three seasons, viz., summer (March to June), monsoon (July to October) and winter (November to February). The percentage frequency of metritis was worked out on monthly and seasonal basis and was interpreted in relation to calving season and climatic factors.

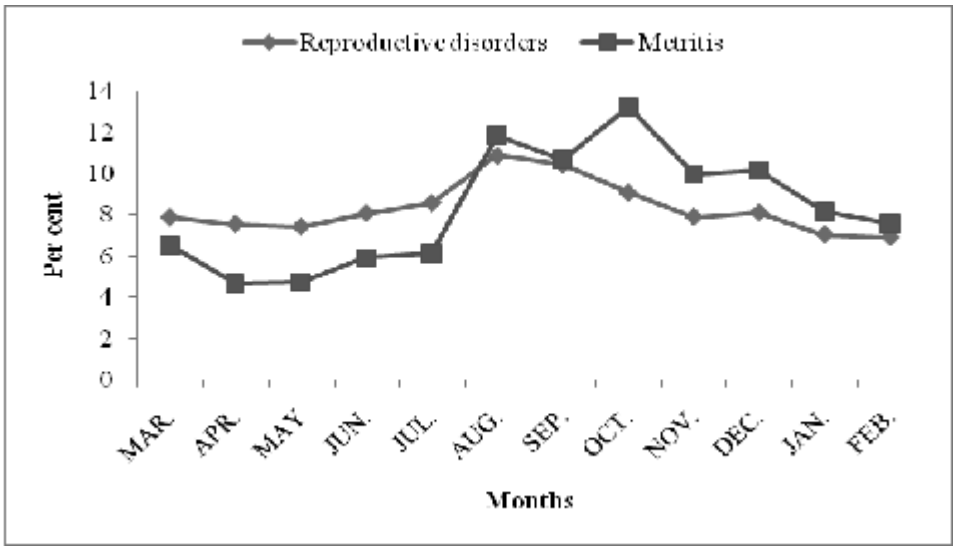
RESULTS AND DISCUSSION

The incidence of postpartum metritis in dairy animals of Amul milk shed area of Gujarat was observed to be 17.34 per cent of the total reproductive disorders and 0.78 per cent of the total clinical cases attended by the Dairy Veterinarians during the year 2009-10 (Table 1). The highest incidence of metritis was observed during monsoon (42.07 %) followed by winter (35.98 %) and the least in summer (21.95 %), though the frequency of reproductive disorders was nearly the same in three seasons (Table 2).

Table 1: Season-wise incidence of postpartum metritis in dairy bovines of Amul milk shed area of Anand district during 2009-10

Season	No. of metritis cases	Per cent incidence of metritis on the basis of		
		Metritis cases (4269)	Total reproductive disorders (24595)	Total clinical cases (540416)
Winter	1536	35.98 %	6.24 %	0.28 %
Summer	937	21.95 %	3.8 %	0.17 %
Monsoon	1796	42.07 %	7.3 %	0.33 %
Overall	4269	100 %	17.34 %	0.78 %

Fig. 1: Month-wise incidence of reproductive disorders and metritis cases in dairy bovines of Amul milk shed area of Anand district during 2009-10



The monthly incidence of postpartum metritis varied from 4.78 to 13.89 per cent (Figure 1). Though the per cent incidence of total reproductive disorders did not vary much between months (7 to 9 %), the incidence of metritis was relatively low during summer, and was increased two-folds during monsoon, probably due to the fact that the monsoon being the peak calving season with high rate of related issues in buffaloes, like dystocia and RFM, and their unhygienic stables/handling under field condition, apart from production, nutritional and climatic stress. The seasonal variation noted was mainly attributed to the maximum number of calvings being occurring during monsoon season and also to the effect of high humidity in early monsoon. Moreover, there was positive association of metritis and reproductive disorders (Table 2).

Table 2: Distribution of cases of metritis and reproductive disorders according to season

Season	Winter	Summer	Monsoon	Overall
Reproductive disorder	7382 (30.01)	7621 (30.99)	9592 (39.00)	24595 (100.00)
metritis	1536 (35.98)	937 (21.95)	1796 (42.07)	4269 (100)

figure in Parantheses percent disorder

Present findings of metritis agreed with the reported incidence of 15.38 per cent in buffaloes and 18.14 per cent in crossbred cows by Pateria et al. (1991) and Singh et al. (2003), respectively. Mandali et al. (2002) also reported the highest incidence of postpartum metritis during monsoon season, followed by winter season and the lowest during summer season in buffaloes in Anand district. However, Kaikini and Deshmukh (1984) reported a high incidence of 25.22 per cent metritis among 119 buffaloes. On the contrary, Prasad et al. (2003) observed the incidence of postpartum metritis as 7.15 per cent in cattle. Modi et al. (2010) reported the highest incidence of metritis/ endometritis (48.78 %) amongst various reproductive disorders in a large scale survey work of Dudhsagar dairy, Mehsana, Gujarat.

The variation in the incidence of postpartum metritis has been reported to be associated with factors like parity, season, calving problems (dystocia, abortion, uterine prolapse, retention of fetal membranes, stillbirths), herd size, hygiene and nutrition (Mandali et al., 2002). The results of the study showed that proper peripartum care and calving hygiene with scientific approach to clinical cases would reduce the incidence of postpartum metritis and thereby the economic losses to the farmers.

ACKNOWLEDGEMENT

We gratefully acknowledge the authorities of ARDA, Amul, Anand for providing the raw data and technical inputs in formulating this communication.

REFERENCES :

Chenault, J.R., McAllister, J.F., Chester, J.S.T., Dame, K.J., Kausche, F.M. and Robb, E.J. (2004). J. Am. Vet. Med. Assoc., **224(10)**: 1634-1639.

Jeyakumari, M., Thirunavukkarasu, M. and Kathirravan, G. (2003). Indian J. Ani. Sci., **73(12)**: 1360-1362.

Kaikini, A.S. and Deshmukh, M.J. (1984). Indian J. Anim. Reprod., **5(1)**: 30-32.

Mandali, G.C., Patel, P.R., Dhami, A.J. and Raval, S.K. (2002). Indian J. Vet. Med., **22(1)**: 15-20.

Modi, L.C., Patel, P.A., Patel, S.P., Patel, M.C., Desai, A.N. and Joshi, A.H. (2010). Proc. Int. Buffalo Conf., New Delhi.

Palmer, C. (2003). Large Anim. Vet. Rounds, **3(8)**: 55-57.

Pateria, A.K., Rawal, C.V.S. and Singh, R. (1991). Indian J. Anim. Sci., **61(11)**: 1167-1169.

Prasad, S., Akhtar, M.H., Roy, G.P. and Singh, A.P. (2003). Proc. XIX Annual Convention of ISSAR and National Symposium on Current Reprod. Technol for Improvement of Livestock Prodn, Kolkata, India.

Singh, C.V. and Barwal, R.S. (2010). Proc. 9th World Buffalo Congr., Argentina, pp: 1024-1029.

Singh, G., Sidhu, S.S. and Verma, H.K. (2003). J. Res., Punjab Agril. Univ., **40(1)**: 79-81.

Smith, B.I. and Risco, C.A. (2002). Comp. Contin. Educ. Pract. Vet., **24**: 74-80 and 92-100.

Wilde, D. (2006). Anim. Reprod. Sci., **96**: 240-249.

❑