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Research Article

A RETROSPECTIVE STUDY ON INCIDENCE OF UTERINE TORSION IN BOVINES

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ABSTRACT

The study was conducted on 288 cases of dystocia in bovines presented to the Teaching Veterinary Clinical Complex of this University. Out of 288 cases, 59 cases were of cattle and 229 cases were of buffalo. Dystocia in these cases was confirmed by transvaginal and transrectal examinations. A total of 140 of 288 cases were of uterine torsion; 18 cases were in cattle and 122 in buffaloes. A retrospective study of uterine torsion cases revealed that it was more common in buffaloes (87.1%) and mostly occurred in the pluriparous or aged animals (61.4%). Per rectal and per vaginal examinations showed that majority of the uterine torsion were on right side (90%) and post-cervical (84.3%). As the time passed after uterine torsion, the chances of detorsion decreased due to formation of adhesions with abdominal wall and omentum.

Key words: Bovines, retrospective study, uterine torsion

Uterine torsion is a rotation of the gravid horn around its longitudinal axis (Roberts, 1986) which leads to obstruction of the birth canal causing dystocia. Usually, uterine torsion occurs during the last stage of gestation and rarely in the second trimester of pregnancy (Noakes *et al*., 2009). A large number of predisposing causes such as anatomical factors, close confinement, hilly tracts and the lowering of front legs by the animal first during lying down have been identified (Mannari and Tadkod, 1976; Sane *et al*., 1982). Majority of uterine torsion cases involve anterior vagina just caudal to cervix and in some cases cranial part of cervix is involved (Purohit *et al.,* 2011a, b).

The present study evaluates retrospectively the incidence of uterine torsion in dystocia affected buffaloes and cattle brought to the University Clinic.

MATERIALS AND METHODS

The present investigation was conducted on 288 bovines presented at the Teaching Veterinary Clinical Complex, Hisar during January to December, 2014 with history of dystocia or due to a general problem like abdominal discomfort, straining without any further progress in parturition, restlessness or reduced feed intake. Transvaginal and transrectal examinations of animals were performed to determine the cause of dystocia and to determine the direction and location of uterine torsion. In delayed cases, rectal examination was necessary to rule out uterine adhesions with other abdominal structures. Generally in fresh cases of uterine torsion, detorsion was done using Modified Schaffer's method and the cases in which torsion was not detorted, caesarean section was opted for removal of foetus and detorsion. Furthermore, impact of age, parity of the dam and stage of gestation on uterine torsion was also evaluated. Duration of illness was used to ascertain the prognosis.

RESULTS AND DISCUSSION

Of these 288 dystocia cases, 59 cases were of cattle and 229 cases were of buffaloes (Table 1). A total of 140 cases were diagnosed as of uterine torsion, of which 18 were in cattle and 122 in buffaloes (Table 1). The incidence of uterine torsion was more in buffaloes (53.3%) than cattle (30.5%). Similar observations have been reported earlier (Frazer *et al.,* 1996; Srinivas *et al.*, 2007; Aubry *et al.,* 2008). This may be due to the fact that the pregnant uterus in cattle is more stable due to attachment of broad ligaments on the dorsal side in the anterior twothird portion of uterus and on the ventro-lateral side in the posterior one third of uterus (Ghuman, 2010). In buffaloes, pregnant uterus is unstable due to attachment of broad ligaments only on the ventro-lateral side of uterus (Noakes *et al.*, 2009). The higher occurrence in buffaloes could also be due to their deep capacious and pendulous abdomen, inherently weaker muscles of the broad ligaments and the wallowing habits (Singh, 1995). In the present study, of the total

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cases, 61.4% were pluriparous animals while 38.6% were primiparous animals. Earlier, pluriparous animals have been reported to be at greater risk of uterine torsion than primiparous (Matharu and Prabhakar, 2001; Amin *et al.,* 2011). The reasons for the higher incidence in pluriparous animals may include larger abdominal cavity, stretching of pelvic ligaments, loose and long broad ligaments together with loosening of uterine tissue and decreased uterine tone (Aubry *et al.,* 2008). The study also revealed that as the parity of the dam increased, the incidence of uterine torsion decreased. There were 38.6% uterine torsion cases in first parity while it was 32.1, 13.6, 7.8, 4.3% (Table 1) in second, third, fourth and fifth parity, respectively. These findings are consistent with the observations of Pearson (1971).

