**Chapter-I**

**Introduction**

Post partum 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( **Merck, 2005**). 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 when the cervix is open and the uterus lacks tone (**Hanie*,* 2006**). Prolapse that occur more than 24 hours post partum is extremely rare and is complicated by partial closure of the cervix, making replacement difficult or even impossible (**Fubini and Ducharm*,* 2006**). 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 (**Roberts, 1982**). It normally occurs during the third stage of labour at a time when the fetus has been expelled and the fetal cotyledons have separated from the maternal caruncles (**Noakes *et al.*, 2001**).

Several factors such as increase intra abdominal pressure, post parturient discomfort and increase straining (**Jackson, 1995**) predispose animals to uterine prolapse. The cause of this prolapse is not clear but certain factors such as grazing on estrogenic plant or exogenous administration of estrogenic compounds, (**Merck, 2005**) and low magnesium and calcium levels have been reported to be a consequence rather than a cause (**Hoise *et at*., 1991**)predispose to vaginal prolapse.

Its occurrence seems to be affected by seasonal and regional factors (**Arthur *et at*., 1982**). Animals with uterine prolapse treated promptly recovers without complication while delay treatment could result in death of the animal in a matter of hour or so from internal haemorrhage caused by the weight of the organ which tears the mesovarium and artery (**Noakes *et al.*, 2001**). Success of treatment depends on the type of case, the duration of the case, the degree of damage and contamination in goats.

This was the first of uterine prolapsed I had ever seen. So I decided to write my clinical report on this topic with the following objectives:

1. To get practical exposure on clinical findings of uterine prolapse in doe with the aim of diagnosis.
2. To know the clinical management of uterine prolapse in doe.
3. To know the comparative advantage of different management procedure of uterine prolapse.

**Chapter-II**

**2.1Case History**

An adult, doe weighing 30kg was presented to the S.A. Quadery Teaching Veterinary Hospital, Chittagong Veterinary and Animal Sciences University (CVASU), Khulshi, Chittagong, with complaint of a protruding mass genital part and inability to intake feed which was day before presentation. The doe was reported to have been kept with 5 other goats. They were managed under semi intensive-system and fed on grass and wheat bran. On presentation, the doe was weak and on lateral recumbency. The animal was bellowing and tries to sit on the ground for abdominal pain and pressure of uterus. Physical examination revealed rough hair coat, everted uterus with the external OS of the cervix extruding as a small pinkish mass with cotyledon [**Fig-1**]. The udders were enlarged. There was straining with jaw twitching and teeth grinding due to pain from straining. The blood and serum samples were taken, for haemato-biochemical examinations.

**2.2** **Clinical Management**

**2.2 (a) Case definition**

The doe was diagnosed having a uterine prolapse. Decision was taken for surgical intervention for correction.

**2.2 (b) Requirement**

1. Mathieu needle holder.

2. Gerlach suture needle.

3. Suturing material- Nylon thread

4. Thumb Forceps.

5. Local anesthetic- Lidocaine (Inj. Jasocaine® 2%, 50 ml vial).

**2.2 (c) Replacement of everted organ**

Low epidural anaesthesia (first and second inter coccygeal vertebrae) [ **Fig-2**] was given using 5ml of 2% solution of Lidocaine (Inj. Jasocaine® 2%, 50 ml vial) [ Jayson Pharmaceuticals Ltd., Bangladesh]. The everted organ was disinfected by using 0.1% Potassium permanganate while DNS 10% (Dextrose® 10% pack) [Beximco infusion, Bangladesh] solution and sugar were applied over the organ to reduce the volume of organ. The organ was replaced by gentle manipulation [**Fig-3**]. Retention suture was given using nylon thread [**Fig-4**].





**Fig. 3: Replacement of the prolapsed uterus**

**Fig. 4: Retention sutures on the vulva after replacement of the prolapsed. uterus .**

**Fig. 2: Epidural anesthesia.**

**Fig. 1: Prolapsed uterus**

**2.2 (d) Post-operative treatment**

As antibiotic Peniciline and Streptomycin combination (Inj. SP-Vet® 0.5 gm vial) [ Acme Laboratories Ltd., Bangladesh] @ 4ml and Pheneramine Maleate (Inj. Histavet® 10 ml vial) [ ACI Animal Health Ltd., Bangladesh] @ 2ml were given intramuscularly daily for 5 days. Then Normal Saline (Inj. NS®-500 ml pack) [ Opsonin Pharmaceuticals Ltd., Bangladesh] @ 300 ml was given intravascularly for 3 days along with Monosemicarbazone (Inj. Anoraxyl® 2 ml vial) [Renata Animal Health Division., Bangladesh] @ 1 ml also given intravascularly for 2 days. Then calcium supplement (powder DCP plus® 250 gm pack) [Opsonin Pharmaceuticals Ltd., Bangladesh] @ 10 gm orally and Calcium Gluconate (Inj. Cal-D-Mag vet® 100ml vial) [ Reneta Animal Health Division., Bangladesh] @ 30 ml intravascularly were also given daily for 3 days.

