



ISSN (E): 2277-7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2022; SP-11(7): 2246-2249
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www.thepharmajournal.com
Received: 10-05-2022
Accepted: 16-06-2022

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Uterine torsion in cross bred murrah buffaloes and its clinical management

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Abstract

Twenty cross bred murrah and non-descript buffaloes with history of completion of gestation and uterine torsion were successfully detorted by modified Schaffer's method. Before detorsion, all the animals were administered four liters dextrose saline intravenously, NSAID and other supportive therapy in recommended doses. Within 30-45 min after detorsion in 12 buffaloes water bag came out. Out of these 20 cases, calving occurred without any assistance in three cases while in 12 cases, traction was applied to remove fetus. In 5 cases, incomplete cervical dilatation was noticed. These buffaloes were treated with cervical dilator and 3 buffaloes parturited within 12-18 h of treatment with the help of veterinary assistance. In 2 buffaloes dead fetus removed surgically. Out of the total 20 animals, four (20%) buffaloes delivered live fetus whereas in the remaining 16 (80%) buffaloes, dead fetuses were delivered. All the treated buffaloes survived.

Keywords: Buffalo, uterine torsion, modified Schaffer's method

Introduction

Uterine torsion is a rotation of the gravid horn around its long axis (Rakuljic-Zelov, 2002) which leads to narrowing of the birth canal causing dystocia. It is one of the complicated causes of maternal dystocia in buffaloes culminating in death of both the fetus and the dam if not treated early (Murty *et al.*, 1999, Sharma *et al.*, 1995; Prasad *et al.*, 2000; Manju *et al.*, 1985; Mathijsen and Putker, 1989) [15, 16, 17, 18, 19]. In case of buffalo the incidence of uterine torsion is quite high. Many studies reported incidence as low as 43.44 % (Manju, 1984) [3] to 67% (Prasad *et al.*, 2000; Purohit *et al.*, 2012) [20, 21] and even up to 83% (Srinivas *et al.*, 2007) [22]. It has been reported mostly in dairy type buffaloes of India, Pakistan (Ahmed *et al.*, 1980) [23] and Egypt (El-Naggar, 1978) [24] and observed commonly in pluriparous animal at the time of parturition or during the last month of gestation and occasionally diagnosed at 5th-8th month of pregnancy (Roberts, 1986; Singh *et al.*, 1979; Purohit *et al.*, 2011b) [13, 9]. The exact etiology of a higher incidence of uterine torsion in buffalo continues to be poorly understood. A diverse list of contributing causes has been proposed, including the anatomy, slipping, the manner in which the animal rises, the strong movements of the fetus during the first stage of labor, excessive fetal weight, lack of fetal fluid (Roberts, 1986; Kolla *et al.*, 1999; Noakes *et al.*, 2009) [13]. The most logical explanation for rotation of a pregnant uterus on its axis appears to be the instability of the uterus during a single horn pregnancy and inordinate fetal or dam movements (Purohit *et al.*, 2011a).

Diagnosis is easy when the abnormal symptoms appear at time of parturition. Typical history of a case of uterine torsion will indicate that animal was about to calve, as exhibited by letdown of milk and relaxation of pelvic ligaments, but adequate time has passed and still there is neither the rupture of fetal water bags nor the appearance of fetus from vulvar lips (Wright 1958, Prabhakar *et al.* 1995a) [29, 28]. On the contrary, dam is suffering from tachycardia, tachypnoea, restlessness (frequently gets up and down) and severe abdominal pain (due to stretching of the broad ligament) as manifested by kicking of the abdomen with her hind legs (Wright 1958, Sloss and Dufty 1980, Noakes *et al.* 2001) [29, 12, 31]. With the increase in degree of torsion (>270°), the stretch receptors present in the vagina are stimulated and lead to severe abdominal straining (Frazer *et al.* 1996). About 66-96% torsions are post-cervical in which the twist of rotated uterus extends caudal to the cervix and involves the anterior vagina in rotation which can be easily diagnosed by vaginal examination (Frazer *et al.* 1996, Noakes *et al.* 2001, Aubry *et al.* 2008) [31]. During pre-cervical torsion, the twist of rotated uterus lies on the body of uterus and does not extend beyond the cervix, thus folds on vaginal wall are absent and cervix is approachable during vaginal examination (Noakes *et al.* 2001) [31].

For accurate determination of the direction of torsion rectal examination is necessary prior to making attempts for correction, as detorsion in the wrong direction will worsen the problem (Noakes *et al.* 2001) [31]. During rectal examination, attention should be paid to the course of broad ligaments. In normal pregnant animal, the broad ligaments can be palpated on the sides of uterus, whereas in pre-cervical (and post-cervical) torsion, the orientation of broad ligaments is altered and these can be felt by crossed and twisted uterus (Noakes *et al.* 2001) [31]. The technique to be selected for detorsion of uterus in bovines varies with expertise of veterinarian, stage of pregnancy, severity of torsion as well as condition of dam, uterus and fetus. The most commonly used techniques are per-vaginal rotation of fetus, rolling of dam and caesarean section. The present paper reports successful management of uterine torsion in buffaloes by using a modified Schaffer's method.

