SHORT COMMUNICATION

A Retrospective Study on Causes of Dystocia in Cattle and Buffaloes at Referral Centre in South Rajasthan

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Abstract

A retrospective analysis of causes of dystocia was conducted on 78 dystocia cases in cattle and buffalo presented to the Veterinary Clinical Complex of the College, Navania, Udaipur (Rajasthan, India) to find out the incidence of different causes of dystocia in this particular area. The high incidence of dystocia found in cattle was of fetal mal-disposition (46.87%), while in buffalo it was of uterine torsion (41.30%). Other causes of dystocia with low incidence in both the species included fetal emphysema, fetal monster, narrow pelvis, fetal dropsy and fetal oversize.

Key words: Bovine, Bubaline, Dystocia, Fetal maldisposition, Incidence, Uterine torsion.

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Introduction

Cattle and buffaloes have important role in livelihood of tribals of Udaipur. Animal husbandry practices are unorganized and traditional. Dystocia is one of major causes of reduced fertility and decreased production of dairy cow and buffalo.

Dystocia is defined as delayed or difficult calving, which often requires significant human assistance (Lombard *et al.* 2007; Zaborski *et al.* 2009; Uzamy *et al.* 2010; Purohit *et al.* 2012). In cattle and buffalo the incidence of dystocia is maximum compared to other farm animals (Purohit *et al.* 2011). Dystocia has been classified as maternal and fetal type (Sloss and Dufty, 1980). Majority of cases of dystocia is of maternal type in buffaloes (Saxena *et al.* 1989) and fetal type in cattle (Nanda *et al.* 2003). The present study was conducted to know the incidence of different type and causes of dystocia in 32 cattle and 46 buffalo reported at VCC, Navania, Udaipur, India.

Materials and Methods

The study was conducted retrospectively on cattle (n=32) and buffaloes (n=46), those suffered with dystocia and presented at the Department of Veterinary Clinical Complex, Navania, Udaipur (India) during the period between January 2017 and January 2019. The subjects were reported from different districts of south Rajasthan. Based on the type and cause of dystocia in each case, the frequency of different causes of dystocia was worked out species wise from the total cases dealt with during the specified period.

Results and Discussion

The causes of dystocia has been classified into maternal and fetal causes. The incidence of different type of dystocia is presented in Table 1. The maternal causes in present study were uterine torsion, incomplete cervical dilation and narrow pelvis, while fetal causes mainly included fetal mal-disposition, fetal emphysema, fetal monster and fetal oversize. Fetal causes were observed to be predominant in cattle (68.76%) in comparison to maternal causes (31.24%), however in buffalo maternal causes were predominant (54.35%) in comparison to fetal causes (45.65 %). The common cause of dystocia of maternal origin in buffalo was uterine torsion, which contributed to 41.30% of total dystocia cases and in case of cattle dystocia occurred mainly due to fetal mal-disposition which contributed to 46.87% of total dystocia cases of cattle.

Fetal mal-disposition contributed 68.18 % (15/22) out of total fetal causes of dystocia in cattle and uterine torsion contributed 76 % (19/25) out of total maternal causes of dystocia in buffalo.

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In case of cattle, the second most common cause of dystocia was incomplete cervical dilation (21.87%), followed by uterine torsion (3.12%), narrow pelvis (6.25%), fetal emphysema (12.50%), fetal oversize (3.12%) and fetal monster (6.25%). Furthermore, in case of buffalo the second most common cause was fetal mal-disposition (26.08%) followed by incomplete cervical dilation (8.69%), fetal emphysema (8.69%), fetal monster (6.52%), fetal dropsy (4.35%) and narrow pelvis (4.35%).

Table 1: Incidence of dystocia causes in cattle (n=32) and buffaloes (n=46)

		Cow (n=32) % incidence	Buffalo (n=46) % incidence
Maternal causes	Uterine torsion	3.12 (1)	41.30 (19)
	Incomplete cervical dilation	21.87 (7)	8.69 (4)
	Narrow pelvis	6.25 (2)	4.35 (2)
	Total	**31.24 (10)**	**54.34 (25)**
Fetal causes	Fetal maldisposition	46.87 (15)	26.08 (12)
	Fetal emphysema	12.50 (4)	8.69 (4)
	Fetal oversize	3.12 (1)	4.35 (2)
	Fetal monster	6.25 (2)	6.52 (3)
	Total	**68.74 (22)**	**(21)**

*Figures in parentheses show number of cases.

In the present study a higher incidence of fetal origin dystocia was recorded in cattle which is similar to previous studies (Singla *et al.* 1990; Singla and Sharma, 1992; Khammas and Al-Hamedawi, 1994; Wehrend *et al.,* 2002; Purohit and Mehta, 2006; Ximenes *et al.,* 2010; Purohit *et al.,* 2012) and in buffalo a higher incidence of maternal dystocia was observed, which is similar to studies of Srinivas *et al*. (2007) and Purohit *et al.* (2011); however, Phogat *et al*. (1992) reported fetal cause as a main cause of dystocia in buffalo.

The incidence of uterine torsion is considered to be higher in buffaloes compared to cows (Purohit *et al.,* 2011). Uterine torsion is considered to be the single largest condition contributing to dystocia in buffaloes with incidence as high as 56% to 67% (Nanda *et al.,* 1991; Purohit and Mehta, 2006) and up to 70% (Nanda *et al.,* 2003). In cows the incidence of uterine torsion is comparatively lower and varies from 7 to 30 % (El Naggar, 1978).

The incidence of fetal mal-disposition in cattle is higher because it depends upon maternal and fetal factors. Fetal mal-disposition includes many factors like sex of calf, breed of calf and sire. Based on heritability estimates, fetal genetic influences are probably more important determinants of final fetal presentation than maternal genetic components (Holland *et al.,* 1993). The incidence of torsion in buffalo is higher due to the bigger size abdomen and loose broad ligaments in buffaloes in comparison to cattle, which predisposes this species to suffer with uterine torsion especially during near the parturition (Kumar *et al.,* 2018).

In the present study incomplete dilation of cervix was 21.87% in cattle, which is partly in agreement with Singh and Nanda (1995). Fetal mal-disposition (26.08%) was found as main cause of fetal origin of dystocia which was somewhat similar to previous finding of Srinivas *et al.* (2007) who reported head deviation from 7.5- 12.2 %.

In the present study, incidence of narrow pelvis in cattle and buffalo was 6.25% and 4.35%, respectively, which was somewhat similar to incidence recorded in previous study as 9.2% (Sharma *et al.,* 1992). Similarly, the incidence of fetal monster recorded in cattle and buffalo was 6.25% and 6.52%, respectively, whereas in previous study in cattle the incidence of fetal monster reported was 0.5% (Craig, 1930), and in case of buffalo it was reported from 7.9% (Phogat *et al.* 1992) to 12.8% (Singla and Sharma, 1992).

From the present findings it was concluded that the fetal causes of dystocia were more common in cattle with fetal mal-disposition as the main cause, while in buffalo maternal causes of dystocia were more common with uterine torsion as the main cause among the other causes.

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