The Pharma Innovation Journal 2019; 8(4): 882-884

www.ThePharmaJournal.com

The Pharma Innovation

ISSN (E): 2277- 7695
ISSN (P): 2349-8242
NAAS Rating: 5.03
TPI 2019; 8(4): 882-884

www.thepharmajournal.com
Received: 03-02-2019
Accepted: 06-03-2019

Thangamani A
Department of Veterinary Gynaecology and Obstetrics NTR College of Veterinary Science, Gannavaram, India

M Srinivas
Professor, Department of Veterinary Gynaecology and Obstetrics, NTR College of Veterinary Science, Gannavaram, India

K Sadasiva Rao
Professor and Univ. Head Department of Veterinary Gynaecology and Obstetrics NTR College of Veterinary Science, Gannavaram, India

NVV Hari Krishna
Associate Professor Department of Veterinary Clinical Complex College of Veterinary Science, Tirupati, India

Correspondence
M Srinivas
Professor, Department of Veterinary Gynaecology and Obstetrics, NTR College of Veterinary Science, Gannavaram, India

A retrospective studies on uterine torsion in graded murrah buffaloes at a referral center

Thangamani A, M Srinivas, K Sadasiva Rao and NVV Hari Krishna

Abstract
Detailed obstetrical examination was performed in referral dystocia cases of Graded Murrah buffaloes and the incidence of uterine torsion (n=88) was recorded and analyzed. Uterine torsion occurred more frequently in pluriparous buffaloes at full term. Post cervical right sided uterine torsion was common with higher incidence for severe degree (>270->360°) of uterine torsion in buffaloes. The condition was observed since >24-36 hours in 53.40 per cent of the buffaloes before they were presented for treatment. The most fetuses delivered were in anterior longitudinal presentation and male fetus outnumbered the female fetuses.

Keywords: Buffaloe, dystocia, uterine torsion, pluriparous, post cervical

Introduction
Rotation of the gravid uterine horn around its long axis is known as uterine torsion which leads to obstruction of the birth canal causing dystocia [1]. Majority of uterine torsion cases involve the caudal to cervix leading to stenosis along with spiral twisting of the vaginal wall [2]. Uterine torsion considered as single largest and complicated cause of maternal dystocia in buffaloes culminating in death of both the fetus as well as dam if delayed [3]. The occurrence of dystocia is considered to be higher in riverine compared to swamp buffaloes and higher in primiparous than pluriparous [4]. Most authors have supported that active fetal movements by a large fetus during late gestation and at first stage or early second stage of parturition might precipitate to the rotation of the unstable gravid uterus [2, 5]. In uterine torsion the prognosis of the dam with conventional treatment depends upon many factors like site and degree of torsion followed by duration of the condition. The incidence of dystocia due to uterine torsion had increased considerably over the last few years [6].
The present study evaluates retrospectively the incidence, type and extent of uterine torsion in affected Graded Murrah buffaloes belonging to coastal Andhra Pradesh.

Material and methods
The present study was conducted in Graded Murrah buffaloes which were presented to the large animal obstetrical unit, Department of Veterinary Gynaecology and Obstetrics, NTR College of Veterinary Science, Gannavaram, Andhra Pradesh during the period from September 2017 to August 2018; which were referred from the coastal district of Andhra Pradesh and near Gannavaram area. Referral uterine torsion cases (n=88) included in the present study were analysed. Detailed per vaginal and per rectal examinations were done to assess the side, site and degree of uterine torsion. The occurrence of uterine torsion in Graded Murrah buffaloes in relation to stage of gestation, side, site, degree and duration of uterine torsion, parity of dam, presentation and position of the fetus, sex of the calves were recorded, while in fetal dystocia stage of gestation, duration, parity of dam, presentation, position and posture of fetus, relative oversize of the fetus, sex and viability of the calf were recorded.

Results and Discussion
Incidence of different types of uterine torsion in Graded Murrah buffaloes is depicted in Table 1.
The uterine torsion was the predominant condition recorded with an incidence of 92.63 per cent. The present observations were similar to those of Nanda *et al.* (2003) and Prabhakar *et al.* (1994) [7, 8] 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) [9, 10] reported 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 torsions was sent to the referral hospital, while other forms of dystocia might have been treated locally as opined by Srinivas *et al*. (2007) [11].

