

A Case Report on Correction and Management of Uterine Prolapse in a cow in Upazilla Veterinary Hospital, Baghaichhari, Rangamati .



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Abstract

Uterine prolapse is a common obstetrical disorder for dairy cows throughout the country during 3rd trimester of gestation, which adversely affects productive and reproductive performance of cattle. It is a non-hereditary complication, It occurs immediately following parturition and occasionally some time to several hours after parturition. It affects on postpartum return to estrus, conception rate and calving interval and the incidence of uterine prolapse as 42.9% among various obstetrical problems in cow. But their is no available published report on it in Bangladesh. A third parity dairy cow was brought at Upozilla Veterinary Hospital, Baghaichari, Rangamati with a gross lesion of uterine prolapse. The cow showed protrusion of mass through the vulva after its calving. On clinical examination animal was apparently healthy and confirmed as uterine prolapse. The Uterine prolapse was corrected manually following proper precautionary measures. To prevent the recurrence, Buhner's suture was applied. Animal had an uneventful recovery.

Key words: Uterine prolapse, Non-hereditary, Buhner's suture, recovery.

Introduction

Genital prolapse are mostly seen in ruminant specially in cattle, buffalo, sheep, goat. It may be define as coming out of one or more of the pelvic structures like bladder, uterus and vagina from their normal anatomical position through the genital opening. Among all prolapse uterine prolapse in frequently observed in dairy cow. Uterine prolapse is the protrusion of uterus from vulva with the mucosal surface exposed. It involves the complete prolapse of uterus, vagina and cervix. The condition almost always occurs within the first 24 hours of calving and rarely reported afterwards. Uterine prolapse occurs when the previously gravid horn invaginate after delivery of fetus and protrudes from vulva and may extended to the hock joint. Although there are difference among different cattle to the predisposing factors associated with uterine prolapse, uterine atony, dystocia and hypocalcaemia are some of the most common causes. Most cases occur within a few hours after delivery and condition is more common in dairy cows than other species. Uterine prolapse is a rare condition that is difficult to manage in equines. The Incidence of postpartum uterine prolapse varies from 6.6% to 12.9% (Nanda and Sharma, 1982). Uterine prolapse is the most potentially dangerous complications associated with calving. It is regarded as a veterinary emergency because without treatment, the cow likely to die (Murphy and Dobson, 2002; Mienser and Anderson, 2008). A uterine prolapse can vary in size from about 18 inches to 3-4 feet in cow.

The etiology of uterine prolapse is unknown but there are some factors associated. Factors that predispose a cow to uterine prolapse include a calving difficulty that causes injury or irritation of the external birth canal, severe straining during labor or excessive pressure applied when a calf is pulled. Poor uterine tone and low blood calcium levels have been incriminated and animals in poor body condition, weight of retained fetal membranes will have increased risk of getting uterine prolapse. Mild prolapse will go back in when the cow gets up. But if she started to prolapse each time she lies down, or if she strains while lying there, the tissues may be forced out farther, to the point

they cannot go back in. There are many predisposing factors for the development of uterine prolapse, the most important is increasing abdominal pressure due to the growing fetus. Some other conditions that increased intra-abdominal pressure including tympany and excessive estrogen content in the feed also act as risk factor of uterine prolapse (Hanie, 2006). Many other factor such as high body condition score, age and breed/genetics will also predispose cattle to vaginal prolapses. An important factor to remember is that if a cow has a uterine prolapse once, she is highly likely to prolapse again. This makes it an important management issue and culling is recommended.

The clinical sign of uterine prolapse are dramatic standing with the uterus hanging up to the hock joint. The fetal membranes or mucous membranes of the uterus is exposed and usually soiled with feces, straws, dirt and or blood clots unless very recent case. In the period immediately after prolapse the tissues appear almost normal, but within few hours they become enlarged and edematous. Urine may retain in such cases. Some of the animals may appear healthy, but most of the animals will exhibit signs of Varying degrees of hypocalcaemia: weakness, depression, subnormal temperature, anxiety, struggling, prostration and coma. Some animals will develop hypovolemic shock, secondary to internal blood loss, laceration of the prolapsed organ or incarceration of abdominal viscera (Ramsingh et al., 2013). Signs of shock, such as pale mucous membranes, reduced capillary refill time and tachycardia are often associated with a grave prognosis.

