Case Report

A COMPARATIVE STUDY OF MANUAL REDUCTION AND OVARIOHYSTERECTOMY IN POSTPARTUM UTERINE PROLAPSE OF DOMESTIC CATS

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ABSTRACT

Uterine prolapse in cats of twelve clinical cases brought to the Madras Veterinary College Teaching Hospital with a history of cats queened recently, severe straining, anorexia, pyrexia and round red swollen edematous mass protruding through the vulva were used for the present study. Based on the clinical examination, the cases were diagnosed as uterine prolapse either unilateral or bilateral horns. Ovariohysterectomy (n=6) was performed in six delayed cases and manual reduction (n=6) was done in six fresh cases. Cats that underwent surgery recovered uneventfully after one week of postoperative management. Manually reduced cases also recovered after one week of medical management.

Key words: Uterine prolapse, Ovariohysterectomy, Manual reduction

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INTRODUCTION

Uterine prolapse is the eversion of the organ as it everts past the cervix into the vagina. Both horns may protrude from the vulva or the prolapse may include the uterine body and one horn (Sharma *et al.,* 2019). Cats rarely experience uterine prolapse, which is rather an unusual parturition problem (Ozyurtlu and Kaya, 2005). Excessive relaxation of pelvic musculature, complete dilatation of the cervix, metritis-related uterine atony, inadequate placental membrane separation, severe tenesmus and rupture of the mesovarium and mesometrium are the potential reasons for the uterine prolapse. These mechanisms occur during the strong contractions brought on by the release of oxytocin during parturition (Roberts and Straw, 1988). Amputation of the everted uterus, manual reduction and repositioning per vaginal and manual reduction of the prolapse

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through a laparotomy incision, followed by ovariohysterectomy is the treatment options documented so far (Newman, 1961 and Johnston *et al*., 2001).

CASE HISTORY AND OBSERVATIONS

Twelve cats brought with a history of queened recently, anorexia, pyrexia, lethargy; dull and depressed with some mass protruding through the vulva. Six out of twelve cases were brought in delayed condition (n=6) with red swollen tubular mass protruded out with necrotic areas. The remaining six were brought immediately (n=6) after the tubular mass protruded out. All twelve cases were examined clinically and the cases were diagnosed as uterine prolapse. In all the twelve cases blood samples were collected for hematological and biochemical evaluation. All the blood parameters were within normal range.

TREATMENT AND DISCUSSION

The animals were stabilized with Ringer lactate 10 ml/kg b.wt IV, Inj. Ceftriaxone 20 mg/kg b.wt IV, Inj. Meloxicam 0.2mg/kg b.wt SC, Inj. Chlorpheneramine maleate 0.5 mg/kg b.wt IM. The prolapsed mass was washed with normal saline and povidone-iodine (10:1 ratio). Six cases that were brought immediately with prolapsed mass were sedated with a single dose of inj. Xylazine 1 mg/kg and Inj. Ketamine 10 mg/kg IM and thoroughly washed the prolapsed mass with lukewarm water followed by normal saline and Inj. Metronidazole. K-Y lubricant jelly and Lignocaine jelly were liberally applied over the mass to provide lubrication and analgesia, respectively (Fig. 1). The mass was lifted and held in one hand and at the same time, slight pressure was applied on one horn of the uterus using another hand. Once one horn was completely reduced into the vagina, the other horn was also reduced in the same manner. Reduced mass was repositioned in the pelvic cavity using the finger as well as by flushing normal saline in the uterine lumen. Further recurrence of prolapse was prevented by using a purse string stay suture with 2/0 polymide (Fig 2). Oxytocin one IU/kg body weight was given intramuscularly to prevent the recurrence of prolapse. Six cats which were brought delayed and not able to reduce and reposition because of swollen oedematous mass with some necrotic tissue (Fig. 3). These cases were aseptically prepared and premedicated with Inj. Xylazine 1mg/kg and Inj. Ketamine 5 mg/kg IM. Anesthesia was induced with Inj. Ketamine (5 mg/kg) and Diazepam (0.2 mg/kg) mixed and maintained with the same dose used for induction. The prolapsed swollen edematous necrotic uterine mass was rewashed with normal saline and povidone antiseptic solution (10:1 ratio). The prolapsed mass was repositioned by laparotomy in the ventral midline approach and ovariohysterectomy was performed as per standard surgical technique (Fig. 4). In all the cases, the muscle layer was closed by continuous lockstitch and subcutaneous by continuous suture technique by using PGA 2/0 and cross mattress for skin by using Polyamide 2/0. Surgery performed cats recovered uneventfully after one week of postoperative management with a single dose

