ABSTRACT

Two cases were presented for treatment of genital prolapse were included in this study. Vaginal prolapse mostly occurred during advanced pregnancy and uterine prolapse following parturition. At the time of examination, the animal with uterine prolapse were recumbent, while that with vaginal prolapse was standing.

Vaginal prolapse is a common obstetrical disorder for dairy cows throughout the country during 3rd trimester of gestation. However, there is no available published report on it in Bangladesh. A four years old Holstein Friesian cow was found at the village Kadra in Laksam Upazilla, Cumilla with a history of 7 months pregnancy and hanging mass outside the genital opening. By physical examination, it was confirmed as vaginal prolapse. The prolapsed mass was corrected manually and Buhner's suture was applied parallel to vulva apart from vagina beneath the skin to keep it in position. The cow was followed for next 2 months. There found no evidence of recurrence and then it delivered a healthy female calf successfully without any complication.

A case of uterine prolapse in a doe goat was found in Upazilla Veterinary Hospital, Laksam, Cumilla . The animal was brought to the hospital with complaint of prolapse of the uterus. The everted organ was carefully assessed and gross debris removed by washing with dilute chlorhexidine solution. Epidural anesthesia was achieved using lignocain solution. The prolapsed uterus was replaced and retention suture was placed on the vulva to prevent reprolapse. Oxytocin, dexamethasone, broad-spectrum antibiotics (penicillin and streptomycin) were administered intramuscularly. The animal was hospitalized for closed monitoring. There was no recurrence. Sutures were removed and the animal was discharged from the hospital.

Keywords | Vaginal prolapse, Correction, Management, Buhner's technique,

Antibiotics, epidural anesthesia, lignocaine, oxytocin, suture, uterine prolapse.

CHAPTER-I

INTRODUCTION

Genital prolapses are mostly seen in ruminants specially cattle, buffalo, sheep, goat (Kumar et al., 2018).It may be defined as coming out of one or more of the pelvic structures (bladder, uterus and vagina) from their normal anatomical position through the genital (vaginal) opening. Among all prolapse, uterine and vaginal prolapses are frequently observed in the reproductive tract of cow.

Vaginal prolapse mostly happened in cross breed (Dewry et al., 2015) cattle before calving, usually in the last trimester of pregnancy. However, there was also evidence of post oestral vaginal prolapse in a non-pregnant heifer in Bulgaria. Severe straining at pre pardominal pressure at advanced pregnancy, enlarged rumen making the ligaments fragile around perineum, high level of blood estrogen, around parturition and deficiency of certain macro or micro minerals may act as potential key factors for vaginal prolapse (Gröhn et al., 1990). Described therapeutic management of prepartum vaginal prolapse in a Holstein Friesian crossbred cow and reported that successful surgical management of cervico-vaginal prolapse can be achieved by retention suture or Buhner's suture technique (Tanjla et al., 2017). Vaginal prolapse is an emergency condition and it should be treated immediately before there may occur any trauma or laceration to prevent hemorrhage or bacterial infection (Miesner et al., 2008). Sometimes the prolapse may cause infertility in subsequent pregnancy

Postpartum uterine prolapse occurs in all large animal species. It is most common in the cow and ewe, less common in the doe goat and rare in the mare. It is simply an eversion of the uterus, which turns inside out as it passes through the vagina. Prolapse of the uterus generally occurs immediately after or a few hours of parturition (Gupta et al., 2012). When the cervix is open and the uterus do not able to straining. Prolapse that occur more than 24 hours post-partum is extremely rare and is complicated by partial closure of the cervix, making replacement difficult even impossible (Wachida et al., 2011). The prolapse is visible as a large mass protruding from the vulva, often hanging down below the animal's hock. The placenta may likely be retained

during this period. It normally occurs during the third stage of labor at a time when the fetus has been expelled and the fetal cotyledons have separated from the maternal caruncles. The etiology of uterine prolapse is unknown, but many factors have been associated. Conditions such as poor uterine tone, increased straining caused by pain or discomfort after parturition, excessive traction at assisted parturition, the weight of retained fetal membranes, Conditions that increase intra-abdominal pressure including tympany and excessive estrogen content in the feed.