The per cent incidence of uterine torsion in the present study based on stage of gestation was 50.00% at term, 20.45% at 10 months, 19.32% at 9 months, and 10.23% at 7-8 months of gestation. The observations of the present study were in concurrence with the findings of Jeengar *et al.* (2015) [12] who reported that the incidence at pre term was 28.0 per cent while at full term it was 72.0 per cent in buffaloes. Divergently, with some other earlier studies (Naik, 2016 and Karthick *et al.* 2015) [13, 14] reported that the incidence was high at term (83-85 per cent). The variations in the incidence of uterine torsion with respect to stage of gestation could be due to variations in the number of uterine torsion cases being presented to the particular referral hospital.

The incidence of post cervical uterine torsion was observed to be greater at 79.55 per cent (66/81) followed by pre cervical uterine torsion which was 20.45 per cent (15/81) among the affected buffaloes. Results were in agreement with the earlier findings of Purohit *et al.* (2013) and Karthick *et al.* (2015) [15, 14] who reported that the incidence of post cervical uterine torsion ranged from 80.00 to 88.46 per cent, on the converse, Srinivas *et al.* (2007) and Naik (2016) [11, 13] recorded higher incidence of post cervical uterine torsion (90 per cent) which was greater than that recorded in the present study. Post cervical uterine torsion was more commonly encountered in the present study might be due to the membranous nature of the vagina as opined by Ghuman (2010) [16].

The incidence of right sided torsion was more frequent (97.73%) when compared with the left sided uterine torsion (2.27%) in the affected buffaloes of the present study. These findings are consonance with earlier studies [11, 13, 14], while divergent with reports of Solanki *et al.* (2012) and Alfaris *et al.* (2013) [17, 18], who recorded low incidence of right side uterine torsion. A predominance of right sided uterine torsion in buffaloes might be due to weak or absence of a muscular fold on right uterine broad ligament in the buffalo and presence of the rumen on the left side [16, 19].

The present study reported that 55.68% of buffaloes had suffered with >270->360º uterine torsion (severe) while, 30.68% had uterine torsion >180-270º (moderate) and 13.64% had 90-180º (mild) degrees of torsion. The results of the present study were in agreement with studies of Naik, (2016) and Nagaraju, (2018) [13, 20] who recorded greater incidence of severe uterine torsion (>270->360º), while the present findings are contrary with studies of Naidu *et al.* (2014) and Srinivas *et al.* (2007) [10, 11] who reported higher incidence of uterine torsion of 180º. The greater twisting of the gravid uterus on its longitudinal axis might be due to instability of the uterus, as the bubaline amnion was fused at various places to the chorio-allantois, which was attached to the uterine wall. This coupled with exaggerated fetal movements during the late first stage or early second stage of labour or late gestation might have resulted in rotation the gravid uterus. Further, decrease in the size of the uterus due to lower quantity of fetal fluids at the terminal stages of gestation with decreased uterine tone might have increased the fetal discomfort that culminated to further increase in fetal movements were postulated to be reasons for greater degree of uterine torsion [16, 19].

In the present study, uterine torsion affected buffaloes were recorded to be suffering with the condition since 12-24 hours in 12.50% (11/88), >24-36 hours in 53.40% (47/88) and >36 hours in 34.10% (30/88) of buffaloes. The observations of the present study were in concurrence with reports of Swelum *et al.* (2012) [21], who recorded higher incidence of the condition being presented at >24-36 hours, on the contrary Amin *et al.* (2011) [22] recorded higher incidence of the condition being presented at 12-24 hrs. The variation in the incidence of uterine torsion based on duration of condition might be due to the reason that cases were referred from various parts of coastal Andhra Pradesh wherein the transport and travel time are the key factors which determine the duration of the condition.