**2.3 Hysterectomy**

The animal was admitted in the clinics for close monitoring. The next day due to severe straining the uterus was prolapsed again. In clinic, indifferent condition was observed frequently. After failure of replacement the doe was referred to surgery unit. Decision was taken for laparatomy. The site of operation (left lower flank) clipped and shaved by stainless steel blade and wash with tincture iodine, Sedil ( Diazepam® 2ml ampul) [Square Pharmaceuticals Ltd., Bangladesh] @ 0.08 mg/kg body weight used for sedation and Lidocaine (Jasocaine® 2%,50 ml vial) [Jayson Pharmaceuticals Ltd., Bangladesh] @ 8ml used for anesthetic purpose. Then 15-20 cm long incision was made on the left lower flank to open abdominal cavity. It’s upper limit being about 5 inches below the lumber transverse process and approximately 3 inches in front of the external angle of ilium. The incision was made through skin, external oblique and internal oblique abdominis muscles. After opening of the parietal peritoneum, a part of uterus is exteriorized. The abdominal cavity was packed off with sterile towels and the body of the uterus was withdrawn from the abdomen. The uterine vessels were ligated on each side and cut. Transfixation double ligature was used to the whole of uterine body immediate before cervix. The uterus was severed just cranial to the ligature. After removing the uterus all muscle layers, peritoneum and skin were sutured separately with catgut and silk. After hysterectomy the doe was treated with saline DNS 10% (Dextrose® 10%pack) [Beximco infusion, Bangladesh] combine antibiotic Penicillin and Streptomycin (Inj. SP-vet® 0.5 gm 10 vial) [ Acme Laboratories Ltd., Bangladesh] @ 2 vials daily for 5 days and also given Ketoprofen 10%(Inj. Kop- vet® 10 ml vial) [ Square Pharmaceuticals Ltd., Bangladesh] @ 1.5 ml daily for 7 days. The site of operation was checked for discharge. Exercise was restricted and finally skin suture was removed after 12 days after complete healing.

**Table 1: Haematobiochemical Test result of that goat**

|  |  |  |
| --- | --- | --- |
| **Name of the test** | **Examination result** | **Normal range** |
| Haemoglobin | 6.8gm% | 8-12gm% |
| **Total Count** | | |
| * Total count of RBC | 2.26 million/cumm | 8-18 million/cumm |
| * Total count of WBC | 6.0 thousand/cumm | 8-12 thousand/cumm |
| * Platelet | - |  |
| * PCV | 18% | 50-70% |
| **Differential count of WBC** | | |
| * Lymphocytes | 70% | 22-35% |
| * Neutrophils | 18% | 30-48% |
| * Eosinophils | 06% | 1-8% |
| * Monocytes | 06% | 0-4% |
| * Basophils | 0% | 0-1% |

|  |  |  |
| --- | --- | --- |
| **Name of the test** | **Examination result** | **Normal range** |
| S. Calcium | 8.0 mg/dl | 9.7-12.4 mg/dl |
| S. Magnesium | 3.6 mg/dl | 1.8-2.3 mg/dl |
| S. Phosphorous | 1.77 mg/dl | 4.2-9.1 mg/dl |
| S. Total Protein | 40.0 mg/dl | 64-70 mg/dl |
| S. Glucose | 330.8 mg/dl | 50-75 mg/dl |
| SGPT | 16.8 U/L | 6-9 U/L |
| SGOT | 95.5 U/L | 167-513 U/L |

**Chapter-III**

**DISCUSSION**

The doe which came in our hospital with prolapsed uterus that occurred third stage of labour similar case was found in doe 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 (**Plunkett, 2000**).

The goal in the treatment of uterine prolapse is replacement of the organ followed by a method to keep it in the normal position.

The uterus of doe was carefully cleaned with anticeptic solution 0.1% Potassium permanganate solution. Vigorous attempts to remove superficial contamination should be avoided as they may prove counterproductive by increasing toxin uptake (**Scott andGessert, 1998).**

Low epidural anaesthesia was performed by using 5ml of 2% solution of Lidocaine because it decreased pain and desensitized the perinenum region of the doe. A low epidural anaesthesia is essential before replacement of a uterine prolapse as it decreases straining and desensitizes the perineum (**Hanie, 2006**). The doe was sedated with xylazine ( 30 ml vial, 20 mg/ml) [ Indian Immunologicals, India] and 2% solution of lidocaine (Inj. Jasocaine® 2%,50 ml vial) [ Jayson Pharmaceuticals Ltd., Bangladesh] at 0.08 and o.06ml/kg body weight respectively which injected at first intercoccygeal space provided adequate analgesia to replace the prolapsed uterus. Injection of a combination of xylazine and Lidocaine (at 0.07 and 0.5 mg/kg, respectively) at the first intercoccygeal site is another option that will also provide adequate analgesia to permit replacement of uterine prolapse after 5 to 10 min (**Scott and Gessert, 1998**). Over dosage of the local anesthetic lidocaine can produce sedation. **(Lee VC *et al,* 1998).**

The uterine prolapse can be replaced with the animal in standing or recumbent position (**Hanie, 2006**).