Hence, the objectives of the present study were,

To get practical exposure on clinical findings of uterine prolapse and vaginal prolapse in goat and cow with the aim of diagnosis, correction and management.

To save the animals from prepartum and postpartum sufferings. To save the farmers from a big economic losses. Ultimate development in livestock sector and enhance economical significances of our livestock sector.

CHAPTER-II

Etiology

Vaginal prolapse

The prolapse begins as an intussusception like folding of the vaginal floor just cranial to the vestibulovaginal junction. Discomfort caused by this eversion, couped with irritation and swelling of the exposed mucosa, results in straining and more extensive prolapse. Eventually the entire vagina may be prolapsed, with the cervix conspicuous at the most caudal part of the prolapse. As bladder or loop of intestine may be contained within prolapsed vagina. As the bladder moves into the prolapse vagina, the urethra may be occluded. The bladder then fills and enlarges, which hinders replacement of the prolapsed vagina unless the bladder is first drained. The bladder may even rupture with potentially fatal consequences (Kumar et al., 2015). Vagina prolapse may be graded as,

I) Intermittent prolapse, especially when recumbent.

II) Continuous prolapse.

III) Continuous prolapse of vagina, bladder, and cervix.

IV) Grade II or III with tissue damage by trauma, infection, or necrosis.

Although most common in mature animals in late pregnancy, vaginal prolapse can occur in late pregnancy, vaginal prolapse can occur in young, nonpregnant ewes and heifers, especially in fat animals (Nak et al., 2008).

Various predisposing factors causes vaginal prolapse

Grazing estrogenic plants (especially Trifolium Subterraneum) or exogenous administration of estrogenic compounds, obesity

Clinical symptoms and diagnosis

Large, protruding mass in the genital area, difficult walking, vaginal discharge, difficult urination, pain in genital area, slight discharge, chronic constipation, recent difficult labor. Upon physical examination, a round mass may be noticed protruding the animal's vulvar area. A vaginal examination will be performed to determine the severity and type of condition.

History and clinical examination

A 4 years old 7 months pregnant cow was seen in Laksam Upazilla. The cow weighed 300kg. The owner claimed that they have seen a mass coming out through the genital opening 4 days before. They hold the mass by hands and kept it to its normal position. But it recurred. At first we did the general physical examination *e.g.* temperature, heart rate, pulse rate. Then we examined the hanging mass of cow in standing condition and we confirmed it as vaginal prolapse. The prolapsed mass was swollen and edematous. The cow exhibited signs of restlessness.

Treatment and management

At first, the perineal region of cow was washed with clean water. Then low epidural anesthesia was done at first intercoccygeal space using local anesthetic, 2% lignocaine hydrochloride (5ml) to prevent straining, easy control of tail and desensitization of pelvic region, which facilitate easy manipulation of vagina into its original position. Then prolapsed mass was cleaned with normal saline and mild potassium permanganate solution to remove dirt. The prolapsed mass was lifted with both hands and replaced to vagina by using thumb fist. Then 2% lidocaine hydrochloride was administered subcutaneously into the lips of vagina where the gerlich needle was punctured. Buhner's suture was applied with rope parallel to the vulva apart from vagina keeping one hand space for easy urination. It was suggested to keep the suture for 1 month and then removed it. The owner was told to take proper post-operative care for preventing recurrence. The cow was followed for next 2 months. It recovered successfully without any complication and delivered a health female calf normally after completing her gestation period.

As post-operative care we administered DNS 5% (1 litre/ i/v/ day) for 5 days, calcium borogluconate [Inj. Cal-D- Mag (Reneta pharmaceuticals) 500ml/day/i/v] for 5 days, Drotaverine hydrochloride [Inj. No-spa 20ml/day/i/m (Ambee Pharmaceuticals)] for 5 days. For topical application at vulvar lips 5% Povidon iodine [Ointment viodin]

Etiology

Uterine prolapse

Straining occurs normally during the third stage and is synchronous with the continuing peristaltic contractions of the uterus that occurs every 3.5 minutes rarely, where delivery is achieved by heavy traction. The Uterine prolapse occurs immediately after the calf is withdrawn (Potter et al., 2008).

