

Case Report

Unilateral Uterine Torsion in a Pregnant Cat

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Abstract

A 7-year-old female Shirazi cat was referred by a private clinic to the Department clinic of Veterinary Surgery, Anesthesiology and Radiology, Faculty of Veterinary Medicine, Zagazig University with a history of lethargy, anorexia and confirmed pregnancy by ultrasonography. Clinical examination of the case showed acute abdominal pain and abdominal distention with a bloody vaginal discharge. The radiographic image revealed a tubular soft tissue opacity. Upon stabilization of the case surgical approach by exploratory laparotomy to observe a 90o degree twisted left horn, congested blood vessels and dark red, soft, edematous uterine horn. ovariectomy was performed. Fluid therapy and antibiotics were administered, the case survived and regained appetite a few days post-operative with no need for blood transfusion.

KEYWORDS

Cat, Exploratory laparotomy, Ovariectomy, Uterine torsion, pregnancy

INTRODUCTION

Difficult labor or dystocia can be classified according to the root cause into maternal causes as defect in the birth canal either congenital stenosis, acquired stenosis due to old trauma to the pelvis, or defect in myometrial contractions. Fetal causes may be due to malposition, anomalies, or an oversized fetus (Gaudet, 1985; Gunn-Moore and Thrusfield, 1995). Uterine torsion is a rare case in dogs and cats (Kuroda *et al.*, 2017), in buffaloes and cattle uterine torsion is a very common cause of dystocia (Ali, 2011). Torsion is a twist in the uterine horn uni or bilateral and according to the degree of twist and time, the progression of damage depends upon it (Ali *et al.*, 2021; Thilagar *et al.*, 2005). Uterine torsion in cats was recorded in mid to late pregnancy (Thilagar *et al.*, 2005). The exact cause is not well understood yet but, rough handling, fetal movement and flaccid mesometrium can contribute into case occurrence (Biller and Haibel, 1987).

CASE HISTORY

A female, Shirazi cat was referred by a private clinic to the clinic of the Department of Surgery, Anesthesiology and Radiology, Faculty of Veterinary Medicine, Zagazig University with a history of sudden onset of lethargy and anorexia, abdominal swelling and a bloody vaginal discharge.

Abdominal ultrasonography was performed, and the swelling was diagnosed as a full-term pregnancy, in a period of 12 h, two

alive kittens were delivered naturally without any trouble. The second abdominal ultrasonography was conducted at the private clinic confirming that there was a third kitten still not delivered yet.

RESULTS AND DISCUSSION

Clinical examination

At the time the queen was admitted to the department clinic, a right unilateral abdominal swelling was noticed, and a thorough general examination was performed, which revealed normal lung and heart sounds, tachycardia, and tachypnea. A palpable bounding femoral pulse was detected with a pale mucus membrane. Furthermore, rectal temperature was 39.5 o C and the animal was dehydrated by 7 %.

Abdominal palpation revealed a thick, tube-like segment on the right side from the mid to caudal part of the abdomen.

An initial rapid plain right lateral radiograph was performed to investigate the presence and of kittens inside the uterine horn and revealed that there was a tubular soft tissue opacity at the site of the uterus (Fig. 1).

Pre-operative planning

An intravenous catheter was applied to secure a patent I/V access. A maintenance dose of fluid therapy was initiated at a dose of 2 ml/kg/min plus a pre-calculated replacement dose.

Aseptic preparation was done from xiphoid to pubis to perform a mid-line laparotomy.

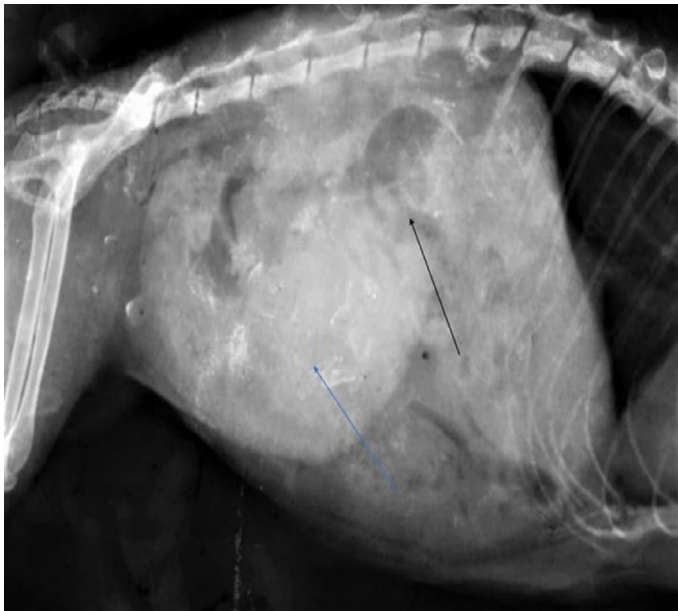


Fig.1. A right lateral abdominal radiographic image showing evidence of kitten presence (Black arrow) with grey swelling at the site of right uterine horn (Blue arrow).

Anesthesia

The animal was sedated using xylazine HCL (Xylaject 2%, Adwia pharmaceuticals co, Egypt.) at a dose of 0.5 mg per kg body weight intramuscular.

Induction and maintenance of anesthesia were performed using ketamine HCL (Ketalar 5% Pfizer co, Egypt.) at a dose of (15 mg per Kg body weight) intravenous.

