

Dystocia due to Post – Cervical Uterine Torsion in a Sindhi Mare

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How to cite this paper:

Fotariya, A., Dalsaniya, U., Chaudhary, B., Gurjar, K., Chaudhari, R., Chaudhari, C., & Sutaria, T. (2020). **Dystocia Due to Post -Cervical Uterine Torsion in a Sindhi Mare.** *International Journal of Livestock Research*, 10(7), 173-177. doi: <http://dx.doi.org/10.5455/ijlr.20200512091036>

Abstract

A six-year-old full term pluriparous Sindhi mare was presented with the history of intermittent abdominal pain and straining since one day which was diagnosed with anti- clockwise more than 1800 post-cervical uterine torsion. Uterine torsion was relieved with three successive rolling by modified Schaffer's method and delivered dead male foetus through traction following mutation. The mare recovered completely without any complications.

Received : May 12, 2020
Accepted : Jun 02, 2020
Published : Jul 31, 2020

Keywords: Mare, Modified Schaffer's Method, Uterine Torsion

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Introduction

Uterine torsion is the twisting or rotation of the uterus on its long axis and occurs during the last trimester of pregnancy (Dolente 2004) or immediately prior to parturition (McGladdery, 2001), it is also reported to occur in early pregnancy (Ruffin *et al.*, 1995). Uterine torsion is less common in equine than bovine (Hill, 1977, Wheat and Meagher, 1972). Incidence of uterine torsion in mare is 5 to 10% (Vandeplasseche *et al.*, 1972) and it is a more serious problem in mare with high mortality rates in both dam and foal (Wheat and Meagher 1972). Uterine torsion is most frequently found in counter-clock wise direction than clock-wise direction in mare (Spincemaille *et al.*, 1970) and pre-cervical torsion is frequently seen due to longer uterine body in equine species (Sisson and Grossman 1969).

There is no specific cause of uterine torsion (Purohit, 2011), but it may be due to vigorous fetal movement, rolling of the mare, sudden falls, a large fetus in a relatively small volume of foetal fluid, lack of tone in the pregnant uterus, a long mesometrium, the presence of a large, deep abdomen (Immegart, 1997). No breed or age predilection has been demonstrated in equine species (Vasey, 1993). The uterine torsion can be treated surgically (Martens *et al.*, 2008; Satoh *et al.*, 2017) or non-surgically (Sutaria *et al.*, 2014; Dabas *et al.*, 2014). The present report describes a case of successful management of uterine torsion by rolling method in a mare.

Case History and Clinical Observation

A six years old full-term pregnant Sindhi mare was presented with the history of restlessness, colic signs since one day and was unable to proceed into foaling. Clinically, rectal temperature (102.6° F), respiration rate (28/min) and pulse rate (60/min) were elevated with normal eye mucous membrane. Waxing of teat, udder enlargement, relaxation of pelvic ligaments and vulvar oedema were present. Per-vaginal examination revealed spirally twisted vaginal wall with folds directed forward and downward to left side (anti-clock wise) and cervix was not palpable. On per-rectal examination, left broad ligament was found pulled tightly under the uterus, while right broad ligament was stretched left side over the uterus. On the basis of clinical observations, the case was diagnosed as post-cervical more than 180° left side uterine torsion.

Therapeutic Management

The mare was cast on casting bed in left lateral recumbency using side line method under general anaesthesia employing a combination of Xylazine (1.0 mg/kg, i/v) and Ketamine (2.0 mg/kg, i/v). Both fore limbs and hind limbs of mare were tied separately and held in extended position. A tarpaulin sheet was placed over abdomen to avoid injuries during rolling by Modified Schaffer's method (Sutaria *et al.*, 2014). An iron column pipe (4" Diameter, 20' Length and 80-90 kg weight) was used for fixation of uterus instead of traditionally used wooden plank and no additional weight was applied for fixing gravid uterus except the persons holding column pipe at each end (Fig.1). Mare was then slowly rolled towards left side, and progression of detorsion was verified by per-vaginal examinations (Fig.2).