Lack of tonicity of the uterine musculature, rendering the walls flaccid and prone to eversion and prolapse. Extensive manipulative effort to relieve obstructive dystocia. The presence of a part of relieve obstructive dystocia. The presence of a part of the fetal membranes in the genital passage induces strong tenesmus and prolapse.

Excessive relaxation of pelvic and perineal region, nutritionally poor, thin, debilitated dairy heifers & aged animal is the cause of uterine prolapse (Lamers et al., 2011).

Various predisposing factors have been suspected for uterine prolapse in the cow:

Hypocalcaemia, Prolonged dystocia, Fetal traction, Fetal oversize, Retained fetal membranes, Chronic disease, Paresis Calcium and phosphorus deficiency in feed prone to uterine prolapse. Increasing age, chronic constipation or frequent straining during bowel movement, family history are also responsible for this (Purohit et al., 2018).

Clinical symptoms and diagnosis

Uterine prolapse

The clinical signs of uterine prolapse are dramatic and obvious. In the period, immediately after the prolapse occurs the tissues appear almost normal but within a few hours, they become enlarged and edematous. Some animals will appear otherwise healthy although many animals will exhibit varying degrees of struggling, anxiety, prostration, coma, depression, weakness and subnormal temperature. The animal is restless & tenesmus is persistent until complete uterine prolapse occurs.

The animal is usually recumbent but may be standing with the uterus hanging to the hock joint. The hypertrophied caruncles on the exposed endometrial surface are evident. In extreme case, the color of the endometrial surface change to dark red with necrotic foci. Systemic signs may not be evident in early stages of uterine prolapse but latter on anorexia, pyrexia and dyspnea may develop. Sometimes internal hemorrhages may occur due to rupture of uterine Vessels. The affected cow is recumbent and if in lateral recumbent, ruminal tympani will be prominent, but occasionally the cow is standing with the everted organ hanging down almost to its hocks.

Treatments:

As uterus is stained with fecal materials other harmful substances, first step will be washing the uterine organ with disinfectant frequently. It helps to remove outer materials contain many organism which can cause infection after replacing uterine organ devastating for survive. In this case, uterus was badly contaminated, so 5-6 times frequent washing was done. Another complexity was hardening of the organ. Normally visceral remain soft in nature, but in this case of goat uterus was hard in nature. This feature made hard to replacing of the prolapsed organ. In this circumstances solid ice, sugar solution etc. helps to softening the prolapsed organ. Some people use sugar solution that is why insects get attracted. Therefore infection can be occurred through secondary way. We used solid ice, amazingly after 30-40 minutes, prolapse organ became soft.

The uterine prolapse can be replaced with the animal in standing or recumbent position. As the animal was goat & goat can easily hold slightly upward. In that position, it become more easy to replace. 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. If the uterus is completely and fully replaced all the way to the tips of the uterine horns, the prolapse is unlikely to occur. Then cross matress suture was applied within outer skin vaginal opening. Once the uterus is in its normal position, oxytocin 10 IU intramuscularly should be administered to increase uterine tone. It has also been reported that most animals with uterine prolapse are hypocalcaemic. Where signs of hypocalcaemia are noticed, such animals should therefore, be given calcium borogluconate.

An injectable broad spectrum antibiotics once administrated for three to five days after replacement of the prolapse will prevent secondary bacterial infection. Dexamethasone is normally given to reduce the uterine swelling. Animals with uterine prolapse that were properly managed can conceive again without problems.

Complications develops when lacerations, necrosis and infection are present or when treatment is delayed. Shock, hemorrhage and thromboembolism are potential sequel of a prolonged prolapse. The vital parameters witnessed in this case when the animal was first brought could be because 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 (Penicillin 20,000 I.u/kg and streptomycin 10 mg/kg) was responsible for the lowering of the vital parameters to the normal values after three days of treatment.