Materials and methods

Twenty cross bred murrah buffaloes were presented in government veterinary polyclinic, bundi, rajasthan during period from 01/08/2020 to 30/8/2021. Common clinical signs were non progressive labour, colic, restlessness, frequent

sitting down and getting up, tail twitching, anorexia with intermittent straining, constipation and failure of parturition with history of completion of gestation period. These animals were previously handled by paravets. In a few cases rolling was performed by field veterinarian and a few cases were fresh. All animals were examined per-rectum and per-vaginal to ascertain the degree and type of torsion. Out of the 20 buffaloes, 14 animals had more than 180° degree of uterine torsion and in the remaining it was 90°-180° degrees. Similarly there was post-cervical torsion in 17 animals and three animal pre-cervical torsion was observed. After confirmation of the uterine torsion, the animals were administered inj. 5% DNS 3 litter, inj. normal saline 2 litter, Avil (chlorpheniramine maleate, Intervet, India) @ 10 ml i/m, inj. Melonex 25 ml (meloxicam) @ 0.5 mg/kg body weight i/m. After the treatment, the buffaloes were casted, fore limbs and hind limbs tied separately in lateral recumbency on the side of torsion. Subsequently fixing the wooden plank on the abdomen (14 feet length, 10 inches width) in oblique direction (Fig.1). Animal was rolled slowly in the same direction of the torsion. After each roll, the animals were examined per vaginal till uterus was detorted.



Fig 1: Uterine torsion detorted by using modified Schaffer's method.

Results and discussion

Immediately after detorsion, water bag came out in twelve animals. Fetus was expelled out within half an hour without any assistance in three animals Spontaneously and in 12 animals calving occurred after applying traction, In 5 cases, incomplete cervical dilatation was noticed. These buffaloes were treated with cervical dilator and three buffaloes parturated within 12-18 h after treatment with the help of veterinary assistance. In 2 buffaloes dead fetus remove surgically. Out of the total 20 cases, 4 (20%) buffaloes delivered live calf whereas in the remaining 16 (80%) buffaloes, the fetus were born dead. These results were similar to that obtained by other authors (Slossand Dufty, 1980; Roberts, 1986; Arthur *et al.*, 1989; Sharma *et al.*, 1995; Aubry *et al.*, 2008) [30, 16, 1, 25] who found that most of the cases were post-cervical.

All the treated animals by using a modified Schaffer's method survived in the present study. However, Purohit *et al.* (2013) [7] reported 90% survivability in buffaloes following rolling. Singh *et al.* (2013) [11] reported a survival rate of 34.9% and 80% in dams following caesarean section and also reported that the animals experiencing caesarean section had a 45.1% lower survival rate compared to those treated with/without partial fetotomy.

After removal of fetus, all the buffaloes were administered inj. Venceft 1gm (ceftiofur, venkyes Pharmaceuticals) @1.1mg/kg b. wt. i/m; inj. Mifex (calcium borogluconate), Novartis 450 ml i/v. After parturition, all the animals were given Cleanex bolus (nitrofurazone, metronidazole, urea, povidone iodine) @ 4boli intrauterine and liquid involon DS(uterine cleanser) @ 100 ml was given orally for 10 days.

18 out 20 buffaloes in the present study were successfully

detorted by modified Schaffer's method and all survived after detorsion. The Schaffer's method in which the dam is casted in lateral recumbency on the side of torsion and then with the help of a wooden plank which fixed in oblique manner on the abdomen of the animal and make the fetus is immobilized. The animal is rolled to the other side as peoples kept pressure on edge of plank by standing on it.

Pattabiraman *et al.* (1979) [4] reported that 73.4% of uterine torsion cases were successfully relieved by rolling and the maternal survivability rate was 97% as compared to 61.5% following CS. Prabhakar *et al.* (1994) [5] reported higher survival rate in post cervical (87%) than pre cervical (54.5%) uterine torsion cases. Rolling the large ruminants is a traumatic procedure leading to internal haemorrhages. Thus to compensate loss of fluids due to haemorrhage and to relieve pain, fluids and non-steroid anti-inflammatory drugs were included in the treatment protocol in this study prior to rolling which might have contributed favourably to maternal survival. In this study, broad spectrum antibiotics and ecobolics were also given after detorsion to avoid complications such as septic metritis. Modified Schaffer's method (non-surgical) with abdominal pressure was found to be the most successful procedure for correction of uterine torsion in buffaloes and is safe, easy to handle and effective in field conditions.

Conclusion

The study was conducted on 20 buffaloes presented to government veterinary polyclinic bundi rajasthan from 01/08/2020 to 30/8/2021. The diagnosis was confirmed by clinical examination; transrectal and transvaginal examination. History, sign and symptoms revealed that uterine torsion mostly occurred in the pluriparous buffaloes. Per rectal and Pervaginal examination showed that majority of the cases were right side or clockwise and post-cervical(80%). Incidence of 180° torsion was greater than 360°. It is concluded that uterine torsion is mostly of 180 degree, clockwise and post-cervical and it occurs mostly at term.

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