Most cases in the present study were of postcervical torsion (84.3%) and only 15.7% cases were of precervical torsion (Table 1). These results were similar to those reported by other authors (Aubry *et al*., 2008; Amin *et al*., 2011; Ali *et al*., 2011). The probable reasons could be that the anterior vagina is the weakest point of the bovine genital tract or due to the absence of the muscles in the cervical area of broad ligaments (Brar *et al*., 2008). Present study also revealed that tendency of right sided uterine torsion was more (90%) as compared to left sided torsion (10%) (Table 1). It is suggested that the rumen possibly prevents rotation of the uterus to the left side and absence of a muscular fold on right broad ligament increases the possibility of right side torsion (Singh, 1991).

The findings of the study regarding the day of illness after which the case was presented to the clinic showed a decrease in recovery as the time of presenting the case increased. In the present study, 41 cases (29.3%) were subjected to caesarean section while in other cases manual delivery was possible after detorsion. Pearson (1971) and Frazer *et al*. (1996) observed that cervix is incompletely dilated following 20-52% of successful detorsion and in such conditions caesarean section has to be performed. When the uterine torsion cases were presented within 24 h, 95.7% could be detorted by rolling (Table 2). However, this figure was 81.4% in cases presented within 48 h to 72 h and the recovery percentage decreased to about 39.2% in cases presented after 72 h (Table 2). It has been reported that in long standing cases of torsion with apparent reabsorption of milk and tightened pelvic ligaments, attempts to achieve detorsion of uterus are usually unsuccessful due to development of adhesions between the uterus and the adjoining abdominal organs (Dhaliwal *et al.*, 1991). Detorsion of the uterus in these cases is not possible even after detachment of adhesions (Luthra and Khar, 1999).

Table 1
Relationship of uterine torsion with the species, type, location and parity of the dam (n=140)

Parameter		No. of animals affected with uterine torsion (%)
Species (bovine)	Cattle* (59)	18 (30.5 %)
	Buffalo* (229)	122 (53.3 %)
Location of uterine torsion	Pre-cervical	22 (15.7 %)
	Post-cervical	118 (84.3 %)
Direction of uterine torsion	Right side	126 (90 %)
	Left side	14 (10 %)
Parity of dam	1st	54 (38.6 %)
	2nd	45 (32.1 %)
	3rd	19 (13.6 %)
	4th	11 (7.8 %)
	5th	06 (4.3 %)
	>5 th	05 (3.6 %)

Table 2
Relationship of duration of illness with the line of treatment (n=140)

Duration of illness	No. of affected animals	Cases (%) in which torsion detorted by rolling	Cases (%) in which caesarean section done
1 day	46	44 (95.7 %)	2 (4.3 %)
2 day	21	17 (80.9 %)	4 (19.1 %)
3 day	22	18 (81.8 %)	4 (18.2 %)
>3 day	51	20 (39.20 %)	31 (60.8 %)

It is concluded that prognosis of the dam affected with uterine torsion depends on the duration of uterine torsion and its early diagnosis. Torsion of uterus frequently occurs during parturition, so any sign of abdominal discomfort during last stage of gestation requires immediate attention and proper rectal as well as vaginal examinations are necessary to ascertain proper diagnosis.

