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Surgical management of feline uterine prolapse: a report of two cases

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Uterine prolapse is an uncommon obstetrical emergency that occurs in felines (Deroy *et al*., 2015). Prolapse occurs immediately or up to 48 hr after the last neonate is delivered, and it can be complete (bicornuate) with both horns protruding from the vulva, or partial with only the uterine body and one horn protruding (Deroy *et al*., 2015). The present report describes the management of uterine prolapse in two cats.

Case 1 was a 9-month-old primiparous Bengal cat weighing 2.5 kg, which had delivered two kittens (one alive and one stillborn) without any assistance. Immediately after the delivery of the second kitten, the protrusion of a red mass through the vagina was noted. On reporting, physical examination revealed that the cat was depressed, hypothermic (98.7°F), and slightly dehydrated. The heart rate (140 beats/min) and respiratory rate (40 breaths/min) were within the normal physiological range. The mucous membranes were pink. The uterine prolapse was complete (bicornuate) with both the uterine horns protruding from the vulva (Fig. 1). Grossly the prolapsed mass was oedematous, congested, and covered with debris. An ultrasonographic examination revealed one live foetus in the uterus.

Case 2 was a one-year-old primiparous Persian cat weighing 3.5 kg, which had delivered five kittens without assistance. Three days later, the cat was presented with a two-hour history of uterine prolapse (Fig. 2). On physical examination, the cat was alert and responsive but lethargic. The cat was mildly dehydrated with slightly pale mucous membranes. The vital parameters were within the normal physiological limits (rectal temperature 100.7^0 F, heart rate 133 beats/min and respiratory rate 43 breaths/min). The uterine prolapse was incomplete with only one uterine horn protruding from the vulva. The prolapsed uterus was congested, oedematous, and covered with debris. During the ultrasound examination, only one uterine horn was identified, no foetus was detected and the urinary bladder was distended with urine.

The prolapsed uterine mass in both cases was cleaned with an antiseptic solution (povidone-iodine 5%) to remove the debris, lavaged with a hyperosmotic solution (20% dextrose) to reduce swelling and oedema. Complete blood count and serum biochemical analysis were performed (Table 1). It was advised for ovariohysterectomy, but both the animal owners denied it as the cats were of breeding value.

Fig. 1: Case 1- Bengal Cat with bicornuate uterine prolapse

Fig. 2: Case 2- Persian cat with prolapsed uterine horn

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The cats were premedicated with atropine sulphate (0.05 mg/kg body wt, s.c.) and buprenorphine (0.02 mg/kg body wt, i.v.). Sedation was achieved with a combination of triflupromazine HCl (2 mg/kg body wt) and ketamine HCl (20 mg/kg body wt) administered intramuscularly. In case 1, general anaesthesia was induced with propofol (5 mg/kg body wt) intravenously and maintained with the same till effect. After aseptic cleaning, the prolapsed uterine mass was manually reduced. Subsequently, a mid-line laparotomy was performed and the gravid uterus with a foetus in the right horn was exteriorized. A caesarean section was performed and one live foetus was delivered. The abdominal cavity was examined for any signs of haemorrhage and lavaged with warm saline. The abdominal wall was closed using a No. 1-0 absorbable braided Vicryl suture in simple continuous pattern. The skin incision was closed using 1-0 non-absorbable monofilament Prolene suture in horizontal Mattress pattern. In case 2, the manual reduction was achieved after sedation without the need of urinary catheterization. Apposition of the vulvar lips was achieved with a simple interrupted suture without tightening to allow vulvar discharge and urination. This stay suture was left in place for 5 days to prevent the vulvar lips from opening and allowing the prolapse to recur.

Both queen cats recovered uneventfully. Postoperative treatment included the use of an Elizabethan collar, intravenous fluid therapy, antibiotic (Ceftriaxone, 12.5 mg/kg, b.i.d), narcotic analgesic (Tramadol; 2 mg/kg 2-3 times a day) for five days. Postoperatively the cats were bright and alert, and urinated normally with no evidence of discharge from the vulva, and no reoccurrence of prolapse was noted in both cases when followed up to two months.

Uterine prolapse necessitates immediate intervention and represents an obstetric emergency due to the possibility of life-threatening situations such as hypovolemic or septic shock caused by uterine vein or uterine mucosa rupture, or to maintain fertility by preventing further uterine damage (Özyurtlu and Kaya, 2005). To prevent further prolapse, the uterus may be attached to the abdominal wall. Though several techniques have been described in humans, colposuspension is well described in veterinary medicine, and it can be used to prevent recurrence and maintain continence in the treatment of uterine prolapse (Holt, 1990). The present cases were brought to the clinic almost immediately after the occurrence of prolapse, hence the prolapsed mass was not devitalised, lacerated, or necrotic. As a result of which easy reduction was possible without causing much damage to the prolapsed mass. The early detection and repositioning of the uterine prolapse led to a successful recovery and the preservation of fertility.

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