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Surgical Management of Recurrent Cervico-Vaginal Prolapse by Ovario-Hysterectomy in Stray Cows: A Report of 12 Cases

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Pre and postpartum genital prolapse in cows is often a chronic and recurrent condition. Cervico-vaginal prolapse is a very painful and serious condition due to which most of the animals undergo severe straining and may become recumbent. It is assumed that the occurrence of prolapse has a genetic predisposition in both cattle and sheep. It is regarded as an emergency condition and should be managed before excessive oedema, mucosal trauma, contamination and fatal haemorrhage lead to a grave prognosis. Genital prolapse is a major reproductive disorder in cattle and buffaloes (Mishra, 1998). Multigravidas are more often involved than heifers. Some cows with extreme laxity of the perineum and vulva may prolapse immediately after calving. The hormonal changes that occur during the last trimester of pregnancy especially increase estrogen and relaxin cause relaxation of the pelvic ligaments and surrounding soft tissue structures (Wolfe, 2009). However, chronic recurrent prolapse is due to the tenesmus as a result of the trauma/inflammation of the exposed part or due to cervicitis and/ or vaginitis. The prognosis depends upon the type of case, the duration of the exposure of the prolapsed mass and the degree of trauma inflicted upon the prolapsed mass. Good prognosis can be achieved if case is attended by professional assistance within two to five hours. Such cases can be treated by many methods like application of rope truss, purse string suture, Buhner's technique, vulvoplasty, cervical fixation and modified Minchev method of fixation of perivaginal tissue (Kumar, 2005). Cases in which there has been delay and in which the endometrium is grossly contaminated and deeply congested, prognosis is guarded. Thus, amputation of the everted organ should be considered in such cases when injury is gross and resolution is impossible (Mahida, 2008). The present communication reports cases of forth degree cervico-vaginal prolapse with laceration, oedema and severe damage of prolapsed portion for more than 15 days with no chances of resolution that were managed by per vaginum ovario-hysterectomy.

Materials and Methods

The clinical investigation of 2600 cows from areas surrounding Rajkot city (Gaushala, Panjarapole and OPD of Hospital) revealed 213 cows to be affected with cervico-vaginal prolapse. These cows were initially examined to check the extent of damage. Cows with first and second degree vaginal prolapse were treated symptomatically, whereas 12 cows with history of cervico-vaginal prolapse for more than 15 days having swollen, congested, tense, oedematous, lacerated, necrotic and haemorrhagic prolapsed mass (Photo-I) which could not be repositioned, underwent per vaginum ovario-hysterectomy. On the notification of case, cows having prolapse for more than 15 days were shifted to hospital and kept off feed for 24 hours prior to the operation. The prolapsed mass was wrapped with clean towel to prevent further contamination.



Photo I: Everted prolapsed mass



Photo II: Casting of the cow

For the surgical procedure, cows were restrained in left lateral recumbency, legs were tied up using cotton rope (Photo-II) and general anaesthesia was achieved by administering Xylazine hydrochloride @ 0.01 mg/kg b.wt. through i/v route. Further, high anterior epidural anaesthesia was given at the first inter-coccygeal space to desensitize perineum using lignocaine (15 ml, 2% Lidocaine). Prolapsed mass was cleaned thoroughly using potassium permanganate solution (1:1000) and normal saline to remove dirt and dust. Distended urinary bladder due to the obstruction of urethra was found in four cases during examination. Bladder was emptied by lifting the prolapsed mass. To maintain the urinary passage during the operation urinary catheter was inserted through urethra.

A blunt incision of around 4 inch long was given on prolapsed mass just behind the dorsal commissure of vulva. Through the incision, ovaries along with both the uterine horns were grasped and stretched/pulled out of the mass by hand. Mesovarium were ligated using absorbable suture material (vicryl). Another ligation was applied distal to the first one and amputation was done by incising between the two ligations. The ovaries with uterine horns were exteriorised (Photo-III). The amputated mass was removed through the incision made on prolapsed mass. A second incision was made just upper to ventral commissure of vulva to excise the remaining prolapsed mass. Whole prolapsed mass was removed by applying gentle traction (Photo-IV). The exteriorised mass was closed by applying horizontal mattress sutures. Mucosal wall was sutured using simple interrupted suture. Around 2/3 part of vulvar lips were sutured using simple continuous mattress (partial Caslik's operation) technique. Post-operatively, cows were given fluid therapy (DNS, 5 litres, I/V), antihistaminics (Glorgy, 10 ml, I/M), antibiotics (Ceftriaxone, 4.5 g, I/M), anti-inflammatory (Meloxicam, 10 ml, I/M) and multi-vitamins (Tribivet, 10 ml, I/M) for 4 days to overcome the surgical stress. Antiseptic dressing of surgical site was carried out for 11 days using povidone iodine and fly repellent spray (D-Mag). Urinary catheter was removed on 6th day.



Photo III: Amputated prolapsed mass



Photo IV: Cow after surgery

Results and Discussion

Animals showed the signs of anorexia and depression for first two to three days. Out of 12 cows treated, two died within two days due to heavy blood loss. The remaining 10 cows recovered uneventfully were observed for at least one month post-operatively (Photo-V). The outcome following operation showed that ovario-hysterectomy is a beneficial technique to treat the long standing cases of genital prolapse.



Photo V: Recovered after surgery

In the metro cities, wandering stray animals is a major problem. Many animals are abandoned on the streets by their owners. In such conditions, animal suffering from genital prolapse remain untreated for several days. Such cases become grave and unresponsive with every day passes. A vaginal/cervico-vaginal prolapse may not directly be considered an emergency, but if left untreated, the mass becomes swollen, edematous and congested and is therefore very susceptible to trauma and sepsis. During the present study, it was found that a large number of animals suffer from recurrent cervico-vaginal prolapse that too for extended period of time. It is not possible to treat such cases by ordinary methods due to severe damage. Thus, per vaginum ovario-hysterectomy remains the only method of treatment with satisfactory outcome in such cases for their salvage.

Number of dietary factors such as hypocalcaemia and the grazing on pastures with an abundance of clover has been linked to the disorder (Miesner and Anderson, 2008). A vaginal prolapse begins just cranially of the vestibule-vaginal junction as a folding of the vaginal floor. The discomfort caused by this eversion, in addition to the resulting irritation and swelling of the vaginal mucosa, is the start of a vicious cycle characterized by increased straining and the formation of a more extensive prolapse (Kahn, 2005). Containment of the bladder within the prolapsed vagina is an additional complication that requires urgent attention. Not only does the bladder potentially hinder repositioning of the prolapse, but it may also lead to obstruction of the urethra resulting in the distension of the bladder and in a worst case scenario is bladder rupture (Nayak and Samantara, 2010). Amongst present cases, the possible etiology of the recurrent prolapse may be the relaxed heavy croup muscles, genital infection & irritation, excessive peri-vaginal fat and high intra-abdominal pressure due to the feeding of garbage and plastics. The increased uptake of forage and garbage, results in an increased ruminal filling, which in turn contributes to a higher intra-abdominal pressure thereby predisposing for vaginal prolapse. Looking to risk of heavy blood loss from these highly vascular reproductive organs it is advisable to go for the surgical procedure only when the nutritional status of animals is good (Padheriya *et al.*, 2016).

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Conflict of Interest: All authors declare no conflict of interest.

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