

## COMBINATION OF MODIFIED SCHAFFER'S METHOD ALONG WITH FIXING OF THE FETUS FOR CORRECTION OF POST- CERVICAL UTERINE TORSION IN A CROSSBRED JERSEY COW: A CASE REPORT

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**Abstract:** Uterine torsion, the rotation of uterus on its longitudinal axis is observed frequently in dairy cattle and buffaloes confined for long periods mostly during parturition and less commonly during gestation. Both maternal and foetal causes are attributed to the aetiology of uterine torsion. A four year old primiparous full term crossbred Jersey cow was presented to Veterinary Clinical Complex, Veterinary College and Research Institute, Orathanadu, Tamil Nadu with the history of unproductive straining and inappetence and symptom of colic for past 4 days. The animal was treated by a local veterinarian and referred to this hospital. Gross examination of animal revealed dull and depressed, tightened pelvic ligaments, shrinkage of udder and a stiff, stilted stretched gait. Gynaecological examination per-vaginal and per-rectal exploration revealed the right broad ligament crossing over the top of the twisted portion of the birth canal which confirmed left sided post-cervical uterine torsion of more than 360 degree with incomplete cervical dilatation. Animal cast on the side of torsion. Detorsion was carried out by modified Schaffer's detorsion method along with fixing of the fetus per vaginum. After detorsion procedure was carried out a dead male fetus was delivered per vaginally by mild traction. The animal recovered uneventfully after three days of treatment.

**Keywords:** Dystocia, Schaffer's detorsion method, Fetal fixing, left post cervical uterine torsion.

### Introduction

Uterine torsion is the rotation of a pregnant uterus on its longitudinal axis, which leads to narrowing of the birth canal, causing dystocia. In bovine, it is a common condition encountered by field veterinarians, and is considered to be the major causes of bovine dystocia (Jeengar *et al.*, 2015). Uterine torsion occurs during last trimester of pregnancy (Murthy *et al.*, 1999), second stage of labour at parturition (Prasad *et al.*, 2000), rarely post-partum (Mathijssen and Putker, 1989) is one of the important maternal cause of dystocia in buffaloes lead to death of calf and increases the dam culling rate. Uterine torsion is very common in cow and buffalo, occasionally in goat and ewe but rare in mare, bitch and sow.

Low incidence of this condition in goats may be due to frequent bicornual pregnancy (Roberts, 1971).

In majority of cases the pregnant uterus rotates about its long axis, with the point of torsion being the anterior vagina just caudal to the cervix. This is the post-cervical torsion. Less commonly the point of torsion is cranial to the cervix known as pre-cervical torsion (Jackson, 1995). Pre-cervical torsion is more detrimental to cervix due to severe ischemia of cervical tissue as compared to post-cervical torsion (Honparkhe *et al.* 2009).

### **History and Clinical observations**

A four year old primiparous full term crossbred Jersey cow was presented to Veterinary Clinical Complex, Veterinary College and Research Institute, Orathanadu, Tamil Nadu with the history of unproductive straining and inappetence and symptom of colic for past 4 days. The animal was treated by a local veterinarian and referred to this hospital. The temperature was normal, however the pulse and respiratory rate was on higher side. Gross examination of animal revealed dull and depressed, tightened pelvic ligaments, shrinkage of udder and a stiff, stilted stretched gait. Gynaecological examination per-vaginal and per-rectal exploration revealed the right broad ligament crossing over the top of the twisted portion of the birth canal which confirmed left sided post-cervical uterine torsion of more than 360 degree.

### **Treatment and obstetrical management**

The animal was cast on left lateral recumbent position on ground matted with paddy straw. The fore and hind legs were separately secured. De-torsion was performed as per modified Schaffer's method (Fig. 1). Vaginal examination was performed after each roll to access the degree of detorsion. After detorsion the left side pre-cervical uterine torsion degree was reduced to 360 to 90 with closed cervix. The animal was stabilised with fluids, calcium borogluconate and antihistamines allowed rest for 5 hours.