An uncomplicated case of uterine prolapse usually has a good prognosis if corrected in the time, hence it should be always treated as veterinary emergency. In an earlier study, (Gardner et al., 1990) reported that the prognosis of uterine prolapse after 2 weeks of occurrence is good if the calf is born alive, the cow did not have stage 3 milk fever, the cow is primiparous and the case was attended to correct by a veterinarian. The correction of a prolapsed uterus usually involves disinfection and washing the organ, reduction the size of the organ if edematous with glycerol, returning the organ back and applying stay sutures (Buhner's sutures) (Makhdoomi et al., 2014; patil, 2014; simon et al., 2014; Yadav et al., 2014). If prompt treatment is instituted, a post-operative

fertility rate of 40-60% has been recorded (Tyagi et al., 2006). Success of treatment depends on the type of case, the duration of the case, the degree of damage and contamination.

The objective of the present study was to manage and correct the clinical cases of uterine prolapsed cow and to save high yielding cow.

Materials and Methods

Case history and Clinical Observation

A third parity dairy cow was brought at 10:30 AM at Upazilla veterinary hospital, Baghaichhari in Rangamati with a gross lesion of uterine prolapse. A normal male calf was born before getting the cow. The total uterine mass was prolapsed after the fetal membrane shed normally. Maternal caruncle was found on the prolapsed uterus. It was in lying down position. Prolapsed mass would have been hanging down almost to its hock joint if it was at standing condition.

Anamnesis revealed that, normal rectal temperature and pulse and respiration rate were elevated. General health condition of cow was poor. The ocular mucous membrane was pinkish and the prolapsed uterus mass was swollen, necrotic and contaminated with dirt, straw, blood clots and dung materials.

A through Physical examination was carried out and the vital parameters were: Temperature 103°F, Heart rate 128 beat/min, Respiratory rate 78 cycles/min and pulse rate 130 beats/min. The animal was showing sign of discomfort.

Based on the clinical examination, it was diagnosed as a case of uterine prolapse.

Surgical management

➤ Patient Preparation

At first before treatment Physical and Clinical examination was recorded. The animal was Placed on the dry and clean area in dorsal recumbency and was physically restrained by assistant.

➤ **Correction of Uterine Prolapse**

Caudal epidural anesthesia (between the 1st and 2nd coccygeal vertebra) was performed by 2% Lignocaine Hydrochloride at @12 ml as induction dose. In addition, fluid therapy (ringers lactated saline, dextrose saline and normal saline) were given at @25 ml per kg body weight. Total prolapsed mass was washed with diluted antiseptic solution, Potassium permanganate solutions (1:1000) with gloved and lubricated hand. Then the cow placed in sternal recumbency, with the hind legs pulled behind –“the frog-legged position” Pulling the hind legs caudally provides a mechanical and gravitational advantage by tipping the pelvis forward. Then removed the placenta gently and apply ice and sugar to reduce the size of mass because the uterine mass was highly edematous. The prolapsed uterus was elevated at the level of ischium for easier reduction and relief vascular compromise. The organ was gently pushed back into position, was taken care not to traumatize the friable endometrium or uterine wall. Approximately after 2 hours, uterus was replaced to its normal position. Administered oxytocin (Inj.Oxcin vet, 3ml, intramuscularly) to facilitate the reduction. A temporary closure of the vulva was performed by the Vulvar Retention suture (modified Burried Brhner’s suture or purse string) for better protection and suture was be removed after 10 days. Cow was recovered quickly without any complication.

➤ **post-operative treatment**

Dressed the area regularly and massaged with garlic oil. Then provide Calcium borogluconate solution (45ml, intravenously), antibiotic (Inj.Streptopenicillin, 8 ml, intramuscularly), antihistaminic (Inj. Histavet, 15 ml, intramuscularly) and dextrose saline [(20%) 2000ml, intravenously] were injected for 7 days.

Figure



Prolapsed mass from vulva



Washing mass with potassium solution



Buhner's suture



Smooth Recovery

Results and Discussion

The cow showed good recovery without recurrence and other complications after removed the suture. Prolapse of the uterus normally occur during the third stage of labour at a time when the fetus has been expelled and the fetal cotyledons has separated from the maternal caruncles (Noakes et al., 2001). The goal in the treatment of uterine prolapse is replacement of the organ followed by a method to keep it in the original position and prevention of recurrence. A full clinical examination of animals with uterine prolapse must be undertaken as signs of toxemia like in appetite, an increased respiratory rate, raised pulse and congested mucus membranes may be consisted with metritis. Vascular compromise, trauma and fecal contamination may also increase toxin intake across the uterine mucosa. However, careful removal of these materials, after soaking with warm dilute antiseptic solution is usually successful causing only minor capillary bleeding. Vigorous attempts to remove superficial contamination should be avoided as they may prove counterproductive by increasing toxin uptake (Scott and Gessert, 1998). Elevation of hind quarters helps in repositioning of prolapsed uterus with good recovery rate (Ishii et al., 2010). It was observed that the hygienic handling, proper management and treatment should definitely prevent further reproductive tract damage and aid in quick recovery. The usual sequel of uterine prolapse is haemorrhage, shock, septic metritis, peritonitis, infertility or death. (Bhattacharya et al., 2012) reported 9.09% mortality rate and 18.18% cows developed metritis.