The incidence of uterine torsion was recorded to be 79.54 and 20.46 per cent in pluriparous and primiparous buffaloes, respectively. The present findings were similar to the observations of earlier studies by Srinivas *et al.* (2007); Solanki *et al*. (2012); Purohit *et al*. (2013); Purohit and Gaur (2014) and Naik (2016) and Jeengar *et al*. (2014) [11, 15, 17, 13, 19, 12] who opined that uterine torsions most commonly occurred in the aged pluriparous buffaloes with an incidence of 36.00 to 66.66 per cent. Divergently, Matharu and Prabhakar (2001) and Amin *et al.* (2011) [22, 23] observed higher incidence of uterine torsion in primiparous when compared to pluriparous buffaloes. The variation of incidence of uterine torsion with respect to parity or lactation number in the present study might be due to various factors like breed of buffaloes, geographical location and terrain, variations in management practices and environment.

In the present study, presentation of fetuses was greater in anterior longitudinal presentation (96.20%) compared with posterior longitudinal presentation (3.80%). The position recorded in majority of the fetuses was dorso sacral to right dorso ilial followed by a very few in dorso-pubic positions. The present findings were in agreement with those of Erteld *et al.* (2012); Naik (2016) and Nagaraju (2018) who concluded that anterior longitudinal presentation was within the expected proportion for normal parturitions and further the active fetal movements especially the movements of fetal forelimbs might largely culminate in occurrence of uterine torsion. The observations in the present study revealed that 55.80 (29/52) and 44.20 per cent (23/52) of the buffaloes affected with uterine torsion gave birth to male and female calves, respectively after detorsion with various obstetrical procedures. The present findings were similar with the observations of Karthick *et al.* (2015); Naik (2016) and Nagaraju (2018) [13, 20, 24], conversely greater incidence of male fetuses was observed by Amin *et al.* (2011) and Jeengar *et al.* (2014) [12, 22]. Weight of the fetus had greater influence on the rotation of uterus rather than the sex of the fetus as opined by Ghuman (2010) [16].

It was concluded from the present study that uterine torsion was most commonly referred condition to the referral hospital. It's occurred mostly at term and 10 months with a higher incidence of right sided, post cervical with severe degree (>270°->360°) torsions.

Table 1: Incidence of different types of uterine torsion in Graded Murrah buffaloes (n=88)

S. No	Parameter		Number	%
I	**Stage of gestation**			
1	7-8 months		9	10.23
2	9 months		17	19.32
3	10 months		18	20.45
4	Full term		44	50.00
		Total	88	100.00
II	**Site of Torsion**			
1	Pre Cervical		18	20.45
2	Post Cervical		70	79.55
		Total	88	100.00
III	**Side of Torsion**			
1	Right sided		86	97.73
2	Left sided		2	2.27
		Total	88	100.00
IV	**Degree of Torsion**			
1	90-180° (mild)		12	13.64
2	>180-270°(moderate)		27	30.68
3	>270-360° (severe)		49	55.68
		Total	88	100.00
V	**Duration of Torsion**			
1	12-24 hrs		11	12.50
2	>24-36 hrs		47	53.40
3	>36 hrs		30	34.10
		Total	88	100.00
VI	**Parity**			
1	Primiparous		18	20.46
2	Pluriparous		70	79.54
		Total	88	100.00
VII	**Presentation**			
1	Anterior longitudinal		50	96.20
2	Posterior longitudinal		2	3.80
		Total	52	100.00
VIII	**Sex of the calf**			
1	Male		29	55.80
2	Female		23	44.20
		Total	52	100.00