Chapter-III

MATERIALS AND METHODS

Study area and duration:

The study was carried out among in a goat (uterine prolapse) and in a cow (vaginal prolapse) in Upzilla Veterinary Hospital, Laksam, Cumilla during october 12 to december 13, 2019. The study was conducted on the clinical manifestation and response to various treatments.

Requirements: Uterine prolapse of goat:

1. Gerlich suture needle.
2. Suturing material: Gauze.
3. Forceps.
4. Local anesthetic: 2% lignocaine hydrochloride.
5. Intrauterine tube.
6. Lubricant
7. Salt
8. Ice
9. Fresh water

History and Clinical examination:

A 1-year 5 months old goat weighing 17 kg was presented for evaluation and treatment of a prolapsed uterus. The owner noticed soon after the goat had kidded three days ago. History further revealed that this was her first pregnancy and the flock size is 10 goats. The owner normally allowed the goats out in the morning but lock them up at the night.

A thorough physical examination was carried out and the vital parameters were Temperature 39.9 degree, heart rate 126 beats/min. The ocular mucous membrane was pinkish and prolapse uterus was swollen, necrotic and stained with fecal materials and debris. Very important particular character of uterine prolapse is cotyledon can be seen in this type case.

IMAGE GALLERY

UTERINE PROLAPSE CORRECTION OF A GOAT

This is the first picture when goat came hospital. Clinical sign of this case was forsake of uterus with dark round cotyledon.

Removal of dirt, soil and killing of microorganism by disinfectant. Frequent washing was done.

Uterus became hard in nature. To make it soft and replacing the organ, ice peaces were used for 20-30 min.

After successfully replacing the organ, vagina was sutured which was cross mattress.

Requirements: Vaginal prolapse of cow :

1. Gerlich suture needle.
2. Suturing material: Gauze.
3. Forceps.
4. Local anesthetic: 2% lignocaine hydrochloride.
5. Saline solution
6. Salt
7. Ice
8. Fresh water

History and clinical examination:

An owner came from village Kadra of Laksam Upazila and he claimed that they have seen a mass coming out through the genital opening of his cow, 4 days before. The age of that cow was 4 years and it was in 7-month pregnancy. The cow weighed 300 kg. They hold the mass by hands and kept it to its normal position. But it recurred. At first we did the general physical examination *e.g.* temperature, heart rate, pulse rate. Then we examined the hanging mass of cow in standing condition and we confirmed it as vaginal prolapse. The prolapsed mass was swollen and edematous. The cow exhibited signs of restlessness.

IMAGE GALLERY

VAGINAL PROLAPSE CORRECTION OF A COW

A pregnant cow suffering from a problem.

Something reddish soft thing was hanging from its genital opening.

Washing of prolapse organ, using of anesthesia and finally replacing the, thus it was treated.

After replacing, the opening was closed by Buhner's suture .

Chapter-IV

DISCUSSION

Vaginal prolapse in cow

The current study revealed that vaginal prolapse mainly occur in cows supported by the findings. Vaginal prolapse is a common condition before parturition, occurs immediately before and after parturition. A common cause of vaginal prolapse is the pressure and weight of a large uterus in late pregnancy (Samuelsson et al., 1999). Cope says some heavily pregnant cows will strain when passing manure while lying down or begin straining from the irritation of mild prolapse.

The occurrence seems to be affected by seasonal as well as regional factors dissimilar with the findings. Prolapse of the vagina normally occur during the third stage of pregnancy (Jelovsek et al., 2007) which was similar with my study. It is most common in mature animals in late pregnancy. Vaginal prolapse can occur in young, non-pregnant heifers (Nanda et al., 2003). .Predisposing factors include grazing exogenous plants or exogenous administration of estrogenic compounds. .Cervicovaginal prolapse is more common in stabled than in pastured animals. Vaginal prolapse may also be problem in cows subjected to repeated superovulation (Momont et al., 2005). A genetic component in the pathogenesis of prolapse is likely, because a breed predisposition exists in both cattle and sheep. Pressure of large uterus is the cause of vaginal prolapse similar to the findings of my study (Samuelsson et al., 1999).

