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Incidence of maternal and fetal dystocia of graded Murrah buffaloes: A retrospective study

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Abstract

Detailed obstetrical examination was performed in referral dystocia cases of Graded Murrah buffaloes (n=122) and the incidence of maternal and fetal dystocia was recorded and analyzed. Out of the 122 dystocia affected buffaloes a total of 77.86 and 22.14 per cent buffaloes had maternal and fetal dystocia, respectively. Uterine torsion was the more frequent cause of maternal dystocia with an incidence of 92.63 per cent. Limb flexion was the major cause of fetal dystocia with an incidence of 51.85 per cent. In summary, the higher incidence of uterine torsion could be minimized by adopting good management practices in buffaloes especially those reared in house hold and field level.

Keywords: Buffaloes, dystocia, uterine torsion, limb flexion

Introduction

Dystocia in buffaloes causes huge economic losses to the farming and co-operative community through loss of viable calf and postpartum complications to the dam. Bovines are commonly affected with dystocia during parturition^[1]. Though cattle and buffaloes appear to have similar parturition process, some minor differences are known to occur in the anatomy and physiology of the birth canal/passage. Various forms of fetal and maternal causes of dystocia especially uterine torsion has been reported as a serious cause of dystocia in cattle and buffaloes which is fatal to both fetus and the dam^[2]. Dystocia is considered as one of the most important obstetrical conditions encountered in bovines in field and immediate attempt required to correct the conditions^[3]. Present paper recorded detailed retrospective study of various obstetrical conditions presented in the obstetrical unit.

Material and methods

Retrospective study was carried out on 122 graded Murrah buffaloes suffering with dystocia and presented to Department of Veterinary Gynaecology and Obstetrics, NTR CVSc, Gannavaram, Andhra Pradesh between September 2017 and August 2018. Obstetrical records were reviewed and information was obtained to analyze the incidence of maternal and fetal dystocia of graded Murrah buffaloes.

Results and Discussion

The causes of dystocia in graded Murrah buffaloes have been divided into the maternal and fetal causes and incidence of maternal and fetal dystocia is depicted in Table 1 and Figure 1-3. The incidence of dystocia due to maternal and fetal causes in the present study was recorded to be 77.86 and 22.14 per cent, respectively. In present study a higher incidence of maternal dystocia was recorded which was in consonance with the earlier studies of Srinivas *et al.* (2007) and Purohit *et al.* (2011)^[4, 1], while contrary to the present study a higher incidence of fetal dystocia have been reported in buffaloes by Singla and Sharma (1992) and Phogat *et al.* (1992)^[5, 6].

The incidence of maternal dystocia (n=95) in the present study was recorded as 92.63% (88/95), 2.11% (2/95), 1.05% (1/95), 4.21% (4/95) for uterine torsion, fractured pelvis, uterine inertia and incomplete cervical dilation, respectively. Amongst maternal cause of dystocia, the uterine torsion was the predominant condition recorded with an incidence of 92.63 per cent. The present observations were similar to those of Purohit *et al.* (2011)^[1] who reported the incidence of uterine torsion as 70% among the maternal causes of dystocia. On the contrary Purohit and Mehta (2006) and Naidu *et al.* (2014)^[7, 3] reported that lower incidences of uterine torsion ranging from 29.5 to 56 to 67% in their earlier studies.

The higher incidence of uterine torsion as a cause of maternal dystocia might be due to the fact that more number of cases of uterine torsion cases were sent to the referral hospital, while other forms of dystocia might have been treated locally as opined by Srinivas *et al.* (2007) [4]. The incidence of incomplete cervical dilation, uterine inertia and fractured pelvis was lower in the present study, which was in agreement with few earlier studies [8, 1].

The incidence of fetal dystocia (n=27) in the present study was recorded as 22.14 per cent out of all the dystocia cases (27/122) presented to the obstetrical unit. Similar findings were also observed by Jeengar *et al.* (2015) [9] who reported the incidence of fetal dystocia as 19.67%. Low incidence of fetal dystocia in the present study might be due to the fact that correction of maldispositions were possible by local veterinarians or veterinary assistants which might have resulted in relatively lesser incidence of fetal dystocia in buffaloes as opined by Purohit and Mehta (2006) [7].

Limb flexions and head deviations recorded in the present study were 51.85% and 29.63%, respectively. The present study was consonance with the report of Srinivas *et al.* (2007) [4] who reported head and limb deviations were 42.22 and 57.78 per cent, respectively, while on contrary higher incidence of head deviations (60.00%) might predispose for fetal dystocia [10]. Parveen Kumar *et al.* (2018) [8] also recorded that head deviations were the main origin of fetal dystocia; they inferred that deviations of the head might occur due to deflection of the nose against a partially dilated cervix and associated with the progressive uterine contractions; that resulted in deviation of the head either downward or lateral. The present study recorded higher incidence of limb flexions as the major cause of fetal dystocia, which might be due to excessive fetal movements during labour, oversized fetus, previous attempts by unskilled local veterinarians and/or any hindrance in the birth canal were postulated to be reasons for deviation of limbs.

