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A retrospective study on incidence of dystocia in cattle and buffaloes at referral center

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Abstract

A retrospective study on the incidence of bovine dystocia between October, 2012 to September, 2013 was screened. A high incidence of maternal cause of dystocia was found in both cows (78.89%) and buffaloes (80.33%). Maldisposition of fetus was the commonest cause of fetal dystocia in both cows (16.67%) and buffaloes (18.03%). Imperfect dilatation of cervix (50%) was the major cause of maternal dystocia in cattle while uterine torsion (55.74%) in buffaloes. Other causes of dystocia with low incidence include narrow pelvis, fetal emphysema and fetal monster.

Keywords: Incidence, types of dystocia, cattle

Dystocia is defined as delayed or difficult calving, sometimes requiring significant human assistance (Lombard *et al.,* 2007; Zaborski *et al.,* 2009; Uzamy *et al.,* 2010). In cattle and buffalo the incidence of dystocia is maximum compared to other farm animals (Purohit *et al.,* 2011). Buffaloes are known to have greater incidence of maternal dystocia (Saxena *et al.,* 1989; Nanda *et al.,* 2003). However, a higher incidence of fetal dystocia has been also recorded for both cows (Singla

et al., 1990) and buffaloes (Singla *et al.,* 1990; Phogat *et al.,* 1992; Singla and Sharma, 1992). This report analyses the incidence of dystocia in 151 referral cases presented to this referral centre.

Materials and Methods

Retrospective study was done on cows (n=90) and buffaloes (n=61) presented to Clinics of veterinary gynaecology and obstetrics, CVAS, Bikaner during one year from October, 2012 to September, 2013. Medical records were reviewed and information were obtained on type of dystocia.

Results and Discussion

All the animals were presented to the referral centre 12 to 24 hours after the onset of second stage of labour. The incidence of different type of dystocia is presented in Table 1. Maternal causes were predominant in both cows (78.89%) and buffaloes (80.33%) and fetal causes were 21.11% in cows and 19.67% in buffaloes. Incidence of fetal monster due to conjoined twins with single head or monocephalus was 1.1% in cow. No single case of fetal monster was noted in buffaloes during this period at referral center. The incidence of fetal emphysema was 3.3% in cows and 1.64% in buffaloes. The commonest fetal cause was maldisposition of fetus in both cows (16.67%) and buffaloes (18.03%), whereas, the predominating maternal cause of dystocia were incomplete dilation of cervix in cows (50%) and uterine torsion in buffaloes (55.74%). Dystocia due to narrow pelvis accounted in 4.4% cows and in 1.64% buffaloes.

In present study a higher incidence of maternal dystocias were seen in both cows and buffaloes which were supported by the studies of Sriniνas *et al.* (2007) and Purohit *et al.* (2011), contrary to the present study a higher incidence of fetal dystocias have been described in cattle (Singla *et al.,* 1990; Singla and Sharma, 1992; Purohit and Mehta, 2006; Purohit *et al.,* 2012) and in buffaloes (Singla *et al.,* 1990; Phogat *et al.,* 1992).

In present study uterine torsion (55.74%) is the major cause of dystocia in buffaloes and incomplete dilatation of cervix (50%) in cows. Prasad *et al.* (2000), Nanda *et al.* (2003) and Purohit *et al.* (2011) also found similar results.

In previous studies on cattle indicated that the fetus is the major cause of dystocia (Sloss and Johnston, 1967; Majeed *et al.,* 1989; Khammas and Al-Hamedawi, 1994; Wehrend *et al.,* 2002; Ximenes *et al.,* 2010) and abnormal fetal presentations at birth contribute to 1- 5% of total dystocia cases (Nix *et al.,* 1998; Bennett and

Gregory, 2001; Garrousi, 2004). In a study by Purohit and Mehta (2006) there were less frequent fetal dystocias in buffaloes. The incidence of monstrosities reported for cow was 0.5% (Craig, 1930), whereas an incidence of 7.9% (Phogat *et al.,* 1992) to 12.8% (Singla and Sharma, 1992) has been reported for buffalo.

The total incidence of dystocia due to fetal maldispositions described for the buffalo vary from 45.4% (Phogat *et al.,* 1992) to 69.8% (Srinivas *et al.,* 2007). In dairy cattle, Wehrend *et al.* (2002) have observed that incorrect fetal orientation of a dead fetus was the most frequent cause (38.9%) of dystocia and similar findings were recorded by Holland *et al.* (Holland *et al.,* 1993) in beef cows.

Table 1: Percent Incidence of different type of dystocias in cows and buffaloes

Fetal causes	Cows %(n)	Buffaloes %(n)
Fetal maldisposition	16.67% (15)	18.03% (11)
Fetal monster	1.1% (1)	-
Fetal emphysema	3.3% (3)	1.64% (1)
Total	21.11% (19)	19.67% (12)
Maternal causes		
Uterine torsion	24.44% (22)	55.74% (34)
Incomplete cervical dilation	50% (45)	22.95% (14)
Narrow pelvis	4.4% (4)	1.64% (1)
Total	78.89% (71)	80.33% (49)

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% (Singh *et al.,* 1978; Nanda *et al.,* 1991; Purohit and Mehta, 2006) and up to 70% (Nanda *et al.,* 2003). In cows the incidence is comparatively lower although at various locations it is known to vary between 7 to 30 percent (May, 1950; Pearson, 1971; El Naggar, 1978).

The incidence of cervical dystocia was 11.1 to 16.7 percent (Wehrend and Bostedt, 2003) in cows. The collective incidence of incomplete cervical dilation in cattle and buffaloes was 5.1 percent (Sharma *et al.,* 1992). The incidence of pelvic deformities as a cause of dystocia in buffaloes was 1.2 percent (Deshmukh, 1975). In cows and buffaloes, the incidence of narrow pelvis is known to be 9.2 percent (Sharma *et al.,* 1992).

In conclusion, the maternal causes of dystocia are common in both cows and buffaloes. Overall, incomplete dilation of cervix is common in cows while uterine torsion is common in buffaloes.

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