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A retrospective analysis of obstetrical problems in buffaloes of Dadwal area (District Hamirpur) of Himachal Pradesh

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Abstract

Obstetrical conditions affect the future fertility of the animals and thereby increasing inter calving interval. The data was recorded in 411 buffaloes from Dadwal area (District Hamirpur) of Himachal Pradesh of last three years. The incidence of various obstetrical conditions like antepartum prolapse, postpartum prolapse, retained placenta, dystocia and puerperal metritis was 56.45%, 9.98%, 16.78%, 13.14%, 3.65%, respectively. However, Parity does not affect the incidence of obstetrical conditions recorded in buffaloes.

Key words: Antepartum prolapse, Buffaloes, Dystocia, Postpartum prolapse, Puerperal metritis, Retained placenta.

Buffaloes are major milk producers in the state and are producing 380.495 thousands tones of milk every year in spite of their small population of 7.16 lakhs in the state (Nineteenth livestock census 2012). The milk production in buffaloes is mainly affected by their reproductive status. Obstetrical conditions are the major factors reducing the milk production and affecting the production potential of buffaloes. Percentage of deaths due to obstetrical disorders is comparatively less (approx. 20%), but significantly affect the future fertility and also cause deficit of about 15% in milk production, thereby harming the economy of owners (Haque 2002). The reports on rural buffaloes having obstetrical conditions are not much in the literature, therefore, the present study was undertaken to detect different obstetrical disorder prevalent in buffaloes of Dadwal area of Hamirpur district of Himachal Pradesh. Following obstetrical disorders were recorded:

Antepartum prolapse: This refers to a condition in which any part of the reproductive tract protrudes out of the vulva before calving. It generally occurs between mid to late gestation period and mostly involves cervix and vagina (Roberts 1971; Noakes *et al*. 2009).

Postpartum prolapse: This refers to a condition in which any part of the reproductive tract protrudes out of the vulva after calving. It generally involves gravid uterine horn of the animal (Noakes *et al.* 2009).

Retained placenta: It is defined as failure to expel placenta within 12 hrs after calving (Roberts, 1971).

Dystocia: It refers to a condition during process of calving in which first stage or second stage is so prolonged that calving is difficult or impossible without assistance (Noakes *et al.* 2009).

Puerperal metritis: It is characterized by inflammation of all three layers of uterus i.e. perimetrium, myometrium and endometrium, within 2 to 3 weeks after calving. Foul smelling discharge is definitive for diagnosis (Galvao 2013).

Materials and Methods

The buffaloes brought to veterinary hospital of the area (Dadwal, Hamirpur), animals examined on farm doorstep and during clinical camps organized in the area during the last 3 years formed the material for the study and the incidence of obstetrical problems was recorded. Dystocia was further classified on the basis of fetal and maternal causes.

Results and Discussion

Results of various obstetrical conditions amongst 411 buffaloes are summarized in Figure 1, Table 1 and Table 2. In the present study, the incidence of antepartum prolapse (56.45%) was recorded highest as compared to other obstetrical conditions. Postpartum prolapse was having an incidence of 9.98 per cent. A similar high prevalence of genital prolapse

of 43 per cent had been recorded by Samad *et al*. (1987). However, Kakar *et al*. (1997) has recorded incidences of 5.53 and 31.25 per cent of antepartum vagnial and postpartum uterine prolapse. It had been recorded that a loss of 20% milk might occur due to genital prolapse (Miller and Dorn 1990) and an economic loss of 39.17% and 21.32% occur due to mortality of dam and calf, respectively in term service charges (Rabbani *et al*. 2009).

Incidence of retained placenta recorded was 16.78 per cent which was higher than the previous recorded incidence of 1.78 per cent (Verma *et al*. 2018), 3.25 per cent (Ahmad *et al*. 1980), 4.01 per cent (Prasad and Prasad, 1998). However, a higher incidence of 22.8 per cent was recorded by Durani *et al*. (2009). Kindahl *et al*. (2002) reported dystocia as a major cause of infertility among dairy animals. In our study, incidence of dystocia was 13.14%. A similar incidence of 14 per cent was recorded in buffaloes of Karachi, Pakistan by Fareed *et al*. (2017) and a low incidence of 4.81 per cent was recorded by Prasad and Prasad (1998).

Another reproductive disorder, puerperal metritis was having the least incidence of 3.65 per cent which was comparable to incidence (3.41%) reported by Prasad and Prasad (1998). However, Sarder et al. (2010) and Grohn et al. (1995) reported 7.6 per cent incidence of metritis in dairy cows. Further classification of incidence of dystocia was done on the basis of parity followed by maternal and fetal factors contributing to dystocia (Table 1 and 2).