In the present study, relative oversize of the fetus was recorded to be 20.00% and 80.00% for fetal monster and fetal emphysema, respectively. The fetal emphysema had an incidence of 14.81 per cent on all fetal dystocia cases presented. Similar trends were recorded by Srinivas *et al.* (2007) [4] who reported that oversized fetus had 3.45 and 12.06 per cent of fetal monsters and fetal emphysema, respectively. On the contrary, reports of Purohit *et al.* (2012)

[11] recorded very low incidence of fetal emphysema (4.46%); while Patil *et al.* (2014) [12] recorded higher incidence of fetal emphysema (34.3%). The variations in the incidences might be due to variations in the availability and skill of the veterinarians who play a key role in determining, weather the case has to be referred or not to the referral center.

Conclusion

It was concluded from the present study that maternal dystocia was most commonly referred to the referral hospitals with higher incidence in buffaloes and moreover, uterine torsion was the single largest cause of maternal dystocia. The higher incidence of uterine torsion could be minimized by adopting good management practices in buffaloes especially those reared in house hold and field level.

Table 1: Incidence of dystocia in Graded Murrah buffaloes (n=122)

S. No	Incidence of cause of dystocia	Number	%
I	Maternal dystocia		77.86
1	Uterine torsion	88	92.63
2	Narrow pelvis	2	2.11
3	Uterine inertia	1	1.05
4	Incomplete cervical dilation	4	4.21
	Total	95	100.00
II	Fetal dystocia		22.14
1	Relative oversize		
	Fetal monster	1	20.00
	Emphysematous fetus	4	80.00
	Total	5	100.00
	Overall relative oversize		18.52
2	Posture		
	a) Limb flexion		
	Carpal flexion	6	42.85
	Elbow flexion	1	7.14
	Shoulder flexion	4	28.57
	Hock flexion	1	7.15
	Hip flexion	2	14.29
	Total	14	100.00
	Overall limb flexion		51.85
	b) Head deviation		
	Right lateral	2	25.00
	Left lateral	4	50.00
	ventral	2	25.00
	Total	8	100.00
	Overall head deviation		29.63