The cow was Holstein Friesian, Which is most susceptible breed to develop vaginal prolapse (Rahman et al., 2009). At first the perineal region of cow was washed with clean water. Then low epidural anesthesia was done at 1st intercoccygeal space using local anesthetic, 2% lignocaine hydrochloride (5ml) to prevent straining, easy control of tail and desensitization of pelvic region which facilitate easy manipulation of vagina into its original position. Then prolapsed mass waTs cleaned with normal saline and mild potassium permanganate solution to remove dirt. The prolapsed mass was lifted with both hands and replaced to vagina by using thumb fist. Then 2% lidocaine hydrochloride was administered subcutaneously into the lips of

vagina where the gerlich needle was punctured. Buhner's suture was applied with rope parallel to the vulva apart from vagina keeping one hand space for easy urination. It was suggested to keep the suture for 1 month and then removed it. The owner was told to take proper post-operative care for preventing recurrence. The cow was followed for next 2 months. It recovered successfully without any complication and delivered a health female calf normally after completing her gestation period.

Uterine prolapse in goat

Study reveals that, uterine prolapse occurs infrequently after parturition in goat (Lucky et al., 2016). The entire uterus is everted, often with placenta still attached. Uterine prolapse is a common condition after parturition (Bodner et al., 2007). There is sustained straining by animal which predisposes to this condition similar with the findings (Gallentine et al., 2001). However, in earlier study, others factors included breed predisposition, dietary deficiencies of calcium and excess estrogenic diet which were found having enhancing effect in causing uterine prolapse although no such effect was studied here. Nutritionally poor, thin, debilitated does and aged animals is the cause of uterine prolapse similar with the findings of my study (Brown et al., 2018).

The occurrence seems to be affected by seasonal as well as regional factors dissimilar with the findings (Durrani et al., 2009). Prolapse of the uterus normally occurs during the third stage of labor at the time when fetus is expelled and the fetal cotyledon has separated from the maternal caruncles (Senthilkumar et al., 2017), similar with my study. Nutritionally poor, thin, debilitated does and aged animals is the cause of uterine prolapse similar with the findings of my study (Brown et al., 2018).

Goat, which is susceptible species to develop uterine prolapse (Kabir et at., 2010). Amputation of a part or whole uterus is occasionally indicated in some case of prolapse (Arthure et al., 1957). In this case, there is no recurrence of uterine prolapse as after repositioning uterus, Oxytocin 10 IU intramuscularly was administrated to involution of uterus. Beside these, large amount of water was inserted to the uterus to give it normal position. After complete replacement of the uterus,

the water brought out from the uterus. After management, it found minimum straining, as we used caudal epidural anesthesia, which decreases straining and desensitize the perineum. An injectable broad sprectum antibiotic also used for 3-5 days after replacement of prolapsed uterus to prevent secondary bacterial infection. Here, no infection was found after management. That was properly managed and can conceive without problems. Complications develop when laceration, necrosis and infections are present or when treatment is delayed. Minimum bleeding was observed during management. Superficial debris were removed by using water carefully. Vigorous attempts to remove superficial contamination should be avoided.

Chapter-V

CONCLUSION

Uterine prolapse is an emergency condition and should be treated as soon as possible. However, success of treatment depends on the type of case, the duration of the case, the degree of damage and contamination. Waiting until the morning is not a good option .Uterine prolapse is not a genetically heritable trait. Affected cows do not necessary need to be culled from the herd.

Postoperative treatment should be maintained in order to prevent secondary uterine infections that may predispose to infertility and death due to septicemia. During pregnancy vaginal prolapse can causes serious complication like death of fetus even mother, if not treated properly. So immediate replacing of prolapse organ and post-operative care can reduce production loss, will save lives.

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The Author
August, 2020

BIOGRAPHY

My self NAHIDUL ISLAM, the author of this clinical report would like to introduce as intern DR of Chattogram Veterinary And Animal Science University (CVASU) have passed four years academic career in faculty of Veterinary Medicine. As a student of Veterinary Science, the main mission and vision of my life is to do something better and creative job by dint of my academic knowledge and experience, for the development of livestock as well as well as development of economic condition of our country. This clinical report on prolapse is the fast step to fulfil my dream.