

External hysterectomy to treat uterine prolapse in a domestic cat

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ABSTRACT: Uterine prolapse is the eversion of the uterus through the cervix into the vagina. This is a rare postpartum complication in cats. This report aims to describe the clinical presentation, diagnosis, and surgical management of uterine prolapse. A 2-year-old female domestic cat presented with bicornuate uterine prolapse protruding through the vulva. The cat had a history of parturition, and the prolapse occurred soon after the birth of the third kitten. The uterine prolapse was treated with external hysterectomy and ovariectomy. Postoperative care included administration of the antibiotic cefotaxime sodium with anti-inflammatory meloxicam. One week after surgery, the cat had fully recovered, and no complications were reported.

Keywords:

uterine prolapse, hysterectomy, ovariectomy, cat

INTRODUCTION

Uterine prolapse is the eversion of the uterus through the cervix into the vagina. This is a rare complication of parturition in cats (Deroy *et al.* 2015). Uterine prolapse can occur immediately or up to 48 h after the delivery of the last neonate or may be associated with underlying genital system disorders (Valentine *et al.* 2016). Prolapse can be categorized into two forms: complete (bilateral), in which both uterine horns are exteriorized, and unilateral, in which one uterine horn with or without the uterine body is prolapsed (Sharma *et al.* 2019). Complete uterine prolapse has been reported in cats aged between 10 months and 6 years, with an incidence rate of less than 0.03% (Ucmak *et al.* 2018; Senna *et al.* 2015). Uterine prolapse is considered a medical emergency that requires immediate intervention to prevent edema, contamination, and trauma to the uterine mucosa. This report provides a comprehensive overview of the clinical presentation, diagnosis, and surgical management of uterine prolapse in a domestic cat. This report aimed to serve as a reference for veterinary practitioners who encounter this condition.

CASE

Anamnesis and Signalment: A 2-year-old female domestic cat weighing 4 kg presented to the Veterinary Surgery Laboratory, Faculty of Veterinary Medicine, Udayana University, Denpasar Indonesia, with a history of a red-colored mass protruding through the vulva. According to the owner, the mass extended beyond the vulva and remained hanging outside following the birth of the three kittens. The cat was brought to the laboratory two days after the prolapse was first noticed, by which time its condition had deteriorated, characterized by a strong foul odor and loss of

appetite and drinking behavior. **Physical Examination:** The cat appeared depressed with pale mucous membranes, CRT > 2 s, and mild dehydration. The cat exhibited complete uterine prolapse with both uterine horns protruding from the vulva. The uterus was congested and edematous, with areas of necrosis. Vital sign assessment revealed hyperthermia with a rectal temperature of 39.5°C, increased heart rate of 180 beats per minute, and respiratory rate of 24 breaths per minute. **Diagnosis:** Complete uterine prolapse. **Treatment:** External hysterectomy and ovariectomy.

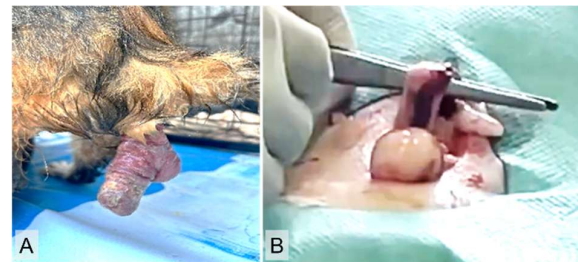


Figure 1 Complete uterine prolapse (A). Ovariectomy: ligation of the ovary pedicle (B). Note: the ovary is located in the caudal of abdomen near the urinary bladder

Surgical Management: Premedication was administered with atropine sulfate at a dose of 0.03 mg/kg BW, SC. After 10 min, anesthesia was induced with a combination of Xylazine and Ketamine at doses of 2 mg/kg BW and 20 mg/kg BW, respectively, IV. The ventral abdomen was cleaned with 70% alcohol and povidone-iodine. The

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prolapsed organs were cleaned with normal saline to remove any debris. Ventral midline laparotomy was performed for ovariectomy.

An incision was made at the caudal abdomen as the ovaries were drawn caudally due to uterine prolapse. The prolapse was opened near the vulva, just caudal to the urethral meatus, to expose blood vessels in the uterus. The uterine artery was then ligated with chromic catgut 3/0 and the uterus was incised at the cranial portion for removal. The uterine stump was closed with a continuous simple suture pattern using chromic catgut 3/0 and was reduced into the abdomen. The vulva was sutured using a horizontal mattress pattern without tightening, to allow normal urinary drainage. The peritoneum and linea alba were closed with simple interrupted sutures using chromic catgut 3/0. The subcutaneous tissue was closed with a subcuticular suture pattern, and the skin was sutured using a simple interrupted pattern, both with chromic catgut 3/0.

Postoperative care included 0.9% sodium chloride fluid therapy, antibiotics, and anti-inflammatory treatments. The antibiotic used Cefotaxime was administered intravenously at a dose of 20 mg/kg BW. Anti-inflammatory tolafenamic acid was administered at a dose of 4 mg/kg BW, SC. Home treatment was prescribed Cefixime tab at a dose of 10 mg/kg BW PO q12h and meloxicam tab at a dose of 0.1 mg/kg BW PO q24h for 5 days.

■ RESULTS AND DISCUSSION

The cat recovered well, with normal body temperature, heart rate, and respiratory rate. Appetite improved, urination returned to normal, and there was no discharge from the vulva. One week later, the owner reported no further complications.

The etiology of uterine prolapse is not yet fully understood. However, it is suspected to result from decreased myometrial tone, excessive stretching of the pelvic muscles, dystocia, cervical dilation, uterine atony, incomplete placental membrane detachment, severe tenesmus, mesovarian weakness, and rupture of the mesometrium (Sabuncu *et al.* 2017; Jarolmasjed 2017; Bigliardi *et al.* 2014). In this case, uterine prolapse occurred immediately after birth of the last kitten. No direct causative factors were identified, but it is suspected to be related to a decrease in myometrial tone, which allows uterine eversion and results in part of the uterine wall moving towards the vagina (Deroy *et al.* 2015).

Ovariohysterectomy is recommended when the uterus shows severe tissue damage, devitalization, or vascular damage to ligaments (Jarolmasjed 2017; Deroy *et al.* 2015; Fossum 2013). Postoperatively, urination must be monitored, because swelling and pain can cause urethral obstruction (Deroy *et al.* 2015). Monitoring for complications must include the possibility of bleeding, shock, dehydration, infection, and

recurrence. If dysuria or anuria occurs, urinary catheterization should be performed (Fossum 2013). Additionally, administration of antibiotics and anti-inflammatory drugs is necessary to prevent infection and inflammation post-surgery.

■ CONCLUSION

Surgical management with external hysterectomy and ovariectomy for uterine prolapse has shown good results, without complications, in cats.

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