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## MANAGEMENT OF POSTPARTUM CERVICO-VAGINAL PROLAPSE IN A MURRAH BUFFALO USING ROPE TRUSS METHOD

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### ABSTRACT

A Murrah buffalo in the last month of its pregnancy was diagnosed with vaginal prolapse. After normal delivery of a female calf, the foetal membranes were voided uneventfully. However abdominal straining continued and the animal developed third degree cervico-vaginal prolapse within 24 hours of calving. Even though the prolapsed mass was reduced and Buhner's suture was applied, straining continued. Consequently, the sutures gave in on the fourth day post-partum and the animal once again developed third degree prolapse of vagina and cervix. Hence a rope truss was applied after reducing the prolapsed structures. The animal was supported with antibiotics, fluids, antihistaminics and anti-inflammatory medication, following which it recovered slowly over a period of ten days.

**Keywords:** cervico-vaginal prolapse, rope truss, Buhner's suture, Buffalo

### INTRODUCTION

Cervico-vaginal prolapse typically occurs in the late stages of gestation in ruminants and is regarded as an emergency which warrants immediate veterinary care (Purohit *et al.*, 2018). Although the precise aetiology of the disorder has not been established, many factors are usually thought to be involved. The hormonal changes that occur during the last trimester of pregnancy, especially the increase of oestrogens and the production of relaxin, cause relaxation of the pelvic ligaments and surrounding soft tissue structures (Mishra, 1998). The primary cause of vaginal prolapse appears to be the relaxation of constrictor vestibuli muscle and atony of the vaginal and vulvar musculature (Purohit, 2012). Low levels of serum calcium, phosphorus, magnesium, copper, selenium and zinc have been linked to atony of the vaginal musculature (Bhatti *et al.*, 2006). This case report highlights the successful management of postpartum

cervico-vaginal prolapse in a Murrah buffalo using rope truss method.

### **CASE HISTORY AND OBSERVATION**

Animal attenders reported that a spherical mass of about 8 inch diameter appeared in the vulva of a female Murrah buffalo, while lying down. On examination of records, it was found that the animal was six years old, in third parity and was on its 297<sup>th</sup> day of gestation. The buffalo was examined and was diagnosed with pre-partum vaginal prolapse. The animal was apparently healthy with normal feed and water intake. On clinical examination, rectal temperature was 101.3°F, which was within the normal reference range. Per rectal examination revealed a live calf, indicated by the movement of forelimbs. The following day, the animal gave birth to a female calf and expelled foetal membranes uneventfully after 8 hours of calving.

However abdominal straining continued and the buffalo developed third degree prolapse of vagina and cervix within 24 hours of calving.

### **TREATMENT AND DISCUSSION**

The prolapsed mass was reduced and Buhner's suture was applied. The animal was supported with intravenous calcium borogluconate and fluids but the abdominal straining continued. Eventually,

the sutures gave in after four days and the animal once again developed third degree prolapse of vagina and cervix. The condition of the buffalo worsened and a rope truss was applied after reducing the prolapsed structures. The animal was supported with antibiotics, fluids, antihistaminics and anti-inflammatory medication, following which it recovered slowly over a period of ten days

Oral administration of ionic calcium gel and ecbolic liquid was done immediately after calving. Foetal membranes were expelled normally within eight hours. The buffalo continued to show abdominal straining and a third degree prolapse of vagina with part of cervix was observed on the following day. The animal was restrained properly in a trevis and epidural anaesthesia was administered with 7 ml of 2% lignocaine hydrochloride. Buhner's suture was applied and the animal was supported with calcium borogluconate (450 ml) and 25% dextrose (1000 ml) intravenously. Ceftiofur (1.1 mg/Kg, IM) and meloxicam (0.2 mg/Kg, IM) injections were given for 5 days. Chlorpheniramine maleate (0.4 mg/kg IM) injection was also given for two days.

