

A Comprehensive Overview on Genital Prolapse in Domestic Animals

A. Thangamani^{1,*}, Manda Srinivas¹, Borra Chandra Prasad²

¹Department of Veterinary Gynaecology and Obstetrics, NTR College of Veterinary Science, Gannavaram, Andhra Pradesh, India

²Department of Veterinary Clinical Complex, NTR College of Veterinary Science, Gannavaram, Andhra Pradesh, India

Abstract

The common prepartum and postpartum complication encountered in bovine species are vagino-cervical prolapse (VCP) and total uterine prolapse (TUP). In other species incidence of genital prolapse is rarely reported. Still debate for causes of genital prolapse is unpredictable. Reports from researcher revealed most probable cause for genital prolapse is hypocalcaemia associated with hormonal imbalance. Prolapse of the floor, the lateral walls and a portion of the roof of the vagina through the vulva with the cervix and uterus moving caused. Protrusion or eversion of the uterus through vulva is called as uterine prolapse. The present overview explained about incidence, aetiology, clinical signs and management of genital prolapse in animals. General management for prolapse includes 10 'R' principles that can be described in the present overview.

Keywords: Genital prolapse, prepartum, postpartum, 10 'R' principle, Buhner suture

***Author for Correspondence** E-mail: thangamtamil19@gmail.com

INTRODUCTION

The most probable genital prolapse encountered by obstetrician in field level is vagino-cervical prolapse (VCP) and total uterine prolapse (TUP). Both pre- and postpartum genital prolapse was encountered by the authors, with various degree of prolapse. Early intervention with obstetrical operation for genital prolapse will give good prognosis. The cause for the genital prolapse was multiple. The present overview explained about incidence, aetiology, clinical signs and management of genital prolapse in animals. General management for prolapse includes 10 'R' principles that can be described in the present overview.

VAGINO-CERVICAL PROLAPSE

The condition often spoken by the farmer as "casting of withers". Prolapse of the floor, the lateral walls and a portion of the roof of the vagina through the vulva with the cervix and uterus moving caused. Frequently the entire vagina and cervix are prolapsed through the vulva [1].

Incidence

Most common in cow and ewe observed in large dairy breeds HF and Brown Swiss. Brachycephalic dog prolapse of the vagina at the time of estrum. Practically unknown in cat.

Causes

Causes are probably multiple. It is observed in cow most commonly in the last 2 to 3 months of gestation when large amount of estrogenic hormone is secreted (Relaxation of pelvic ligament and oedema of the vulva). When cow lies down, intra-abdominal pressure is increased that is transmitted to the relaxed pelvic structure, causes prolapse, atony of the reproductive tract (calcium deficiency) and general weakness of the patient.

Hereditary and Genetic factor: Prolapse of the vagina is observed more commonly in pluripara than primiparous. Occurs when great traction is applied while relieving dystocia (postpartum VCP). Over distention of the abdomen or excessive amount of loose pelvic fat is associated with cystic ovarian condition. In

bitches vaginal prolapse occur at pro-estrus and regress during diestrus. Feed contain high level of mold (contains estrogen) [1, 2].

Symptoms

1. Mild protrusion of the vaginal mucus membrane through the vulvar lips when the cows lie down.
2. Severe necrotic VCP containing a distended bladder and complicated by a prolapse of the rectum due to constant tenesmus.
3. In mild cases the prolapsed vaginal wall returns to proper position when cow rises.
4. Oedema of the prolapsed vagina and cervix occur because of irritation and trauma to the exposed mucous membrane and because this portion drops over the ischial arch thereby causing a passive venous congestion.
5. The cervical seal is usually intact.
6. Constant straining may cause a fast, weak pulse, anorexia, rapid loss of weight, general body weakness, and death of the foetus.

Differential Diagnosis

Bartholin gland cyst, haematoma of the vulva, tumour of the vulva or vagina, eversion of the bladder, and prolapse of perivaginal fat.

Prognosis

Depend upon the severity of the condition and length of the time it has excised.

Treatment

Roberts [1] reported that following management methods are used to manage the genital prolapse.