Surgical steps

An exploratory laparotomy was performed, a mid-line incision of skin, subcutaneous tissue, and a stab incision of Linea alba then an extended incision with blunt scissors to enter the abdominal cavity. In the exploration of the right-side abdomen, a large edematous and congested uterine horn was detected after lifting the horn out the other one was underneath the first. The left horn was twisted by a 90o degree and on the right side, highly congested uterine blood vessels and edematous (Fig 2). The horn twist was fixed immediately only by lifting it outside the abdomen.

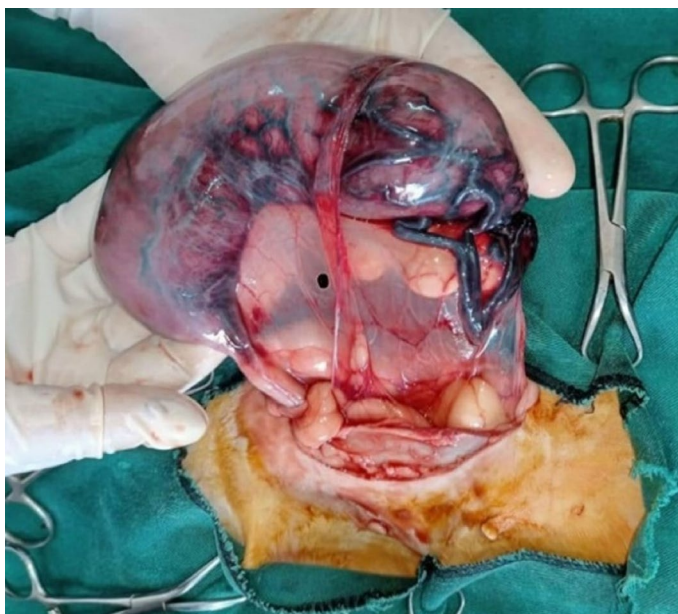


Fig 2. Showing both ovaries and body after ovariectomy.

Double ligation of both ovarian pedicles and body were done to perform an ovariohysterectomy (Fig 3).

The abdomen was lavaged with warm saline then the abdominal walls and subcutaneous tissue were sutured using polyglactin 910 2/0 usp (Vicryl,

ETHICON Co., Egypt), and round needle, and Silk 2/0 usp (Braided Silk, ETHICON Co., Egypt) was used for skin.



Fig 3. Left horn at the right side of the abdomen. Congested blood vessels and sever edema.

Post-operative care

The animal was administered amoxicillin-clavulanic acid (Augmentin, GSK, UK) antibiotic at a dose of 22 mg per kg body weight twice daily (Thilagar *et al.*, 2005), and metronidazole (Amrizole, AMRIYA PHARMACEUTICALS Industries-Alexadria- Egypt) 10 mg per kg body weight twice daily to contain the anaerobic infection. Ketoprofen (Ketofan AMRIYA PHARMACEUTICALS Industries-Alexadria- Egypt), was also prescribed as an anti-inflammatory at a dose of 1 mg per kg body weight intramuscular. In addition to an antiseptic (Betadine, Mundipharma,UK) application for incision.

Uterine torsion is a rare and uncommon condition to occur in feline and canine species (Kuroda *et al.*, 2017), on the contrary in buffaloes and cattle (Ali, 2011). Torsion of the uterus occurs through a twisting of the horn or body about the longitudinal axis (Thilagar *et al.*, 2005). A definitive diagnosis of the case cannot be determined, but an initial indicator may be taken into consideration as reported here and in other cases (Biller and Haibel, 1987; Kuroda *et al.*, 2017). A distended and painful abdomen, vaginal discharges, anaemic, and dehydrated animal and history of dystocia or kittens were delivered but still had distended abdomen, also diagnostic imaging as radiographs and ultrasonography may also contribute to diagnosis but a definitive diagnosis was approached only by exploratory laparotomy (Stanley and Pachiana, 2008; Thilagar *et al.*, 2005). The clinical signs of lethargy, anorexia, abdominal distention and acute abdomen with vaginal discharge can also exist in cases of pyometra, so ultrasonography is a useful diagnostic tool in this case for differentiation (Agudelo, 2005; Potter *et al.*, 1991). The inability to remove fetuses through the birth canal during parturition, can be because of maternal or fetal conditions that make birth impossible. Maternal causes are typically morphological birth canal obstruction or physiological myometrial failure, with primary uterine inertia being the most prevalent (Gunn-Moore and Thrusfield, 1995). Large fetuses are one fetal factor, deformities, malpresentation, and fetal demise. The leading and second most frequent causes of dystocia in dogs and cats, respectively, are primary uterine inertia and

malpresentation (Gaudet, 1985). Early surgical interference was a contributing factor in case survival, as upon exploration there was a peritoneal effusion and the left horn was highly congested and edematous and if there was a delay in surgery, horn rupture would have occurred (Ali *et al.*, 2021; Young, *et al.*, 1991). The cat in this case survived with no need for further blood transfusion as reported (Kuroda *et al.*, 2017), only fluid therapy along with antibiotics and the cat started to eat again with a lower appetite. Although uterine torsion in cats is a rare condition, it should be listed as an item of differential diagnosis as a maternal factor for difficult labor, and it's recommended that surgeon should perform exploratory laparotomy as early as possible to avoid critical and serious complications.

CONCLUSION

As far as we know this is the first time to report a feline unilateral uterine torsion in Egypt. Associated clinical findings include anorexia, lethargy, vaginal discharge, acute abdominal pain, and distention. Ultrasonography can confirm pregnancy or pyometra, radiographic images show a tubular soft tissue mass opacity with a kitten, but the definitive diagnosis by exploratory laparotomy. Early surgical intervention contributes to the survivability of the case.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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