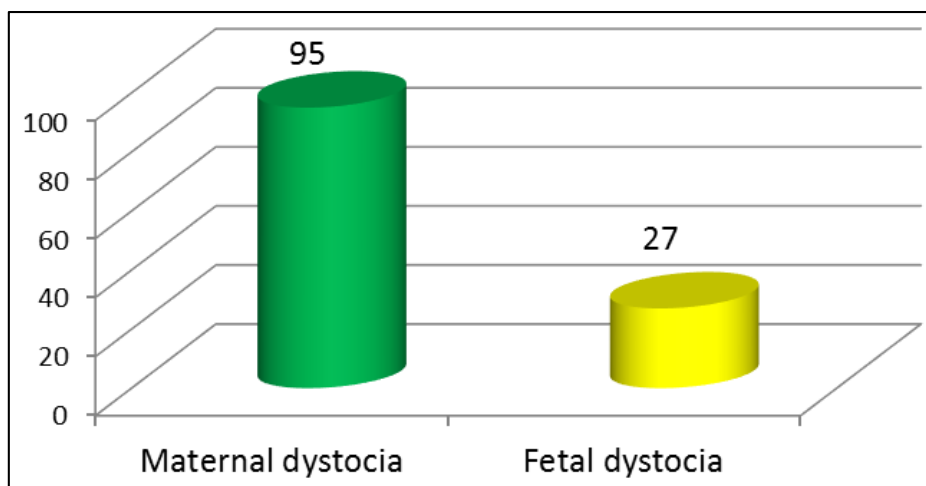


Fig 1: Incidence of maternal and fetal dystocia in buffaloes

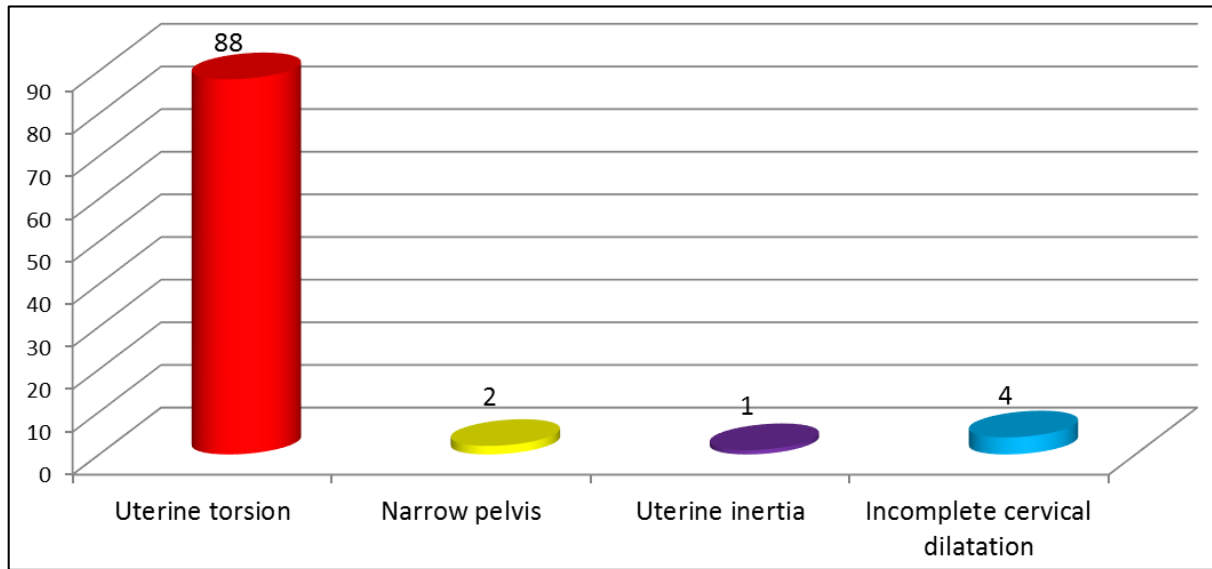


Fig 2: Incidence of maternal dystocia in buffaloes

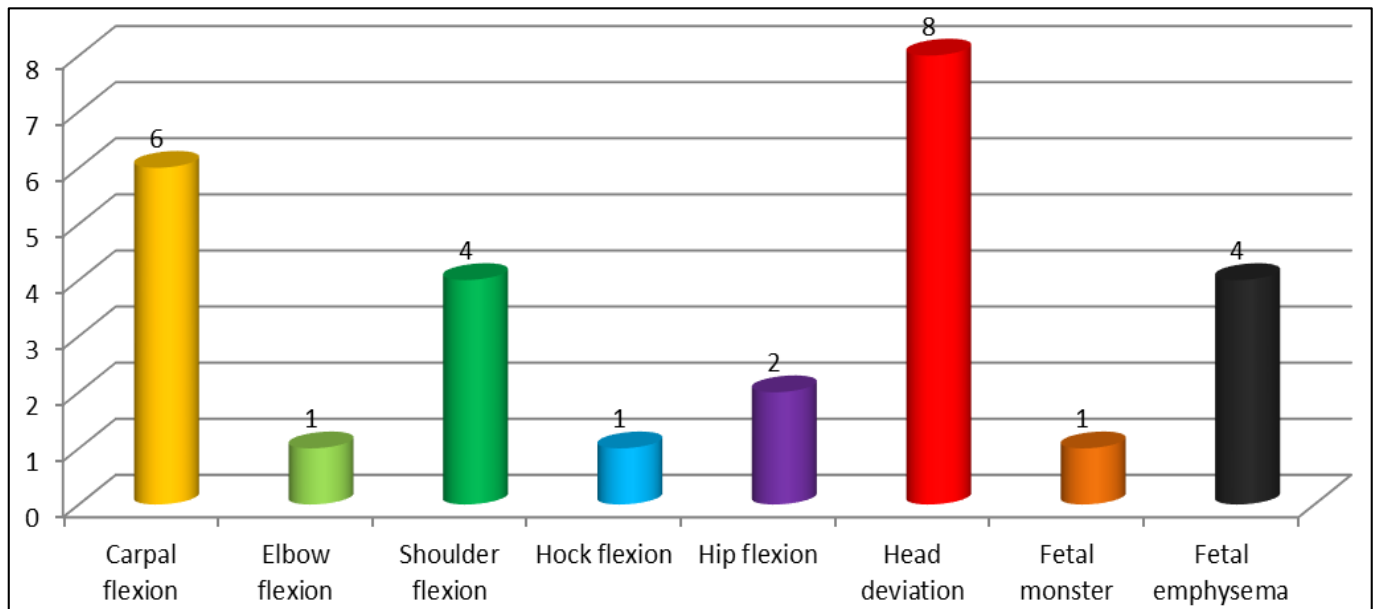


Fig 3: Incidence of fetal dystocia in buffaloes

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