References

1. Rakuljic-Zelov. Haematological and biochemical profiles of cows affected with uterine torsion. Slovenian Veterinary Reearch. 2002. 39:1580-1583.
2. Roberts SJ. Diseases and accidents during the gestation period Diagnosis and treatment various types of dystocia. Injuries and diseases of the puerperal period. In Veterinary Obstetrics and Genital Diseases Theriogenology Woodstock VT, 2004, 230-359.
3. Jainudeen MR. Reproduction in the water buffalo. In: Current therapy in Theriogenology. Ed., Morrow DA WB Saunders Company, Philadelphia, 1986, 443-449.
4. Noakes DE, Parkinson DJ, England GCW. Maternal dystocia Arthur's Veterinary Reproduction and Obstetrics 9th edition, W B Saunders company, 2009, 324-356.
5. Schonfelder A, Richter A, Sobiraj A. Stages of surgically incorrectable uterine torsion of cows associations with clinical progress. Tierarztliche Umschau. 2003; 60:199-205.
6. Laven R, Howe M. Uterine torsion in cattle in the UK. Veterinary Record. 2005; 157:96.
7. Nanda AS, Brar PS, Prabhakar S. Enhancing reproductive performance in dairy buffalo: major constraints and achievements. Reproduction Supplement. 2003; 61:27-36.
8. Prabhakar S, Singh P, Nanda AS, Sharma RD. Clinico obstetrical observations on uterine torsion in bovines. Indian veterinary Journal. 1994; 71:822-824.
9. Purohit GN, Mehta JS. Dystocia in cattle and buffaloes-A retrospective analysis of 156 cases. Veterinary Practitioner. 2006; 7:31-34.
10. Naidu GV, Srilatha B, Ravi babu G. A retrospective study of factors affecting dystocia in Murrah buffaloes. Intas Polivet. 2014; 15:279-283.
11. Srinivas M, Sreenu M, Lakshmi Rani N, Subramanyam NK, Devi Prasad V. Studies on dystocia in graded murrah buffaloes: a retrospective study. Buffalo Bulletin. 2007; 26:40-45.
12. Jeengar K, Purohit GN, Mehta JS, Choudhary V, Tripathi A. Prognostic tests for uterine torsion affected buffaloes. Theriogenology Insight. 2015; 5:33-40.
13. Naik BSR. Clinico-biochemical studies on uterine torsion in Graded Murrah buffaloes with special references to its prognosis. M.V.Sc thesis submitted to Sri Venkateswara Veterinary University, Tirupati, 2016.
14. Karthick C, Selvaraju M, Ezakial Napolean R, Doraisamy KA. Incidence of uterine torsion and its occurrence in relation to various factors in cows and buffaloes. Indian Journal of Animal Reproduction. 2015; 36:60-63.
15. Purohit GN, Mehta JS, Shekher SC, Kumar P, Kumar A, Raiya S *et al*. Uterine torsion in buffaloes -A retrospective analysis of 52 cases. Ruminant Science. 2013; 2:219-222.
16. Ghuman SPS. Uterine torsion in bovines: a review. Indian Journal of Animal Science. 2010; 80:289-305.
17. Solanki GB, Siddiquee GM, Solanki KG, Patel SC, Desai SB. Uterine torsion in Mehsana buffaloes. Indian Journal of Field Veterinarians. 2012; 7:75-76.
18. Alfaris AA, Fahad TA, Hassan BJ. Comparison between rolling and surgical treatment of uterine torsion in buffaloes in Basrah province. Journal of Veterinary Medicine and Animal Health. 2013; 6:67-68.
19. Purohit GN, Gaur Mitesh. Uterine torsion in buffaloes a critical analysis. Buffalo Bulletin. 2014; 33:363-378.
20. Nagaraju. Clinical and haemato-biochemical parameters in uterine torsion affected Graded Murrah buffaloes (*Bubalus bubalis*). M.V.Sc thesis submitted to Sri Venkateswara Veterinary University, Tirupati, 2018.
21. Swelum AAA, Amin SE, Eidaroos AS, Hazzaa ABM. Prognosis prediction of uterine torsion mechanical treatment (rolling) after estimation of calcium and creatinine level in the serum of buffaloes (*Bubalus bubalis*). Theriogenology. 2012; 78:1048-1055.
22. Amin SM, Amer HA, Hussein AE, Hazzaa AM. Creatine phosphokinase and aspartate aminotransferase profiles and its relation to the severity of uterine torsion in Egyptian buffalo. Animal Reproduction Science. 2011. 123:163-168.
23. Matharu SS, Prabhakar S. Clinical observation and success of treatment of uterine torsion in Buffaloes. Indian Journal of Animal Reproduction. 2001; 22:45-48.
24. Erteld E, Wehrend A, Goericke-Pesch S. Uterine torsion in cattle-frequency, clinical symptoms and theories about the pathogenesis. Tierarztliche Praxis Grobtiere. 2012; 40:167-175.