1. *Mild cases*: Cow should be removed from a stanchion and placed in a Box stall. Elevate the rear part of the cow in a stanchion.
2. *Progesterone therapy*: The use of 50–100 g of progesterone i/m daily or 500 g of repositol once every 10 days has been advocated for prolapse of vagina.
3. *Unilateral Pudental Neurectomy*: Advocated for the relief of difficult case of vaginal prolapse.
4. *Vulvar Truss*: It is of practical value in controlling prolapse of the vagina in dairy cattle confined in stanchion.

5. *Pessaries* which are popular in Europe consist of a long narrow wine bottle inserted into the vagina after replacement.
6. *Vulval tape retention suture* should be placed 2–3 inches lateral to the vulvar lips in the hair line.
7. *Buhner's method/Buried purse*—String type of suture: Its technique is used when chronic postpartum prolapse occur.
8. *Modified Caslick's operation*: Prevent wind sucking condition in mare.
9. *Minchevs Method*: Surgically fastening the cranial portion of the vaginal wall through the lesser sciatic foramen to the dorsal lateral wall of the sacro-sciatic ligament, muscle, and skin of the croup.
10. *Winklers Method*: Fixation of the cervix to the prepubic tendon.
11. *Farquharson Method*: This consists of a submucosal resection of the oedematous, devitalised mucous membrane from the prolapsed portion of the vagina.
12. *Whipples Operation*: Removal of the large amount of the perivaginal fat. It is the treatment for prolapse of vagina in bitches.

UTERINE PROLAPSE OR TOTAL UTERINE PROLAPSE

Protrusion or eversion of the uterus through vulva is called as uterine prolapse. Synonyms: *Casting of the Calf Bed* [1].

Incidence

It is most commonly observed in cow and ewe; occasionally in sow; rarely in dog, cat and mares. It occurs most often immediately after parturition. In rare cases it may occur 48–78 h after parturition. Dogs may be the rare cases of prolapse of one horn while foetuses are still in the other horn [3, 4].

Predisposing Factors

- Long mesometrial attachment; violent or strong tenesmus; and a relaxed, atonic, flaccid uterus.
- Excessive relaxation of the pelvic and perineal region.
- Removal of placenta that is attached to the ovarian pole of the gravid horn.
- Confined or stable animal during winter month (lack of exercise).

- Forced extraction of foetus during handling of dystocia [5].
- Most commonly found in pluriparous dairy cow (excessive relaxation).
- In milk fever the atonic uterus predisposes for prolapse (increased abdominal pressure of labour).
- Eating of clover leaf (contains estrogen hormone causes hyperestrogenism).
- A low plan of nutrition [1].

Symptoms of Uterine Prolapse

1. The animal usually recumbent but may be standing, with the uterus hanging upto the level of hocks.
2. Retention of placenta likely.
3. The foetal membranes and/or mucous membrane of the uterus is exposed (Grapes like caruncles with reddish appearance) and usually covered with faeces, straw, dirt or blood clots unless of very recent occurrence.
4. The uterus is usually enlarged and oedematous, especially if the condition existed for 4–6 h or longer [6].
5. In cows the gravid horn prolapse or everts sufficiently, so that the cervix is usually present at the vulva (the non-gravid horn held inside the peritoneum).
6. The mass size slowly increases due to distention of bladder with urine (due to kinking of the urethra) [1].

Systemic Signs

If there is severe bleeding due to rupture of uterine vessels, very rapid, weak pulse; Irregular, rapid respiratory rate; pale mucous membranes, expiratory grunt and prostration with severe and inability to rise occur indicating serious complication.

Prognosis

If attempted early and uterus is not severely injured, the prognosis is good. The animals' future breeding history may be good or poor depending upon the severity of the uterine lesions, the promptness of treatment and the rate of involution. If the uterus is grossly contaminated or dried due to exposure to sun or if laceration are present the prognosis is more guarded due to possibility of developing a

septic metritis, perimetritis or peritonitis; future breeding is questionable.

Treatment Protocol

The treatment or handling of prolapse of the uterus in cow can be made much easier if the owner is instructed to wrap the cow's uterus in a wet towel or sheet or to place it in a plastic bag to keep it moist and clean until replaced. If the cow is standing the uterus should be raised and supported level with the vulva until assistance arrives (This prevents the uterus from becoming oedematous and may possibly prevent the rupture of uterine vessels).

