Short Communication

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REPRODUCTIVE DISORDERS IN SELECTED CATTLE DAIRY FARMS OF PUNE AND NASHIK DISTRICTS IN MAHARASHTRA

A.R. GUJRATHI, K.P. KHILLARE, M.B. AMLE, M.D MESHRAM , S.N. JADHAV, M.N. RANGNEKAR and P.P. MHASE

Department of Animal Reproduction, Gynaecology and Obstetrics

KNP College of Veterinary Science Shirwal, Maharashtra Animal and Fishery Sciences University Nagpur- 412801 (Maharastra), India

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SUMMARY

A study to assess the prevalence of reproductive problems in selected cattle dairy farms of Pune and Nashik districts and a total of 168 cows with the history of various reproductive disorders were examined per-rectally and blood samples were collected. The compilation of data revealed that the most frequently encountered reproductive health problems were retention of placenta , contributing 28.57% (48 cases) of the total cases followed by 36 (21.42%) cases of abortion, 25 (14.88%) cases of repeat breeding and 25 (14.88%) cases of anestrous. 17 cases of abortion along with retained placenta contributed 10.11% and 6 cases of still birth and 6 metritis were noted with the prevalence of 3.57% each. Pyometra was observed in 5 cows showing a percentage of 2.97.

Key words: Abortion, Anoestrus, Metritis, Pyometra, Repeat breeding, Retention of placenta, Still birth

In order to increase the milk production in the world, cattle cross breeding programs have long been used as one of the main strategies and temperate breeds have been introduced in many developing countries (Cunningham and Systrad, 1987). In India, as a part of the same efforts, the rural and peri-urban dairy business has proliferated specially in some states including Maharashtra. However, a closer examination of the production conditions of these producers showed that they have faced several constraints and reproductive problems.

The reproductive problems result in heavy economic losses and are the main causes of poor productive performance in smallholder dairy farms (Roberts, 1986). Among the major reproductive problems that have a direct impact on reproductive performance of dairy cows include retained fetal membrane (RFM), bovine brucellosis, repeated breeding, abortions, anoestrus, dystocia, endometritis, prolapse (uterine and vaginal) and pyometra have been reported to be the most common economic problems (Dinka, 2013). These reproductive problems could also be classified as before gestation (anoestrus and repeat breeding), during gestation (abortion and stillbirth) and after gestation (retention of placenta, metritis and pyometra). The impaired function of the reproductive system results failure of a cow to produce a calf yearly and regularly (Arthur *et al.,* 1989).

The study was conducted in Pune and Nashik districts of Maharashtra between the months of April 2016 to August 2016. Clinical observations, and questionnaire were used as tools to assess the prevalence of major reproductive health problems of the dairy cows and the associated risk factors. A total of 2 dairy farms from Pune and 4 from Nashik were identified. Gir and cross-breed cows between Friesian and local Indian breeds were kept in these farms. The proportion of exotic blood in these animals ranged from 62 to 75%. The cows were managed in loose housing and were stall fed with wheat bran and cotton seed cake and green at an estimated of 4.5-5 kgs/head/day along with area specific mineral mixture @ 30gm /day. The questionnaire was designed to know the reproductive history of the animal *viz*. last date of calving, any complications before, during or after parturition, total number of calving, date of last oestrus detected and date of last AI. Cows were then confirmed pregnant (3 month) / non-pregnant by per rectal examination and only non-pregnant cows were selected for the study. Further, rectal palpation was done to determine the uterine status, and presence or absence of ovarian structures. Observations were made on retained foetal membranes cases (where placenta were retained for more than 12 hours post calving), nature of uterine discharges, months of abortion, stillbirth, dystocia, anoestrus, repeat breeding, metritis and pyometra. All the animals were kept in separate shed and preventive measures were followed as per standard protocol.

In the present study, the major reproductive health problems of dairy cows were assessed and prevalence of major reproductive disorders was recorded. Out of total 168, cases of retention of placenta were highest contributing 28.57% of the total cases followed by abortion (21.42%), repeat breeding (14.88%) and anestrous (14.88%). The cases of abortion along with retained placenta, still birth and metritis constituted a percentage of 10.11, 3.57 and 3.57 %, respectively. Likewise, Pyometra contributed 2.97% of cases. The cases of abortion, ROP and abortion with ROP constituted 60.11% of the total cases (Table 1). The prevalence of retention of placenta (ROP) was 28.57% , which was very high as compared to the report of Haile *et al.* (2010) having prevalence of 17 %. Contrarily, Islam *et al.* (2013) and Esheti and Moges (2014) reported prevalence 4 and 0.8%, respectively. Benti and Zewdie (2014) observed the prevalence as 10.3%. Likewise, Weldegebriall (2015) reported the prevalence as 1.1% .

Prevalence of abortion was higher than the findings of Haile *et al.* (2010) who reported the prevalence rate of 5.9%. Dinka (2013), and Benti and Zewdi (2014)

*Corresponding author : kavitakhillare@rediffmail.com

Table 1 :

Prevalence of major reproductive problems in dairy cows :

Sr. No.	Reproductive disorders	No. of animals affected	Overall prevalence (%)
1.	Retention of placenta in normally calved animals	48	28.57
2.	Abortion	36	21.42
3.	Repeat Breeding	25	14.88
4.	Anoestrus	25	14.88
5.	Abortion+ROP	17	10.11
6.	Still birth	6	3.57
7.	Metritis	6	3.57
8.	Pyometra	5	2.97
	Total	168	100

recorded the prevalence as 14.6 and 10% and 12.2%., respectively. Contrarily, Barkallah *et al*. (2014) reported much higher prevalence o(70.09%) in Sfax, Tunisia.The prevalence rate of repeat breeding in the present study was 14.88% which fairly agree with the values reported by Esheti and Moges (2014) who reported 15.9% of prevalence. Haile *et al.* (2010), Islam *et al.* (2013), Benti and Zewdie (2014).Contrarily, Dinka (2013) and Koriem *et al.* (2014 reported prevalence of 26.8 and 70.11%, respectively.

The prevalence of anestrous found was higher in the current study than the reports by Haile *et al.* (2010), Benti and Zewdie (2014) and Haile *et al.* (2014) .The prevalence rate of abortion plus ROP in the present finding was lower as compared to 58.88% as reported by Ghodasara *et al.* (2010).The prevalence rate of still birth were slightly higher than findings of Haile *et al.* (2010), who reported 2.8% of stillbirth prevalence in Ethopia. The prevalence rate of metritis recorded was higher compared with the findings of Esheti and Moges (2014) who reported prevalence as 1.2% and lower than Haile *et al.* (2010), who noted the prevalence as 6.7%. Similarly the percentage of pyometra was quite higher than the finding of Bahlibi (2015). Singh *et al*. (2011) have also reported the distribution pattern of reproductive disorders in bovines.The observations of the present study indicated considerably high prevalence of reproductive disorders, recorded either singly or in combination such as abortion+ROP. These cause economical losses to the dairy farmers. Accordingly, to ameliorate the constraints, more focused study on the regular health checkup, associated risk factors, management and nutritional aspects of the cows is needed.

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