

## A retrospective study on the prevalence of Bovine gynaecological disorders in rural Kashmir

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**Abstract :** A total of 53,354 numbers of cattle were treated for last 5 years from 1<sup>st</sup> April, 2003 to 31<sup>st</sup> March, 2008. They were used to study the prevalence of various gynaecological disorders. The data revealed that the highest prevalence was observed for anoestrus (31.64%) followed by repeat breeding (21.48%), metritis (12.45%), pyometra (10.38%) and retention of placenta (9.31 %). The disorders like ovarian cyst, dystocia, abortion, vulvitis, vaginitis, cervicitis, mummification, maceration etc. were recorded, yet the rate was within clinically acceptable limits.

**Key words :** Gynaecological disorder, Prevalence, Rural Kashmir, Bovine

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## INTRODUCTION

Gynaecological diseases result in great economic losses in form of reduction in lactation and loss of calf crop. Any disturbances in reproduction had a significant bearing on production of the animals. Thus, various gynaecological disorders impede the progress of dairy industry (Raju *et al.*, 2007). Epidemiological survey on different gynaecological diseases help in diagnosis and prompt treatment of infertility cases in field condition (Selvaraju *et al.*, 2005). The data pertaining to the gynaecological disorders and their implication in Kashmir is not available. The present paper reports the detailed paraphernalia of gynaecological disorders in cattle of Kashmir valley.

## RESEARCH METHODOLOGY

The data on 53354 cattle were brought for treatment to different veterinary hospitals of four districts namely Pulwama, Bandipora, Budgam and Ganderbal and Faculty Veterinary Clinics and Cattle Research Station of the University of Srinagar district, constituted the subject of the present study. The retrospective data was collected from treatment register maintained at each centre for a period of 5 years from 2003-04

to 2007-08 to obtain the prevalence of various gynaecological disorders *viz.* anoestrus, repeat breeding (RB), metritis, pyometra, ovarian cyst, dystocia uterine/ vaginal prolapse, retention of placenta (ROP) and other defects. Other defects included vulvitis, vaginitis, cervicitis, abortion, foetal mummification/ maceration and post partum haemorrhage. The frequencies of occurrence of gynaecological disorders were calculated in percentage.

## RESULTS AND DISCUSSION

The overall prevalence of total gynaecological disorder was 12% (53,354/ 4,44,616) which was lower than the reports of earlier workers in crossbred cattle (Kulkarni *et al.*, 2002). The maximum prevalence was that of anoestrus (31.64%) following RB (21.48%). The prevalence of anoestrus and RB was higher than the reports of previous worker (Selvaraju *et al.*, 2005). The anoestrus and RB was mainly due to qualitative and quantitative deficiencies of nutrients (Iyer *et al.*, 1992) besides other probable cause of decreased thyroid activity, parasitic infestation, breed differences, seasonal influences or climatic stress and disturbances in hypothalamo-pituitary-gonadal axis (Raju *et al.*, 2007). Lack of appropriate managerial practices and technical know how of the farmers has been reported to be

an important cause of RB (Roberts, 1998). Out of RB cases, ovulatory disturbances (delayed ovulation and anovulation) constituted 44.82 %. Smooth ovary and silent estrus was a cause of anoestrus accounted for 80.69 and 12.41 per cent, respectively. Possible cause of silent estrus was age, debility (Iyer *et al.*, 1992), heredity, nutritional deficiency and suckling (Noakes *et al.*, 2000). The prevalence of metritis (12.45%) recorded in the present study was lower than that recorded in buffaloes (Prasad and Prasad, 1998 and Raju *et al.*, 2007).

Metritis was either accompanied with persistent corpus luteum (PCL) or without PCL (78.26%). The cause for PCL was due to the interference in the production of endogenous luteolysin from the uterus (Noakes *et al.*, 2000). Prevalence of cystic ovaries was 1.93% which was comparable to the findings of Sreemannarayana and Rao (1997) in rural buffaloes of Andhra Pradesh. The prevalence of cystic ovary in zebu cattle ranged from 1-13% (Hussain and Muniraju, 1984). Younger crossbred cattle (80%) at the age group of 4 to 6 years and at 2nd and 3rd