Again per-vaginal examination revealed about 90 degree left side pre-cervical uterine torsion with three finger dilatation of the cervix. Again the animal was allowed for detorsion by Schaffer's method along with the fixing of the fetal parts through the cervix (Fig. 2&3) simultaneously and finally a dead male fetus was delivered pervaginally by mild traction (Fig. 4). Further, the animal was administered intravenously by Calcium Borogluconate (250ml I/V) and DNS (1.5 litres I/V) , besides injections of Oxytocin (40 IU), Melonex (20 ml IV for 3 days), Tribivet (10 ml IV for 3 days) and antihistamines..

## Discussion

The instability of gravid uterus resulting from dorsolateral attachments of broad ligament (Sloss and Dufty, 1980) is certainly the most important predisposing factor in bovine uterine torsion. Cows are thought to be more susceptible to uterine torsion given to this uterine instability. The broad ligament supports the uterus dorsolaterally, but attaches to ventral lesser curvature, which allows more rotator movements in this species. As pregnancy advances, the broad ligaments do not extend proportionately with the gravid uterus, leading to instability (Frazer *et al.* 1996; Drost, 2007).

Many authors suggest that increased fetal movements during labor may be a precipitating parturient factor. Other such factors that have been mentioned are: decreased amount of uterine fluid, flaccid uterine wall, small non gravid horn, excess fetal weight etc. (Jayakumar *et al.* 2014).

The incidence of uterine torsion is considered to be higher in buffaloes compared to cows. The reasons for such a discrepancy are poorly explained (Purohit *et al.* 2011). The incidence in buffaloes as suggested by different workers varies from 53% to 83% (Vasishta, 1983 and Purohit *et al.* 2011). The incidence of uterine torsion in cows as reported by Roberts (1971) is 7.3%. Other reports suggest that such incidence ranges between 7 to 30% (El Naggar, 1978).

A modified rolling technique known as Schaffer's method as described by Arthur (1966) is recommended widely for detorsion. It is crucial that direction of torsion is correctly determined prior to attempts at correction as rotation in incorrect direction will only aggravate the problem. The direction of the vaginal fold twisting shows the direction of torsion. On rectal examination, the twisted horn can be felt and the broad ligament on the side of torsion is rotated downwards sometimes palpable under the uterus and the ligament on the opposite side is tense and stretched and crossing to the opposite side. It generally occurs during late first stage or early second stage labor, but there are some reports of prepartum torsions as well (Frazer *et al.* 1996; Srinivas *et al.* 2007).

The routine treatment is rotating the uterus back into its physiological position. Direct and indirect methods of retorsion are available and used in accordance with the conditions of clinical cases, in order to deliver the calf through vaginal delivery or caesarean section (Erteld *et al.*, 2014). The surgical treatment of uterine torsion by laparohysterotomy (caesarean section) present numerous inconveniences, including risk of infection, damage to the internal organs and bleeding, as well as needing more time for recovery. Hence, the nonsurgical treatments are recommended more. *Rotation of the fetus per vaginum* is possible

only in mild degrees of torsion where the obstetricians hand can touch the fetus and sufficient fluids are present in the uterus (Jackson, 1995). Schaffer's method is described as requiring less assistance, technically easier, less stressful, and a faster way to correct torsions than other methods of correction of uterine torsion (Roberts *et al.*, 1973). In this case, the slippery floor in the stall or animal shed may be an inducing factor to rotate the uterus on its longitudinal axis. It is very difficult to fix the uterus with fetus in late gestation so any rolling methods would not be successful. Hence, the combination of the modified Schaffer's method along with fixing of the fetus to be a suitable choice for the successful management of uterine torsion in imperfect cervical dilatation of the cervix in cattle

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Fig 1: Fixing the plank for Schaffers method of detorsion



Fig 2: fixing of the fetal parts through the cervix



Fig 3: After detorsion



Fig 4: Dead male calf