Figure 1. Incidence of obstetrical problems in buffaloes of Dadwal area of Himachal Pradesh

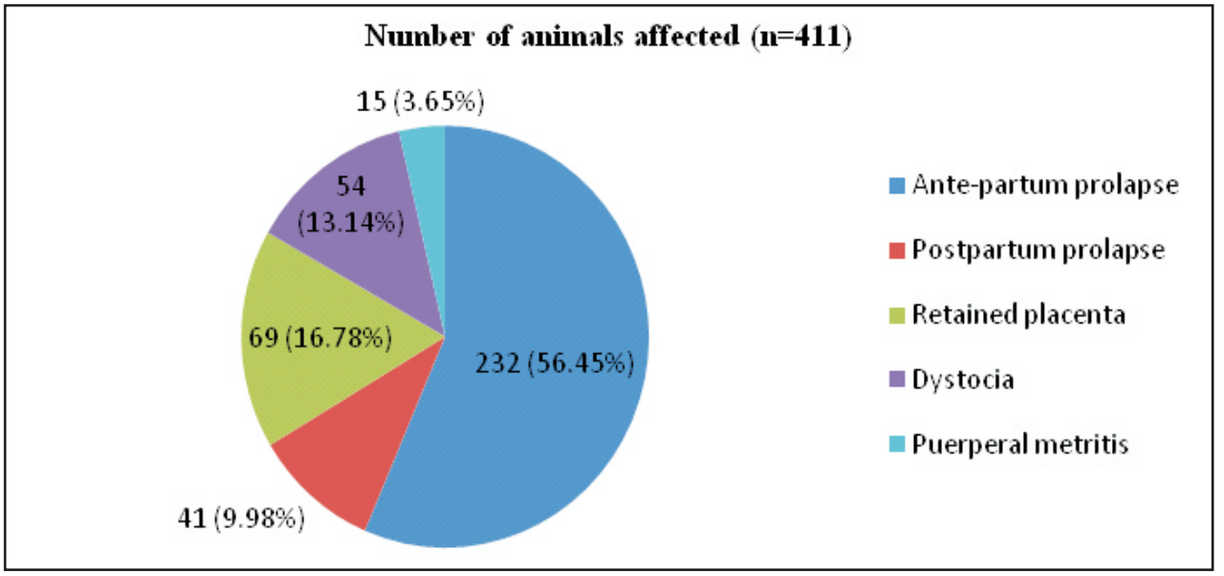

Table 1. Incidence of Dystocia in buffaloes of Dadwal area of Himachal Pradesh (n= 54)

Dystocia (n=54) (overall incidence=13.14)	Etiology	Number	Per cent
Maternal Factors (22) (overall incidence=5.35)	Uterine Torsion	14	25.9
	Incomplete dilatation of cervix	6	11.1
	Uterine inertia	2	3.7
	Total	**22**	**40.7**
Fetal Factors (32) (overall incidence=7.79)	Deviation of head and neck	5	9.3
	Bilateral shoulder flexion	4	7.4
	Unilateral shoulder flexion	7	13.0
	Downward deviation of head and neck	9	16.7
	Vertex	3	5.5
	Bilateral hip flexion	4	7.4
	Total	**32**	**59.3**

Table 2. Parity wise incidence of Dystocia in buffaloes of Dadwal area (n= 54)

Parity	Etiology		Number	Per cent
Pluriparous (30) (Overall incidence=7.29%)	Maternal Factors (n=12)	Uterine Torsion	8	66.67
		Incomplete dilatation of cervix	3	25
		Uterine inertia	1	8.33
		Total	**12**	**40.0**
	Fetal Factors (n=18)	Deviation of head and neck	3	16.66
		Bilateral shoulder flexion	2	11.11
		Unilateral shoulder flexion	4	22.22
		Downward deviation of head and neck	5	27.78
		Vertex	2	11.11
		Bilateral hip flexion	2	11.11
		Total	**18**	**60.0**
Primiparous (24) (Overall incidence=5.84%)	Maternal Factors (n=10)	Uterine Torsion	6	60
		Incomplete dilatation of cervix	3	30
		Uterine inertia	1	10
		Total	**10**	**41.66**
	Fetal Factors (n=14)	Deviation of head and neck	2	14.29
		Bilateral shoulder flexion	2	14.29
		Unilateral shoulder flexion	3	21.43
		Downward deviation of head and neck	4	28.57
		Vertex	1	7.14
		Bilateral hip flexion	2	14.29
		Total	**14**	**58.33**

The maternal (40% vs 41.66 %) and fetal reasons (60% vs 58.33 %) were two main reasons of dystocia with overall incidence of 5.35 per cent and 7.79 per cent in pluriparous and primiparous buffaloes, respectively (Table 2). However, in other studies a high incidence of dystocia due to maternal reasons and low incidence due to fetal reasons had been recorded (Srinivas *et al*. 2007; Jeengar *et al*. 2015).

The overall incidence of dystocia recorded was 13.14 per cent with high prevalence was recorded in pluriparous (7.29%) than primiparous (5.84%) buffaloes. But Purohit *et al*. (2012) had recorded high incidence of dystocia in primiparous than pluriparous cows and buffaloes. In maternal reasons of dystocia, uterine torsion (25.9%) was the single biggest reason of dystocia in both primiparous (60%) and pluriparous (66.67%) buffaloes which was comparable to the findings of other researchers (Srinivas *et al*. 2007; Purohit *et al*. 2011 and 2012).

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