**Table 1 : Prevalence of gynaecological disorders in cattle of 5 districts of Kashmir valley**

Districts (n)	Year	Anestrus	Repeat breeding	Metritis	Pyometra	Ovarian cyst	Dystocia	Uterine/vaginal prolapse	ROP	Other defects
Pulwama (n=3,525)	2003-04	10.38	18.93	23.51	30.23	4.27	2.75	2.60	4.89	2.44
	2004-05	9.79	19.57	24.77	26.91	5.05	2.60	3.21.2009	4.59	3.52
	2005-06	8.49	18.55	25.16	29.25	4.25	2.20	2.99	5.66	3.46
	2006-07	8.87	19.33	24.88	28.84	4.91	2.38	1.90	4.60	4.28
	2007-08	11.09	20.34	22.80	31.74	3.39	2.00	2.31	4.16	2.16
	Overall	9.74	19.35	24.22	29.40	4.37	2.39	2.60	4.78	3.16
Bandipora (n=2,991)	2003-04	48.74	10.70	9.96	4.46	-	-	8.32	17.83	-
	2004-05	54.65	11.15	13.57	5.58	-	-	11.34	17.29	-
	2005-06	56.44	11.02	8.81	5.42	-	-	7.46	10.85	-
	2006-07	53.21	12.36	6.92	5.60	-	-	9.56	12.36	-
	2007-08	57.29	8.92	9.61	4.97	-	-	9.95	9.26	-
	Overall	53.90	10.83	9.70	5.18	-	-	9.26	13.57	-
Budgan (n=37,620)	2003-04	26.44	28.01	8.45	3.40	1.69	6.64	8.45	16.91	-
	2004-05	29.97	22.15	10.88	3.79	1.33	5.86	6.19	19.83	-
	2005-06	31.10	23.23	10.99	2.41	1.27	7.35	6.04	17.62	-
	2006-07	29.50	24.82	11.75	3.63	1.56	5.34	6.39	17.01	-
	2007-08	31.87	20.30	13.14	2.93	1.49	6.76	5.82	17.78	-
	Overall	29.98	23.43	11.20	3.20	1.45	6.41	6.47	17.86	-
Ganderbal (n=3,604)	2003-04	32.86	35.29	9.94	13.24	-	1.47	5.00	5.88	13.23
	2004-05	20.59	24.32	8.11	18.29	-	2.70	3.10	5.41	12.40
	2005-06	21.62	40.00	8.71	5.71	2.86	2.86	5.01	5.71	11.43
	2006-07	22.86	23.68	14.05	2.63	2.63	-	2.63	10.53	11.26
	2007-08	31.58	25.71	5.71	5.71	-	-	-	2.83	13.15
	Overall	25.90	29.80	9.30	9.12	1.10	1.41	3.15	6.08	12.29
Srinagar (n=5,614)	2003-04	26.68	31.58	21.05	2.63	2.63	1.50	2.63	7.53	12.01
	2004-05	25.71	42.86	5.71	5.71	2.00	1.00	3.00	2.86	10.72
	2005-06	46.43	11.90	3.57	6.13	3.64	2.57	4.14	4.76	12.36
	2006-07	47.57	18.45	3.88	4.91	2.91	3.88	5.83	3.57	8.21
	2007-08	47.00	15.00	5.00	5.50	2.30	2.50	4.00	2.50	7.95
	Overall	38.68	23.96	7.48	4.98	2.70	2.29	3.92	4.24	10.25
Total (n=53,354)		31.64	21.48	12.45	10.38	1.93	2.50	5.12	9.31	5.14

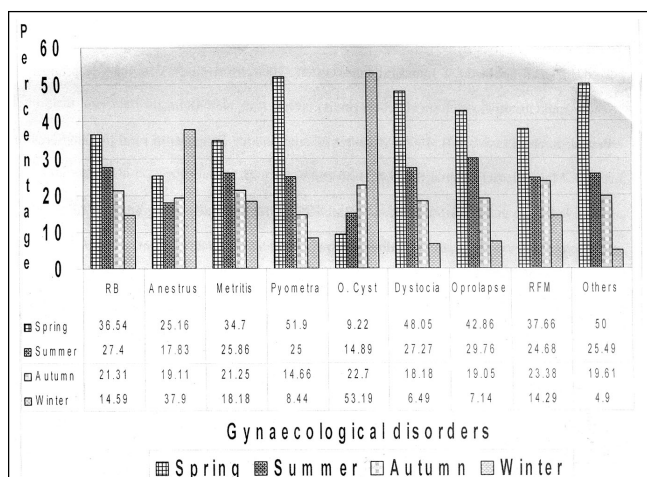


Fig. 1 : Seasonwise prevalence of bovine gynaecological disorders

lactation were predominantly affected with ovarian cyst when the average milk production was approximately 11 liters/day. It is thus speculated that lactation stress may be a predisposing factor for occurrence of cystic ovary (Menge *et al.*, 1962), besides endocrine insufficiency. Hernandez-Ledezma *et al.* (1984) observed that incidence of cystic ovary increased from 8.4% in primiparous cow to 25.9% in cows in their 5th lactation. In 10% cases cyst was observed in heifer which indicated genetic predisposition of the disease. The more involvement of ovarian cyst in right ovary (65%) than in left one (35%) corroborated the findings of Kaikini *et al.* (1983). The overall prevalence of uterine/ vaginal prolapse was 5.12% and their prevalence separately constituted less than 4%. The other defects although constituted for 5.14%; however, individual abnormality accounted only for 1-2%. Thus, prevalence of uterine prolapse, vaginal prolapse, dystocia (2.5%), vulvitis, vaginitis, mummification, maceration, abortion etc recorded in the present study was within the normal acceptable limits of upto 2 to 5% (Roberts, 1998).

The seasonal prevalence revealed that all the gynaecological disorders except anestrus and ovarian cyst were highest in spring season followed by summer (Fig. 1). However, prevalence of anestrus (37.90%) and ovarian cyst (53.19%) was recorded highest in winter. In Kashmir, calving mostly takes place during spring season. Consequently calving related problems *viz.*, dystocia, ROP, prolapse, metritis, pyometra, vaginitis, vulvitis etc. were also high during this season. Following calving animals exhibit estrus normally within 2-3 months. Repeat breeding problem was also high either in late spring or summer (Fig. 1). Under Kashmir agro-climatic conditions cattle are usually stall fed during winter months leading to reduced intake of vitamins and minerals and

predisposing the animals to anestrus (Wani *et al.*, 1999). It is concluded that ration of cows under agro-climatic conditions of Kashmir should be supplemented with a vitamin mineral mixture together with good amount of silage to maintain normal reproductive status.

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