The buffalo was still showing abdominal straining and Buhner's suture gave in on the fourth day of treatment, with laceration of vulval lips and resulted

in cervico-vaginal prolapse. Multiple futile attempts were made during the next two days with epidural anaesthesia using lignocaine hydrochloride (2%) combined with manual reduction of prolapsed mass.

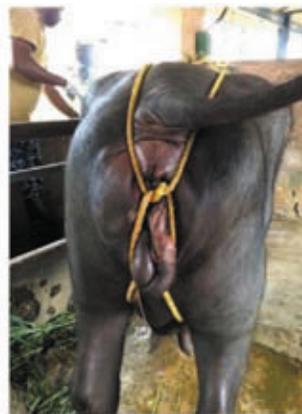
The condition of the animal worsened with prolonged period of recumbency and straining. Successful management of pre-partum cervico-vaginal prolapse was reported in a Surti buffalo using rope truss method (Balamurugan *et al.*, 2018). It was then decided to manage this postpartum cervico-vaginal prolapse with rope truss method. Epidural anesthesia was administered after restraining and the animal, the prolapsed mass was cleaned with 1:1000 potassium permanganate solution. The structures were reduced by gentle reduction from the base of the prolapsed mass, followed by pushing with the fist. The prolapsed structures were repositioned inside pelvic cavity. To prevent recurrence, modified version of rope truss described by

Renault was applied on the animal (Craig, 1946). A thirty feet long rope was taken for the procedure. The rope was doubled in equal parts, and put across the back, behind the withers, so that each portion may fall behind the shoulders (Fig.1, Fig.2).

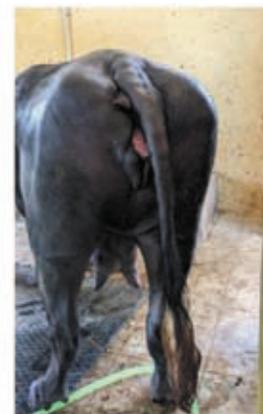
It was then passed and crossed under the chest with left end passing to the right side and vice versa. Each side was carried back to the front of the shoulder, at the top of which both were tied in a simple knot, so as to be easily untied when required. At ten or twelve inches from this, a firmer knot was tied, then several others beyond it were tied towards the loins at nearly equal distances, up to the root of the tail, where a simple knot was tied. The two halves of the rope then run on each side of the vulva, and were united again by a simple knot below the lower vulvar commissure; again separating, each rope is carried between the hind limbs, brought up by the flank towards the loins on each side, and tied to one of the



**Fig. 1:** Application of rope truss



**Fig. 2:** Rearview



**Fig. 3:** After recovery

loops there. The rope truss applied pressure upon the sides of the vulval lips and kept it closed, without interfering with defecation or urination (Craig, 1946). The truss was retained for 72 hours. After the removal of the rope truss there was no further prolapse or straining and the animal recovered uneventfully (Fig. 3).

Reports indicated that the condition could be managed by rope truss (Dharani *et al.*, 2010), horizontal mattress suture (Singh *et al.*, 2011) and Buhner's suture (Miesner and Anderson, 2008). The success of treatment of vaginal prolapse depends on many factors including the duration, severity of damage due to traumatic laceration, bacterial contamination and involvement of other organs such as cervix and urinary bladder (Beheshti *et al.*, 2011). One of the objectives of treatment of cervico-vaginal prolapse is to prevent recurrence. In the reported case, Buhner's technique using nylon tape was initially used to correct the condition. After its failure, the prolapse was corrected and treated using rope truss method. There are several methods of truss in use, even if they vary in the method of application their principle is almost the same. Craig (1946) described two of the most useful and easily made trusses namely Delwart's Truss and Renault's Truss methods. These methods are great in efficiency and simplicity and are mainly used in large animals.

## CONCLUSION

The case report management of postpartum cervico-vaginal prolapse in a murrah buffalo using rope truss method details about the successful management of cervico-vaginal prolapse in a Murrah buffalo using rope truss method after the failure of Buhner's suture.

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