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The Occurrence of Various Reproductive Disorders in Cattle with Reference to Parity and Season

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bstract

ata from 19644 cows were collected and analyzed to determine effect of parity and season on the occurrence of various productive disorders in dairy cows. A total of 1251 cases of reproductive disorders were recorded making an overall ccurrence of 6.36 per cent over a 6 year period. The relative occurrence of endometritis was 80.65 per cent followed by stic ovaries (9.18%), retained foetal membranes (4.65%), dystokia (2.79%), genital prolapse (1.87%) and abortion .87%). The occurrence of endometritis, retained foetal membranes and genital prolapse was highest during summer while e occurrence of dystokia was highest in primiparous animals.

troduction

eproductive function is dictated in large part by the vironment and heritability estimates for reproductive aits are low. The causes of reproductive insufficiency sides anatomical and genetic defects, include ysiological, pathological and managemental factors. Out the general approaches that can be taken to manipulate vironmental effects on reproduction, a few bear nificance. The environmental alterations to provide cow th conditions more conducive to reproduction, to hedule reproductive activity to take place in optimal nditions, and to alter the physiology of cow to modify the fects of environment on reproduction are important ategies. Successful development of any of these hemes depends on the knowledge of the magnitude of vironmental effects and physiologic alterations in sponse to increasing age and parity. Over the last several ars, pathological causes have been reduced but not irely eliminated through the use of antibiotics, vaccines d more so with the use of artificial insemination ogrammes. However, some of the pathological conditions y have become more prevalent or at least more clearly cognized whereas others may have reduced. Hence a gular monitoring of such trends is essential. This study s conducted with the objective that it would provide ormation on the occurrence of various reproductive orders thereby enabling to suggest the effective erapeutic and preventive measures.

aterials and Methods

e data was obtained from the records maintained at the partment of Animal Reproduction, University of riculture, Faisalabad, Pakistan. The data contained ormation for each cow on endometritis, genital prolapse, ention of foetal membranes, dystokia, abortion and stic ovaries. For these reproductive disorders the ormation on the age, parity, dates of visits, date of ving, parturition history, treatment, clinical recovery and sequent status of fertility was available. To study the effect of season on the occurrence of reproductive disorders, the months of the year were divided into four seasons i.e. winter (01 Dec-28 Feb), spring (01 March-30 April), summer (01 May-30 September) and autumn (01 Oct-30 Nov).

The relative occurrence of various reproductive disorders was determined and their temporal distribution was studied. The data collected was subjected to analysis of variance using completely randomized design (Steel and Torrie, 1980) and for the comparison of means Duncan's multiple range test (Duncan, 1955) was applied.

Results and Discussion

A total of 19644 cows were brought to the clinics during the years 1987-1992, of which 1251 cows were affected with various reproductive disorders. The occurrence of reproductive disorders was 6.36 per cent. The relative occurrence among these reproductive disorders was endometritis in 1009 cases (80.65%), cystic ovaries in 115 cases (9.18%), retained foetal membranes in 58 cases (4.63%), dystokia in 35 cases (2.79%), genital prolapse in 23 cases (1.87%) and abortion in 11 cases (0.87%).

Endometritis: The relative occurrence of endometritis in cows over a 6 year period was 80.65 per cent. The lactation wise distribution of endometritis in cows has been given in Table-1. The highest occurrence was recorded in heifers (23.68%). The occurrence was significantly greater in heifers compared with cows in I, II and IVth lactations ($P<0.05$). Table-II shows that seasonwise occurrence was highest in summer (45.68%) and lowest in winter (9.81%). The highest proportion of cases recorded in summer was statistically greater than in other seasons ($P<0.05$). The occurrence of endometritis during spring and winter was significantly lower than in autumn ($P<0.05$).

The results of this study did not agree with those of Deeb *et al.* (1976) who reported an incidence of 48.5 per cent and with Jaffery and Edward (1988) who also reported an incidence of 10.7 to 54.4 per cent. The variation from

Table 1: Lactationwise occurrence (%) of various reproductive disorders in cows during the years 1987-1992.

Reproductive Disorder	Lactation Number					
	Heifer	I	II	III	IV	V and above
Endometritis	23.68 (239)	12.09 (122)	14.27 (144)	18.23 (184)	13.37 (135)	18.33 (185)
Cystic ovaries	29.56 (34)	7.82 (9)	15.65 (18)	26.95 (31)	12.17 (14)	7.82 (9)
Retention of fetal membranes	22.41	15.51 (13)	22.41 (9)	18.96 (13)	20.68 (11)	(12)
Dystokia		51.42 (18)	22.85 (8)	11.42 (4)	8.57 (3)	5.71 (2)
Genital prolapse		4.34 (1)	8.69 (2)	17.39 (4)	34.78 (8)	34.78 (8)
Abortion	18.18 (2)	36.38 (4)	27.27 (3)	9.09 (1)	9.09 (1)	0

Figures in parenthesis show number of cases

Table 2: Seasonwise occurrence (per cent) of various reproductive disorders in cows during the year 1987-1992.

Reproductive Disorder	Season			
	Winter	Spring	Summer	Autum
Endometritis	9.81 (99)	13.67 (138)	45.68 (461)	30.82 (311)
Cystic ovaries	9.56 (11)	19.13 (22)	53.04 (61)	18.2 (21)
Retention of fetal membranes	10.34 (6)	13.79 (8)	53.44 (31)	22.4 (13)
Dystokia	14.28 (5)	20.00 (7)	40.00 (14)	25.7 (9)
Genital prolapse	8.69 (2)	13.04 (3)	56.52 (13)	21.7 (5)
Abortion	45.45 (5)	18.18 (2)	9.09 (1)	27.2 (3)

Figures in parenthesis indicate number of cases.

these studies may be due to breeding and management practices in different countries. Higher occurrence of endometritis in this study may be attributed to several factors including more natural service trend in the area, wrong time insemination, unhygienic practices like blowing of air and insertion of tail into vagina for milk letdown thereby introducing infection into uterus.