GENERAL PRINCIPLES FOLLOWED FOR MANAGEMENT OF VAGINO-CERVICAL PROLAPSE AND TOTAL UTERINE PROLAPSE

The principle for handling of genital prolapse is 3 'R' Principle (Reduction, Reposition, Retention). For students' easy understanding general protocol for management of genital prolapse is modified into 10 'R' Principle.

10 'R' Principle for Management of VCP and TUP	
1	Remove the dirt, dust, dung material from the prolapsed mass manually or with tap water.
2	Rinse the prolapsed mass with Potassium Permanganate antiseptic solution (KMnO ₄) thoroughly.
3	Relieve the urine from bladder through urinary catheter (IV set tube) or by lifting the prolapsed mass upward (urine can be evacuated due to straightening of the urethra while lifting the mass).
4	Restrain the animal in trevis by epidural analgesia induced with 5 ml of 2% Lignocaine hydrochloride @ Sacro-Coccygeal space or intercoccygeal space.
5	Reduction of oedema of the prolapsed mass with applying hypertonic solution (powdered salt, sugar solution) or spraying with POP in spray or pouring of cold water or applying ice cubes followed by suturing the lacerated part, if present.
6	Reposition of the uterus, cervix and vagina in their normal anatomical position by manual fist pressure over the prolapse mass.
7	Retention suture applied (vulval tape retention suture or Buhner's Suture / Buried purse string suture) to prevent the recurrence of genital prolapse.
8	Reduce the feed and water for 3–4 days to prevent the overloading of rumen which exert pressure over the pregnant uterus in prepartum prolapse cases.
9	Reduce the roughage diet and increase the concentrate diet such as bran to prevent the constipation problem (constipation will increase the straining).
10	Remove the suture according to the severances of the case. Maximum time limit for removal of the suture is 7–10 days.

Post Prolapse Management

1. *Antibiotics*: Bisterpen or Dicrysticin 5.0 g i/m for four days or long acting Enrofloxacin 20–30 ml i/m.
2. *NSAID's*: Flunixin 7–8 ml i/m for three days or Meloxicam 12–15 ml i/m for three days.
3. *Anti-histaminic*: Chlorphenaramine maleate (CPM) or Avil 15–18 ml i/m.
4. *Ecbolics*: Oxytocin to restore the myometrial activity. About 20–25 IU i/m on the first day of treatment.
5. *Calcium therapy*: CBG 200–250 ml i/v first day, Osteovet forte 100 ml p/o daily for 10 days.
6. *Involution drug*: Involon bolus (2 boli/day for five days). If prepartum genital prolapse-prolapse in Boli 1 box (2 boli/day).
7. *Fluid therapy*: DNS, RL, Rintose, Multiple electrolyte solution (MES) i/v, if required.

REFERENCES

1. Roberts SJ. *Veterinary Obstetrics and Genital Diseases*, 2nd Edn. New Delhi, India: C. B. S. Publishers and Distributors; 1980. 189–96p.
2. Noakes DE. Parturition and the care of parturient animals. In: Noakes DE, Parkinson TJ, England GCW (Eds.). *Arthur's Veterinary Reproduction and*

Obstetrics, 9th Edn. Philadelphia: W.B. Saunders; 2009. 146–53p.

3. Kumar A, Das S, Mohanty DN. Postpartum complete uterine prolapse in a non-descript cow and its therapeutic management—case report. *International Journal of Science, Environment and Technology*. 2016; 3(5): 1707–10p.
4. Ghodasara SN, Savsani HH, Ahlawat AR, et al. Management of post-partum complete uterine prolapse in a Gir cow and a Jaffrabadi buffalo. *Buffalo Bulletin*. 2014; 33: 143–5p.
5. Senthilkumar A. Clinical management of post-partum total uterine prolapse following excessive traction during delivery of kid in a nondescript goat. *IOSR-JAVS*. 2014; 10: 09–11p.
6. Sharma S, Dhama AJ. Management of postpartum uterine prolapse in a cow. *Indian Journal of Field Veterinarians*. 2007; 3: 14–15p.

Cite this Article

Thangamani A, Srinivas M, Prasad BC. A Comprehensive Overview on Genital Prolapse in Domestic Animals. *Research & Reviews: Journal of Veterinary Science and Technology*. 2018; 7(2): 1–4p.