

CLINICAL STUDY ON INCIDENCE OF DYSTOCIA IN BUFFALOES AT REFERRAL HOSPITAL—A RETROSPECTIVE STUDY

B.G. CHAUDHARY*, C. F. CHAUDHARI, T. V. SUTARIA, R. K. CHAUDHARI, B. N. SUTHAR, H.C. NAKHASHI AND U. R. DALSANIYA

Department of Veterinary Gynaecology and Obstetrics, College of Veterinary Science and Animal Husbandry, Sardarkrushinagar Dantiwada Agricultural University, Sardarkrushinagar, Gujarat 396 450 India.

Corresponding author: *dr.bharatchaudharyvets@gmail.com

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ABSTRACT

Buffaloes (n=152) suffered with dystocia and referred to Veterinary Clinical Complex were included in the study to investigate various clinical findings of dystocia. Incidence of maternal dystocia (90.13%) was dominant over occurrence of fetal dystocia (9.87%) in buffaloes. Among maternal dystocia, uterine torsion was significantly (P=0.001) dominant cause with 83.94% cases followed by incomplete cervical dilation (16.06%). Frequencies of right side, post-cervical and >360° uterine torsions were significantly (P=0.001) higher as compared to left side, pre-cervical and <360° uterine torsions, respectively. Fetal mal-disposition contributed the main cause among fetal dystocia.

KEYWORDS: Buffalo, Fetal dystocia, Incidence, Maternal dystocia, Uterine torsion

Difficulty in parturition, commonly called as dystocia is one of the economically important reproductive problems, and is defined as the inability of the dam to deliver its young one through its own efforts (Jackson, 2004). It is a life-threatening condition for the dam as well as calf. Mortality of dam and calf in dystocia affected animals result into massive financial loss to their owners. Among different types of dystocia, uterine torsion has been reported as a major cause of maternal dystocia in cattle (Aubry *et al.*, 2008) and buffaloes (Amin *et al.*, 2011). This report describes 152 dystocia cases in buffaloes that were referred to Veterinary Clinical Complex.

Total 152 buffaloes referred from the field to the Veterinary Clinical Complex with the history of dystocia were included in the study. The history regarding parity was obtained from the owners and recorded. The cases were examined per-rectally and per-vaginally to obtain various clinical information on the dystocia. The data were suitably tabulated and analyzed by chi-square test.

In present study, out of 152 dystocia affected buffaloes maternal causes (90.13%) were significantly (p=0.001) higher as compared to the fetal causes (9.87%). Similar observations were reported by Purohit and Mehta (2006), Srinivas *et al.* (2007), Naidu *et al.*

(2014) and Satish *et al.* (2019) with maternal dystocia as a dominant cause as compared to the fetal dystocia in buffaloes. Uterine torsion (83.94%) was significantly (p=0.001) dominant cause of maternal dystocia in buffaloes as compared to the incomplete cervical dilatation (16.06%) in present study. Similarly, Purohit and Mehta (2006), Srinivas *et al.* (2007), Patil *et al.* (2014) and Satish *et al.* (2019) also found uterine torsion as a dominant cause of maternal dystocia in buffaloes. Moreover, Naidu *et al.* (2014) and Batra *et al.* (2015) also observed uterine torsion as a main cause of dystocia followed by incomplete cervical dilatation in buffaloes in their studies. Kumar *et al.* (2018) opined that bigger size of abdomen and loose broad ligament in buffaloes in comparison to cattle, predispose this species to suffer more with uterine torsion especially near the parturition. In present study, incidence of right side (80.87%), post-cervical (73.04%) and >360° (36.52%) uterine torsion was significantly higher as compared to the left side (19.13%), pre-cervical (26.96%), 90-180° (11.30%), 180-270° (30.44%) and 270-360° (21.74%) uterine torsion. Similar findings were reported by Ali *et al.* (2011) and Chauhan *et al.* (2019). While, Satish *et al.* (2019) and Jeengare *et al.* (2015) found higher incidence of 90-180° uterine torsion; whereas, Naidu *et al.* (2014) found higher incidence of <90° uterine torsion in buffaloes.