Figure 1: Casting on left lateral recumbency and placement of iron column pipe on right Para-lumber fossa



Figure 2: Per-vaginal examination after complete detorsion

The torsion was completely relieved after three successive rolling. After detorsion, mutation operations were applied as neck was deviated with one of the fore limbs flexed; and then by gentle traction through completely dilated cervix (Fig. 3), a dead male foetus (Fig. 4) with placenta was delivered. The mare was treated by Inj. Tetanus Toxoid (5mL, i/m), Inj. Ceftriaxone (4.5gm, i/v), Inj. Melonex (20 mL, i/m), Inj. Oxytocin (40 IU, i/m) and fluid therapy (2 lit NS and 2 lit DNS, i/v) immediately after foetal delivery. Subsequently mare was treated with same antibiotics and analgesic along with fluid therapy for consecutive four days. The mare resumed normal feeding and behaviour and recovered without any complication (Fig.5).



Figure 3: The foetus delivered following mutational operations and traction



Figure 4: A dead male foal delivered



Figure 5: Recovered Sindhi mare 7th day post-treatment

Discussion

Uterine torsion in equine is regarded as true torsion due to their dorsally attachment of ligament on uterus and it is life threatening condition for dam and foetus because of diffuse type of placenta and more severe disturbance of circulation that occurs due to deposition of broad ligament (Vandeplassche *et al.*, 1972). So early confirm diagnosis is required to immediately intervene and correct the situation for increasing the survivability of the dam and the foetus (Taylor *et al.*, 1989). The colicky signs during advance pregnancy should be suspected for uterine torsion and must be differentially diagnosed. The severity of pain in the acute phase is related to the degree of torsion (Vasey, 1993) and symptoms may be present for variable duration from couple of hours to three days or more (Pascoe *et al.*, 1981). Lopez and Carmona (2019) reported multiple uterine adhesions in a case of 180° clockwise uterine torsion in a mare with prolonged gestation (515 days). Occasionally, the position and orientation of rectum may be useful in establishing the direction of the uterine torsion (Vasey, 1993).

Uterine torsion may be clock wise or counter clock wise. Some authors opined that clock wise torsion occurs more often, while others reported no difference in frequency (Story, 2006, Pascoe *et al.*, 1981, Chaney *et al.*, 2007). Sutaria *et al.* (2014) reported a case of anticlockwise (270°) uterine torsion in a mare, while Saini *et al.* (2013) observed majority (91.66%) of clockwise (180°-360°) uterine torsion in their study. Torsion of equine uterus has been reported to occur anterior to the cervix probably because of longer uterine body and the cervix and anterior vagina are rarely involved in uterine torsion (4 %) (Perkins *et al.*, 1996), but in the present case anterior vagina was

found involved in the uterine torsion. Uterine torsion is corrected through various surgical (standing flank laparotomy and ventral midline celiotomy followed by caesarean) (Martens *et al.*, 2008, Satoh *et al.*, 2017) and non-surgical (rolling of mare and/or manual rotation through cervix) (Vasey 1993, Dabas and Suthar, 1996, Sutaria *et al.*, 2014) techniques in mare. The rolling method of detorsion near term increases the risk of placental detachment, abortion, and foetal or maternal death (Vandeplassche *et al.*, 1972, Pascoe *et al.*, 1981).

The present case was detorted through slow rolling by modified Schaffer's method using an iron column pipe and fixation of both the ends by two assistants. The utmost care was taken to avoid the risk of uterine rupture, a most common complication of rolling method, by avoiding extra weight during rolling as well as applying tarpaulin sheet to minimise the injuries on abdominal wall (Sutaria *et al.*, 2014). Wichtel *et al.* (1988) reported a success rate of 85 per cent for correction of uterine torsion by rolling method. Pascoe *et al.* (1981) reported survival rate of 50 and 70 per cent for foetus and mares, by standing flank approach and Jung *et al.* (2008) reported 86.6 per cent survival rate of foetus by ventral midline celiotomy.

Our findings corroborated with Sutaria *et al.* (2014) and Dabas *et al.* (2014), who suggested that if torsion is relieved timely and judiciously by rolling, it is less expensive, less invasive and gives healthy abdominal wall for subsequent labour as well as future fertility as compared to surgical option. In this case, we used iron column pipe for correcting uterine torsion because commonly used wooden plank overlay ribs leading to improper fixation of gravid uterus and more chances of injury through edges. In conclusion, the proper fixation of gravid uterus is one of the key components of correcting the uterine torsion by modified Schaffer's method.

Acknowledgment

The authors are thankful to Dean, Veterinary College, Sardarkrushinagar Dantiwada Agricultural University, Sardarkrushinagar (Gujarat) for providing necessary facilities

Conflict of Interests

There is no conflict of interest.

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