Fig. 1. Fresh case of total uterine prolapse

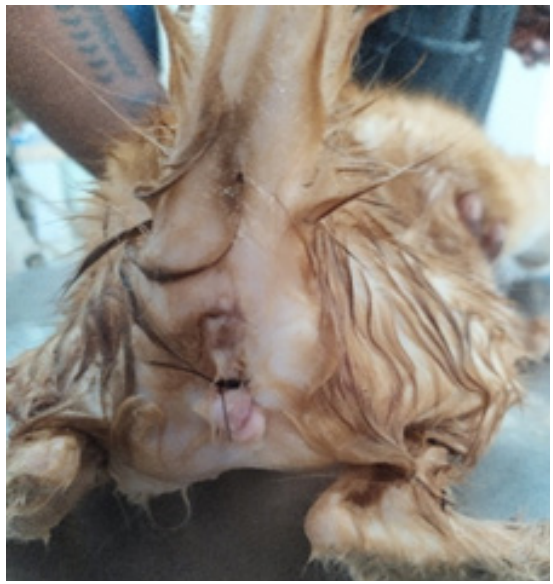

Fig. 2. Purse string stay suture after manual reduction of total uterine mass

Fig. 3. Delayed case of total uterine prolapse with necrotic areas

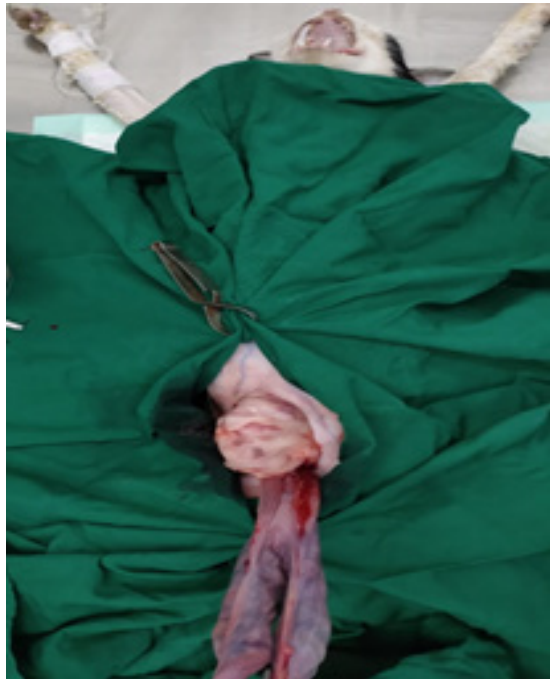

Fig. 4. Ovariohysterectomy after reduction of total uterine prolapse mass

of Inj. Cefovecin sodium 8mg/kg S/C and alternate days dressing.

Three out of six cases in which manually reduced were treated for inappetence with Inj. Ringers lactate 10 ml/kg b.wt. IV and Inj. Tribivet 0.2 ml IM for three days and the cats recovered following three days of therapy. Two cases with vaginal discharge and elevated neutrophils recovered after one week of antibiotic treatment with oral suspension dry syrup Cefpet (Cefpodoxime Proxetil 10 mg/kg) per os. One case with severe straining stopped after two days of Inj. Meloxicam 0.2 mg/kg b.wt SC and Inj. Chlorpheniramine maleate 0.5 mg/kg b.wt IM.

In queens, the cause of uterine prolapse is unknown. It is believed to happen because of lowered myometrial tone, which could cause the uterus to constrict and a portion of the wall to migrate towards the pelvic inlet (Murphy and Dobson, 2002). An easy way to diagnose uterine prolapse is by observation. To rule out the possibility of any abdominal contents, such as the urinary bladder or abdominal viscera, the exposed uterus must be palpated (Miesner and Anderson, 2008). To determine the location of the urine bladder and the intestine and to rule out the presence of another kitten in the belly, an ultrasound examination of the abdomen and the prolapsed mass can be done (Deroy *et al*., 2015). Urethral blockage, urine incontinence, uterine rupture, cystic endometrial hyperplasia and pyometra are all likely side effects of manual reduction (Wallace *et al.,* 1970). The degree of uterine damage determines the course of treatment for uterine prolapse (Derroy *et al*., 2015). Treatment options include amputation of the prolapsed uterus, manual reduction, repositioning via abdominal palpation and the local application of oxytocin and hyperosmotic serum (50% dextrose), manual reduction through a laparotomy incision and ovariohysterectomy, depending on the severity of the ischemia, necrosis, damage and oedema of the prolapsed tissue (Biddle *et al.,* 2000).

CONCLUSION

In the present study reduction of the prolapsed mass was carefully by repositioning and followed by performing ovariohysterectomy with post-operative antibiotic therapy with a single dose Inj. Cefovecin sodium was found to be successful when compared to manual reduction.

REFERENCES

Biddle, D.W. and Macintire, D.K. (2000). Obstetrical emergencies. *Clinical Techniques in Small Animal Practice,* **15**: 88-93.

Deroy, C., Bismuth, C. and Carozzo, C. (2015). Management of complete uterine prolapse in a cat. *Journal of Feline Medicine and Surgery Open Reports*, **1**: 1-4.

Johnston, S.D., Kustritz, M.V.R. and Olson, P.N.S. (2001). The Postpartum Period in the Cat. *In: Canine and Feline Theriogenology, W.B. Saunders Company, Philadelphia*. pp. 442.

Miesner, D.M. and Anderson, D.E. (2008). Management of uterine and vaginal prolapse in the bovine. *Veterinary Clinical Food Animal Practice*, **24**: 409 - 419.

Murphy, A.M. and Dobson, H. (2002). Predisposition, subsequent fertility, and mortality of cows with uterine prolapse. *Veterinary Records*, **151**: 733 – 735.

Newman, M.A.H. (1961). Prolapse of uterus in the bitch and the cat. *Veterinary Records,* **73**: 680.

Ozyurtlu, N. and Kaya, D. (2005). Unilateral uterine prolapse in a cat. *Turkish Journal of Veterinary and Animal Sciences*, **29**(3): 941 - 943.

Roberts, D. and Straw, R.C. (1988). Uterine prolapse in a cat. *Compendium Small Animal,* **10**: 1294 -1296

Sharma, A., Sharma, R., Kumari, A. and Saini, D. (2019). Ovariohysterectomy followed by hysteropexy of gravid uterine prolapse in a female cat-a case report. *Veterinary Research International*, **7**: 76 -78.

Wallace, L.J., Henry, J.D. and Clifford, J.H. (1970). Manual reduction of uterine prolapse in a domestic cat. *Veterinary Medicine Small Animal Clinician,* **65**: 595 - 596.