REFERENCES

Ali, A., Derar, R., Hussein, H.A., Abd-Ellah, M.R. and Abdel-Razek, A. K. (2011). Clinical, haematological and biochemical findings of uterine torsion in buffaloes (*Bubalus bubalis*). *Anim. Reprod. Sci*. **126(3-4)**: 168-172.

Amin, S.M., Amer, H.A., Hussein, A.E. and Hazzaa, A.M. (2011). Creatine phosphokinase and aspartate aminotranferase profiles and its relation to the severity of uterine torsion in Egyptian buffalo. *Anim. Reprod. Sci.* **123(3-4)**: 163-168.

Aubry, P., Warnick, L.D., DesCôteaux, L. and Bouchard, E. (2008). A study of 55 field cases of uterine torsion in dairy cattle. *Canadian Vet. J.* **49(4)**: 366-372.

Brar, P.S., Saigal, R.P., Sharma, R.D. and Nanda, A.S. (2008). Is weak broad ligament a predisposing factor for uterine torsion in dairy buffaloes? *Indian J. Anim. Sci*. **78**: 943-946.

Dhaliwal, G.S., Prabhakar, S., Singh, P. and Sharma, R.D. (1991). Effects of injudicious handling of uterine torsion on survival rate of dam in buffaloes (*Bubalis bubalis*). *Pakistan Vet. J.* **11**: 117-19.

Frazer, G.S., Perkins, N.R. and Constable, P.D. (1996). Bovine uterine torsion: 164 hospital referral cases. *Theriogenol.* **46(5)**: 739-756.

Ghuman, S.P.S. (2010). Uterine torsion in bovines: a review. *Indian J. Anim. Sci.,* **80(4)**: 289-305.

Luthra, R.A. and Khar, S.K. (1999). Survival rate following different regimes of treatment in cases of uterine torsion in buffaloes. *Indian Vet. J.* **76**: 399-402.

Mannari, M.N. and Tadkod, D.M. (1976). Uterine torsion in buffaloes. *Indian J. Anim. Sci.* **10**: 83.

Matharu, S.S. and Prabhakar, S. (2001). Clinical observations and success of treatment of uterine torsion in buffaloes. *Indian J. Anim. Reprod.* **22**: 45-48.

Noakes, D.E, Parkinson, D.J. and England, G.C.W. (2009). Veterinary Reproduction and Obstetrics. (9th edn.), WB Saunders Company Ltd. London.

Pearson, H. (1971). Uterine torsion in cattle -A review of 168 cases. *Vet. Rec*. **89**: 597-603.

Purohit, G.N., Barolia, Y., Shekher, C. and Kumar, P. (2011a). Diagnosis and correction of uterine torsion in cattle and buffaloes. *Raksha Tech. Rev.*, **2**: 11-17.

Purohit, G.N., Barolia, Y., Shekher, C. and Kumar, P. (2011b). Maternal Dystocia in cows and buffaloes: A review. *Open J. Anim. Sci.* **1(2)**: 41-53.

Roberts, S.J. (1986). Diagnosis and treatment of the various types of dystocia. In: Veterinary Obstetrics and Genital Diseases (Theriogenology). Woodstock, Edwards Brothers Inc.

Sane, C.R., Luktuke, S.N. and Deshpande, B.R. (1982). Reproduction in Farm Animals. Varghese Publishing House, Bombay, India.

Singh, P. (1991). Studies on broad ligament in relation to uterine torsion in buffaloes. Thesis, Punjab Agriculture University, Ludhiana, India.

Singh, P. (1995). Recent observations on etiology and treatment of uterine torsion in buffaloes. In: Recent Advances in Animal Reproduction and Gynaeoclogy, Nanda, A.S. (ed.), USG Publishers and Distributors, Ludhiana.

Srinivas, M., Sreenu, M., Rani, N.L., Naidu, S.K. and Prasad, V.D. (2007). Studies on dystocia in graded Murrah buffaloes: A retrospective study. *Buffalo Bull.* **26**: 40-45.