A caudal epidural anesthesia is essential before replacement of a uterine prolapse as it decreases straining and desensitizes the perineum. The uterine prolapse can be replaced with the animal in standing or recumbent position (Hanie, 2006). Once the uterus is replaced, the operators hand should be inserted to the tip of both uterine horns to be sure that no remaining invagination could incite abdominal straining and re prolapse (Fubini and Ducharme, 2006). If the uterus is completely and fully replaced all the way to the tips of the uterine horns, the prolapse is unlikely to occur (Hanie, 2006). Simple manual methods of overcoming uterine prolapsed difficulties have been introduced in

this study. The tension of a rope around the posterior abdomen, raising the animal's hind legs on board or on a truss of straw, or even casting her and raising her part by means of a block and tackle hooked to figure of eight rope around the hooks suggested by different author (Arthur et al., 1999). Before replacement of uterus epidural anesthesia was performed. The replacement of uterus was performed little by little, starting the vulvar lips upper and lower portion. The prolapsed uterus was pushed into vagina by manual pressure and takes care of vulvar lips. Once the uterus is in its normal position, oxytocin 10 i.u. intramuscularly should be administered to increase uterine tone. It has also been reported that most animals with uterine prolapse are hypocalcaemic (Fubini and Ducharme, 2006). Where signs of hypocalcaemia are noticed such animals should therefore, be given calcium borogluconate. An injectable broad spectrum antibiotics once administered for three to five days after replacement of the prolapsed will prevent secondary bacterial infection (Borobia-Belsue, 2006; Hosie, 1993; Plunkett, 2000). Animals with uterine prolapse that were properly managed can conceive again without problems. Complications develop when lacerations, necrosis and infections are present or when treatment is delayed. Shock, hemorrhage and thromboembolism are potential sequelae of a prolonged prolapse (Noakes et al., 2001). The high vital parameters witnessed in this case when the animal was first brought could be as a result of metritis caused by secondary bacterial infection especially as the animal was brought for treatment after three days of occurrence of the prolapse. Treatment with broad spectrum antibiotics (Ceftiofur sodium 2mg/kg) was responsible for the lowering of the vital parameters to the normal values after three days of treatment.

Ceftiofur sodium was given to prevent the secondary bacterial infection. By gentle pressure, the nearest cotyledons are pushed into vagina, taking care that the lips of the vulva remain well apart and don't become turned inwards. It is generally best to replace portion of the upper and lower surface alternatively. In recumbent animal, the immediate need is to cover the prolapsed mass with clean, wet cloth to keep the mass moist and free from further animal. In standing animal, the free from wrapped in a cloth and hold high level of the vulva. Handling of the prolapsed organ invariably leads

to about of tenasmus and therefore light epidural anesthesia is mandatory (Tyagi and Singh, 2002). (Plenderleith, 1986), described a method which is now in common usage amongst practitioners. The cow is placed in sterna recumbency with both hind legs pulled out. The usually the edematous placentomes allow easy separation of cotyledons from caruncles (Potter, 2008). Prognosis of prolapsed uterus generally favorable for uncomplicated cases where there has been no serious damage to the uterus. In one study a two week survival rate of 72.4% (Gardner et al., 1990) was found, with other studies findings survival rates of 73.5% (Jubb et al., 1990) and 80% (Murphy and Dobson, 2002).

In this case hematological parameter showed low serum calcium level (7.2 mg/dl) indicating hypocalcaemia. Decreased level of calcium can lead to reduced vaginal and uterine muscle tone which predisposes the animal to prolapse (Noakes et al., 2001). Based on the results of the present study, deficiency of calcium (7.2mg/dl), magnesium (1.6 mg/dl) and phosphorus (3.1mg/dl) might be the possible factor that leads to prolapse of genital track in cow. Besides biochemical observation, the blood sample was also tested and decreased PCV (22%) was detected. Decrease in PCV in prolapsed animals might be due to possible release of antidiuretic hormone as a result of stress.

Conclusion

Uterine prolapse may appear in peri-parturient period. Diagnosis and treatment of uterine prolapse should be manage and correct as early as possible. Delayed in correction may cause some critical condition such as edema, fibrosis, necrosis, septicemia. So the farmers and veterinarians should be careful about early recovery of the condition which will save the cow from life-threatening condition. Proper health care and proper supply of nutrition can avoid the incident of uterine prolapse.

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