

SUCCESSFUL MANAGEMENT OF PREPARTUM CERVICO-VAGINAL PROLAPSE IN A GIR COW BY NEW ZEALAND TECHNIQUE - A CASE REPORT

Arunpandian J¹, Brijesh kumar¹, Srivastava N¹, Ganesan M¹, Neethu B², Anju kujur¹

¹Division of Animal Reproduction, ICAR-Indian Veterinary Research Institute, Izatnagar, Bareilly, Uttar pradesh-243 122;

²Division of Veterinary Pathology, College of Veterinary and Animals Sciences, Pookode-673 576

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ABSTRACT

2.5 years old, four months pregnant Gir cross-bred primiparous heifer was referred with the history of having a prolapsed mass for the past three days. On clinical examination, a certain part of the prolapsed mass was found to be dry and necrosed. On rectal examination, the animal was found to be approximately five months pregnant. The prolapsed mass was cleaned with a non-irritant solution followed by topical application of antiseptic lotion. After removal of necrotic portion, the lacerated part was sutured. Since the prolapsed mass was larger than the vaginal canal reduction of prolapsed mass by the New Zealand technique was carried out. Horizontal mattress suture was applied following the reduction of prolapsed mass. The intravenous fluid therapy, antibiotics, and anti-inflammatory drugs were given for one week. The cow had an uneventful recovery.

Keywords: Gir, primipara, cervico-vaginal prolapse, New Zealand technique, prepartum

INTRODUCTION

The eversion of vaginal prolapse commonly occur in cow and sheep either with or without prolapse of the cervix (Roberts, 1971 and Aiellon and Moses, 2016). The vaginal prolapse in pregnant cow occur in variant times duration but is observed to be more common in last 2-3 month of gestation (Roberts, 1971), last 2 weeks of pregnancy (Sloss and Dufty, 1980), in post estrus period (Yotov *et al.*, 2013), and during estrus (Youngquist, 1997) in non-pregnant cows. The causative agent for vaginal prolapse is still unclear (Noakes *et al.*, 2019), and when imbalance between oestrogen and progesterone ratio or inordinate level of oestrogen production during second half of gestation occurs it causes relaxation of pelvic ligament, sacro-sciatic muscle and adjacent structure of vulval sphincter muscle increasing mobility of vaginal floor (Purohit, 2012). The present case study elucidates on the technique of reduction of cervico-vaginal prolapse by New Zealand method in Gir cow.

CASE HISTORY AND OBSERVATION

The case was presented to the Referral Veterinary Polyclinic, ICAR-Indian Veterinary Research Institute, Izatnagar with the history of having cervico-vaginal prolapse since three days and was treated by a local veterinarian. On clinical examination, the animal showed slightly increased temperature with moderate dehydration and the everted prolapsed mass. On per rectal examination, cardinal signs of pregnancy revealed the

dam to be five months pregnant. A certain part of prolapsed cervical vaginal mucosa was dry, necrosed and lacerated. The prolapsed mass was larger in size compared to the vaginal canal. Based on the finding the present case was diagnosed as Cervico-vaginal prolapse.

TREATMENT

The aim of the treatment in the prolapse cases is the reduction and replacement of the prolapsed mass into the original position. Epidural anesthesia was given using 5ml of lignocaine hydrochloride (2%) between sacral and first coccygeal vertebrae, after cleaning the injected place with an antiseptic solution. The magnesium salt and icepacks were used for reducing the size of prolapsed mass. The prolapsed mass was cleaned with an antiseptic solution like potassium permanganate (1:1000), necrosed part was removed and the lacerated parts were sutured. An attempt was made to insert the prolapsed part into the pelvic cavity but large size of prolapsed mass prevented successful repositioning. Keeping this in mind we planned for reducing prolapsed mass through the New Zealand technique since in the standing position the large size prolapsed mass is impossible to replace to its original position. The prolapsed mass was fully covered with ice packs and magnesium salt for six hours. After putting animal in sternal recumbency, the cow was given mild sedation with xylazine in the dose of 0.5 ml intravenous, one-two feet of cushion sheet were used for elevating the hind quarter. The cow's hind legs were pulled out ward and back ward with the help of three attendants. Cow was cast and the uppermost part of hindlimbs were pulled out behind the cow. Thereafter, the cow was rolled onto other side so that the second hind limb may be secured

Corresponding author: ArunpandianJ, email: arunarasu5596@gmail.com

Co-authors: drbrijeshvet02@gmail.com sangee15@gmail.com, drmganesanvet@gmail.com, neethusudarsan@gmail.com, anjikuju007@gmail.com

and extended caudally and replaced the prolapsed mass by slow replacement of the uterus to its original position.

The New Zealand technique facilitates replacing the uterus in its original position when the size of the mass is larger. At the end of the process after placing prolapsed mass into the original place the horizontal mattress suture was done by umbilical tape with Gerlach's veterinary suture needle. Following that operation, the hormonal drug progesterone-2ml, and calcium borogluconate-500 ml administered for the first day only. An antibiotic (ceftriaxone 4 g), anti-inflammatory drug, and adequate intravenous fluid therapy were given for one week. The owner was advised to apply lignocaine gel 4% on vulval sphincter muscle and to follow laxative diet for one week. The animal had uneventful recovery.

DISCUSSION

The cervico-vaginal prolapse commonly occur in pleuriparous cows and buffaloes during mid to late gestation period. There are multiple etiological factors, although it is the large amount of estrogen produced by placenta at second half of gestation which leads to relaxation of pelvic ligaments with associated with structure like perineum and vulval sphincter muscle (Kumar *et al.*, 2020). The predisposing factors includes peculiar gait, Intra-abdominal pressure, grazing hilly terrain feed, while walking, and fodder containing phyto-estrogen (Roberts, 1971). Besides this, atony of skeletal and smooth muscle, the physiologic effect of hypocalcemia, secondary bloat, relaxation of anus constipation and loss of anal reflex as well as fully dilated cervix and normal presentation of fetus (Radostits *et al.*, 2009) are other important predisposing factors. The deficiency of certain macro or micromineral in general like calcium and phosphorus is also attributed to vaginal prolapse (Akhtar *et al.*, 2008; Kumar, 2015 and Hasan *et al.*, 2017). Depending on the severity and extent of damage procedures like conservative methods, suturing methods or truss (Parikh *et al.*, 2018) and surgical techniques (Caslick's operation, Farquarson's operation and Winkler's operation) may be use to manage vaginal prolapse in cow (Jackson, 2004).

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Fig 1: cervico-vaginal prolapse in Gir cow



Fig 2: Reduction by New Zealand method