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.

The doe was also in hypocalcaemic condition that’s why calcium gluconate (inj.Cal-D-Mag® vet 100ml vial) [ Reneta Animal Health Division., Bangladesh] @ 30 ml intramuscularly were given daily for 3 days.

As antibiotic Peniciline and Streptomycin combination (Inj. SP-Vet® 0.5 gm vial) [ Acme Laboratories Ltd., Bangladesh] @ 4ml were given intramuscularly daily for 5 days to protect secondary bacterial infection which may cause metritis. 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**).

Complications develop when lacerations, necrosis and infections are present or when treatment is delayed. Shock, hemorrhage and thrombo embolism are potential sequelae of a prolonged prolapse (**Noakes *et al.*, 2001**). Bleeding points in uterus in one of the animals suffering from uterine prolapsed were ligated using chromic catgut because it may cause anemia (**Patterson *et al* 1981**). The doe was anemic due to blood loss having uterine prolapsed. In case of uterine prolapse if the patient loss too many blood from the body that may cause severe anemia even the patient can death suddenly. **(Roberts, 1982)**

.

**Chapter-IV**

**Conclusion**

Uterine prolapse is an emergency condition and should be treated as soon as possible. It is a commonly encountered post calving complication. Delay in the correction can cause dehydration, bleeding, contamination and animal may die from dehydration. Occasionally, surgical intervention for laceration repair or complete amputation of the uterus may be indicated to save the animal.

.

**Chapter-V**

**Limitation**

**Unfortunately I could not include the pictures of hysterectomy. It would improve the quality of my report.**

**Chapter-VI**

**References**

Arthur, G.H., Noakes, D.E., and Pearson, H., (1982). Veterinary Reproduction and Obstetric. PP: 104-256.

Ayen, E., and Noakes, D.E., (1997). Displacement of the tubular tract of the ewe during pregnancy. *Veteriary Record.*  PP: 141(20): 509-512.

Borobia-Belsue, J., (2006). Replacement of rectal prolapsed in sows. *Veterinary Record*. PP: 380.

Fubini, S.L., and Ducharme, G.N., ( 2006). Surgical Conditions of the Post Partum Period. Text Book of Farm Animal Surgery. PP: 333-338.

Hanie, E.A., ( 2006). Prolapse of the Vaginal and Uterus. Text Book of Large Animal Clinical Procedures for Veterinary Technicians. PP: 218-221.

Hoise, B.D., Low, J.C., Bradley, H.K., and Robb, J., (1991). Nutritional factors associate with vaginal prolapse in ewes.*Veterinary Record.* PP: 128 (9): 204-208.

Hosie, B., (1993). Treatment of Vaginal Prolapse in Ewes. PP: 15: 10-11.

Jackson, P.G.G., (1995). Handbook of Veterinary Obstetrics. PP: 177-179.

Jackson, P.G.G., (2004). Postparturient Problems in Large Animals. Hand Book of Veterinary Obstetrics. PP: 209-231.

Low, J.C., and Sutherland, H.K., (1987). A census of the prevalence of vaginal Prolapse in sheep flock in a border region of Scotland. *Veterinary Record.* PP: 120(24): 571-575

Lee, V,C.*,* 1998, Sedation produces dose-dependent suppression of lidocaine-induced seizures in goat. [US National Library of Medicine](http://www.nlm.nih.gov/) [National Institutes of Health](http://www.nih.gov/). PP: 86(3):652-7.

Merck. (2005). Merk Veterinary Manual. PP: 1145-1150.

Noakes, D.E., Perkinson, T.J., (2001). Post Parturient Prolapse of the Uterus. Arthur’s Veterinary Reproduction and Obstetrics. PP: 333-338.

Plunkett, S.J., (2000). Vaginal Edema (Hyperplasia) or Prolapse and Uterine Prolapse. Text Book of Emergency Procedure for the Small Animal Veterinarian. PP: 217-218.

Patterson, D.J., Bellowsa, R.A., and Burfeningz, P. J., (1981). Effects of caesarean section, uterine prolapse on subsequent fertility in beef cattle. *Journal of Animal Science.* PP: 53(4): 916.

Roberts, S.J., (1982). Injuries and Diseases of the Puerperal Period. Text Book of Veterinary Obstetrics and Genital Diseases. PP: 300-340.

Scott, P., and Gessert, M., (1998). Management of ovine vaginal prolapse. PP: 20:28-34.

Sobiraj, A., (1990). Ante partum vaginal prolapse in the sheep. An unsolved problem. PP: 18(1): 9-12.