In present study, out of 152 dystocia affected buffaloes maternal causes (90.13%) were significantly ($p=0.001$) higher as compared to the fetal causes (9.87%). Similar observations were reported by Purohit and Mehta (2006), Srinivas *et al.* (2007), Naidu *et al.* (2014) and Satish *et al.* (2019) with maternal dystocia as a dominant cause as compared to the fetal dystocia in buffaloes. Uterine torsion (83.94%) was significantly ($p=0.001$) dominant cause of maternal dystocia in buffaloes as compared to the incomplete cervical dilatation (16.06%) in present study. Similarly, Purohit and Mehta (2006), Srinivas *et al.* (2007), Patil *et al.* (2014) and Satish *et al.* (2019) also found uterine torsion as a dominant cause of maternal dystocia in buffaloes. Moreover, Naidu *et al.* (2014) and Batra *et al.* (2015) also observed uterine torsion as a main cause of dystocia followed by incomplete cervical dilatation in buffaloes in their studies. Kumar *et al.* (2018) opined that bigger size of abdomen and loose broad ligament in buffaloes in comparison to cattle, predispose this species to suffer more with uterine torsion especially near the parturition. In present study, incidence of right side (80.87%), post-cervical (73.04%) and $>360^\circ$ (36.52%) uterine torsion was significantly higher as compared to the left side (19.13%), pre-cervical (26.96%), $90-180^\circ$ (11.30%), $180-270^\circ$ (30.44%) and $270-360^\circ$ (21.74%) uterine torsion. Similar findings were reported by Ali *et al.* (2011) and Chauhan *et al.* (2019). While, Satish *et al.* (2019) and Jeengaret *et al.* (2015) found higher incidence of $90-180^\circ$ uterine torsion; whereas, Naidu *et al.* (2014) found higher incidence of $<90^\circ$ uterine torsion in buffaloes.

In the present study, incidence of dystocia was significantly ($P=0.001$) higher in first parity (38.16%) followed by third (29.60%), second (19.74%) and fourth (12.5%) parity. Collectively, the incidence of dystocia was significantly ($P=0.003$) higher in pluriparous buffaloes (61.84%) as compared to primiparous buffaloes (38.16%). In accordance with the present findings, Ali *et al.* (2011), Krishnamurthy and Ramakrishna (2014) and Satish *et al.* (2019) also found higher incidence of dystocia in pluriparous buffaloes as compared to primiparous ones.

In conclusion, majority of the dystotic buffaloes suffered with maternal cause mostly in their 1st parity referred to our clinical complex.

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Table 1: Clinical findings of dystocia in buffaloes

Particulars (n)	Category	Incidence	Significance
Types of Dystocia (n=152)	Fetal	9.87% (15/152)	$\chi^2 = 97.92$, d.f.=1 P=0.001
	Maternal	90.13% (137/152)	
Cause of Fetal Dystocia (n=15)	Mummification	33.33% (5/15)	$\chi^2 = 1.6$, d.f.=2 P=0.449
	Maceration	20.00% (3/15)	
	Fetal mal-disposition	46.67% (7/15)	
Cause of maternal dystocia (n=137)	Incomplete Cervical Dilation	16.06% (22/137)	$\chi^2 = 63.13$, d.f.=1 P=0.001
	Uterine torsion	83.94% (115/137)	
Side of the uterine torsion (n=115)	Right	80.87% (93/115)	$\chi^2 = 43.83$, d.f.=1 P=0.001
	Left	19.13% (22/115)	
Location of the uterine torsion(n=115)	Post-cervical	73.04% (84/115)	$\chi^2 = 24.43$, d.f.=1 P=0.001
	Pre-cervical	26.96% (31/115)	
Degree of uterine torsion(n=115)	90-180	11.30% (13/115)	$\chi^2 = 56.99$, d.f.=3 P=0.001
	180-270	30.44% (35/115)	
	270-360	21.74% (25/115)	
	>360	36.52% (42/115)	
Parity(n=152)	1	38.16% (58/152)	$\chi^2 = 23$, d.f.=3 P=0.001
	2	19.74% (30/152)	
	3	29.60% (45/152)	
	4	12.50% (19/152)	
	Primiparous	38.16% (58/152)	$\chi^2 = 8.53$, d.f.=1 P=0.003
	Pluriparous	61.84% (94/152)	