Cystic ovaries: The relative occurrence of cystic ovaries was 9.19 per cent during the study period. The highest occurrence of the condition was in heifers (29.56%) and during summer seasons (53.04%). The higher occurrence of cystic ovaries in heifers may be a reflection of genetic and managemental factors interfering with the process of ovulation. The reason of higher occurrence during summer is likely due to the calving season i.e spring, followed by peak milk lactation in the face of higher environmental temperature and nutritional stress leading to endocrine balance. The details about the yearwise effect of parity and season on the occurrence of cystic ovaries during the same period of time has been published elsewhere (Lodhi e 1996).

Retention of foetal membranes (RFM): The re occurrence of RFM during the study period was 4.6 cent. The lactationwise occurrence is given in Tab Parity did not affect the occurrence of RFM. Numer highest incidence was recorded for cows in Ist an lactation and lowest in 2nd lactation. The seaso occurrence has been given in Table 2. The occurre retained foetal membranes was highest in su (53.44%) and lowest in winter (10.34%). A signifi higher proportion of cases was recorded in summ that in all other seasons ($P<0.05$). Collectively, summer and autumn the occurrence of RFM was thr than that during spring and winter.

Eiler (1997) reported an average occurrence of 7.5 in cows and indicated a positive correlation of RF age and parity. Similar trend was recorded by Joost (1981) who reported that the occurrence of RFM in

with the age of dam. This study did not show significant effect of parity on occurrence of RFM but partially agrees with the reports by *Leech et al.* (1960) who mentioned that RFM is much more common in primipara and in older cows. An increase in the occurrence of RFM during summer has been reported by Eiler (1997) which agrees with the present study. The scarcity of good quality green fodder in summer and feeding of nutritively lower quality of rouphages and wheat straw may be a contributory factor in higher occurrence of RFM during summer. However, the results of present study do not agree with those of Warson *et al.* (1983a); Pavlicek *et al.* (1979) and Jeedreas (1991) who reported a higher occurrence of RFM in spring (36.8%) and lower (13%) in autumn.

Dystokia: The relative occurrence of dystokia during the period of study was recorded to be 2.79 per cent. It's lactationwise occurrence has been given in Table-I. The highest incidence (51.42) was recorded for the primipara and lowest for cows in Vth or more lactation. No statistical difference was recorded in the occurrence of dystokia in different seasons (Table-II) but numerically more cases were recorded in summer followed by autumn. Lowest occurrence was recorded in winter.

Jeffery and Edward (1988) reported the average occurrence of dystokia in cow to be 5.8 per cent. Kaikini *et al.* (1983) reported similar figures. Sukmaraga *et al.* (1988) and Sieber *et al.* (1989) reported that occurrence of dystokia was high in early parity. Youngquist (1997) opined that incidence of dystokia varies but is generally more common in first calf heifers because they have yet not reached their mature size, and then decreases with age. Verma *et al.* (1983) reported a higher occurrence (38.3%) during summer which is in agreement to the present study. A higher occurrence of dystokia during summer may be due to thermal stress.

Genital prolapse: The relative occurrence of genital prolapse was 1.83 per cent. The occurrence for different parities has been given in Table-I. The highest occurrence was recorded for IV and Vth lactation which was significantly higher than that for Ist and 2nd lactation ($P<0.05$). A significantly higher number of cases was recorded in summer ($P<0.05$). The occurrence was lowest during winter (Table-II). There was no difference in occurrence of genital prolapse between autumn, spring and winter. The incidence of prepartum genital prolapse was significantly higher than postpartum genital prolapse ($P<0.05$). Hudson (1986) reported the problem to be associated with age and parity, the pleuriparous cows being affected more commonly than primiparous cows. The results of present study also have shown the similar pattern.

Warson *et al.* (1983b) reported the similar pattern of month to month or seasonal variation in the occurrence of this condition; the lowest frequency being reported in January and highest in May. The higher occurrence of genital prolapse during summer may partially be attributed to extended intake of large quantity of low quality roughage and resultant excessive straining at the time of defecation.

Abortion: The relative occurrence of abortion during the study period was 0.87 per cent. The lactationwise occurrence has been given in Table 1. The highest occurrence was recorded in first lactation followed by 2nd lactation. The occurrence of abortion was highest in winter and lowest in summer (Table 2).

Rao (1982) reported that the occurrence of abortion in cows ranged from 0.9 to 11.9 per cent in different herds. Radoslavov and Pushkarov (1985) reported higher incidence of abortion in cows than in heifers. Mee (1992) reported higher frequency of occurrence of abortion between July to December when less than 10 per cent parturitions took place.

The data in this study indicated a relative occurrence of 0.87 per cent of abortion. This may not be a true reflection of the occurrence of abortion as after abortion clients do not feel the need of reporting the occurrence considering that the damage has already been done.

Findings of the present study revealed an alarming occurrence of endometritis in dairy cows in and around Faisalabad. This higher occurrence probably is due to the fact that most of the animals are brought to this clinic for artificial insemination services. Since sexual health control is an integral part of an efficient A.I. service, the animals suffering from uterine infections are readily detected. Never the less this calls for the attention of experts in the field of animal reproduction. Immediate and long term measures to treat and control this major reproductive disorder of dairy cattle should be delineated and adopted if the goal of efficient reproduction resulting in enhanced productivity has to be achieved.

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