Ovariohysterectomy Followed By Hysteropexy of Gravid Uterine Prolapse in a Female Cat - A Case Report

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Abstract

A young female cat was presented with a protrusion of the uterus through the vulvar lips. The cat had a history of recent parturition, with delivery without incident of three kittens more than 48 h earlier. Ultrasonography revealed no fetus in the uterus. The protruding uterus was necrosed associated with mucosal trauma so performed ovariohysterectomy followed by hysteropexy. The day after surgery, the queen was healthy with no evidence of vulvar discharge. One month later, the owner reported that the queen was clinically normal with no recurrence of clinical signs.

Keywords: Cat, Uterine prolapse, Ovariohysterectomy, Hysteropexy.

1. Introduction

Uterine prolapse is a relatively uncommon complication of parturition, occurring infrequently in cats (Ozyurtlu and Kaya, 2005). Uterine prolapse is essentially an eversion of the organ, which turns inside out as it passes through the cervix into the vagina. The prolapse can be complete, with both horns protruding from the vulva, or limited to the uterine body and one horn.

2. Case History and Diagnosis

A 6-year-old female Ocicat weighing 3.0 kg was presented to our emergency unit with more than 48 hours history of uterine prolapse. The queen had given birth to three kittens, which were all alive and of normal size. On physical examination blackish decolourization in some part of the body and horns of uterus indicated local haemorrhage and necrosis due to rupture of blood vessels (Fig 1a). There was moderate abdominal straining with slightly decreased rectal temperature (37.1°C) and heart rate. Except hyperglycaemia all other blood parameters were normal in range (Table 1). Ultrasound examination of the abdomen and the uterine prolapse revealed that the position of the urinary bladder and the intestine was normal (Fig 1b) and additional kitten was found in the abdomen. Lactated Ringer’s solution was administered through a 25 G cephalic catheter at a rate of 10 ml/kg/h. Pre-anesthesia was done by dexmedetomidine (DEXDOMITOR 0.5 mg/ml, Orion Pharma, Finland - Distributed by Zoetis) 0.1 ml intramuscular (Zoetis, 2013) followed by propofol at 5 mg/kg. An endotracheal tube was inserted and anaesthesia was maintained with isoflurane and oxygen at 100%. At induction, 20 mg/kg amoxicillin clavulanic acid (Augmentin; GlaxoSmithKline) was administered intravenously at the beginning and again at the end of the surgery. The queen was positioned in dorsal recumbency. The ventral abdomen, perineal zone and tail were clipped. A purse string suture was performed on the anus during the surgery. Gross debris was removed from the prolapsed organ by irrigation with warm saline water and did ice compression (Fig 1c) for a while before bandaging the tail. A bandage was placed around the tail and the cat was prepared for aseptic surgery.

3. Surgical Manoeuvres

At first, it was attempted to reposition the uterus manually after doing 20-30 minutes of direct cold compression over the affected part. After getting no chance of putting uterus back team decided to go for surgery. A midline laparotomy was made and gentle retraction of the uterine body from inside the abdomino-pelvic cavity along with propelling the uterus from outside by putting finger into the prolapsed section was done. After successful attempt it was revealed that the left uterine horn telescoping into the section immediately ahead of it (Fig 2). The uterine arteries were ligated. The uterus was then excised on the uterine body. The stump of the uterus was closed with a simple continuous pattern suture followed by attaching the uterine stump with the peritoneum (Fig 3) because the prolapsed mass was so extensive that even after ovariohysterectomy the stump remained relaxed with tendency to prolapse into vagina. This warranted for hysteropexy, which was performed by pexing (Feldman and Nelson, 2004).
Table 1: Haematological and biochemical parameters

<table>
<thead>
<tr>
<th>Haematological Parameters</th>
<th>Serum Biochemical Analysis</th>
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<tbody>
<tr>
<td></td>
<td>Result</td>
</tr>
<tr>
<td>Hgb (g/dL)</td>
<td>12.1</td>
</tr>
<tr>
<td>HCT (%)</td>
<td>38.2</td>
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<tr>
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<td>11.0</td>
</tr>
<tr>
<td>RBC (X10^12/L)</td>
<td>6.25</td>
</tr>
<tr>
<td>PLT (X10^9/L)</td>
<td>193</td>
</tr>
</tbody>
</table>

The stump of incised uterus was fixed with ventral abdominal wall. The abdominal cavity was examined for evidence of haemorrhage and lavaged with warm saline. The abdominal wall was closed in routine manner. Post operative wound was covered with protective bandage and injection of cefotaxim (Britax, Brihans) @ 5 mg per kg body weight and meloxicam oral suspension (Metacam 0.5 mg/ml) @ 0.05 mg per kg body weight once daily given for 2 days. The cutaneous wound was dressed with povidine iodine 5% lotion on 3rd, 5th and 7th postoperative days along with protection with bandage. The cutaneous sutures were removed on 10th postoperative day.

4. Results and Discussion

On next day of operation the animal appeared in better condition with normal rectal temperature and heart rate. The queen has started eating and drinking from second day of operation and recovered completely within one month. Uterine prolapse is relatively uncommon (Feldman and Nelson, 2004; Stone, 2003). Ekstrand and Linde-Forsberg (1994) reported it as accounting for 0.6% of the maternal causes of dystocia. The aetiology of uterine prolapse is unknown in queens. It is thought to occur as a result of decreased myometrial tone that may allow the uterus to fold in and permit part of the wall to move towards the pelvic inlet (Murphy and Dobson, 2002). Dystocia and increased straining, which may be caused by prolonged queening, incomplete placental separation, pain or discomfort after parturition, probably lead to uterine prolapse (Anderhust, 1975; Maxson and Krausnick, 1969). The cervix must be dilated and the uterine ligaments must have a high laxity or be ruptured for uterine prolapse to occur. In the present case, no direct causative factor was identified, but it was likely
associated with the first hypothesis because the owner did not describe straining after parturition. Uterine prolapse requires immediate attention and represents an obstetric emergency. To decrease the risk of uterine artery rupture or avulsion from the internal iliac leading to fatal haemorrhage, activity should be restricted until the prolapse is repaired (Miesner and Anderson, 2008). Gross debris contaminating the prolapsed tissue should be removed by washing, preferably with a hypertonic solution. Topical application of osmotic agents has proven to be effective in reducing and preventing the oedema that rapidly accumulates within the prolapsed tissue (Miesner and Anderson, 2008). The uterus may be attached to the abdominal wall to prevent further prolapse (Hopper, 2007). In humans, the surgical management of uterine prolapse requires an apical suspension procedure, with or without uterine removal. Several methods have been described, including sacral colpopexy, vaginal sacrospinous ligament suspension, sacrospinous hysteropexy and sacral hysteropexy (Maher et al., 2004). The colposuspension, well described in veterinary medicine, can be performed in the management of uterine prolapse to prevent recurrence and to maintain continence (Holt, 1990).

4. Conclusion
While rare, uterine prolapse should be managed as an emergency because of the risk of uterine rupture, haemorrhage and necrosis even with immediate attempts to reduce the oedema. Hysteropexy is the ideal way to prevent the reoccurrence after the ovariohysterectomy in cats.

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References