CAESAREAN SECTION FOLLOWED BY OVARIOHYSTERECTOMY: A SUCCESSFUL SURGICAL INTERVENTION OF DYSTOCIA DUE TO EMPHYSEMATOUS FETUSES IN A QUEEN PERSIAN CAT

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ABSTRACT

Using radiographic and ultrasonographic tools, a three-year-old queen cat was diagnosed with dystocia and found to have three dead emphysematous fetuses inside her abdominal cavity. This article discusses the successful treatment and recovery of a queen cat that had a life-threatening case of dystocia with emphysematous fetuses with cesarean section and ovariohysterectomy.

Keywords: Fetal emphysema, Dystocia, Caesarean section, Ovariohysterectomy

INTRODUCTION

Dystocia, or difficult labor, is a condition where the mother is unable to deliver the fetus naturally without the aid of medicine or surgery (Sahoo et al., 2018).

Dystocia is less common in small animals like dogs and cats. According to research, between 3.3% and 5.8% of all births in cats result in dystocia (Pretzer et al., 2008).

Fetal and maternal factors are the two main causes of dystocia. Preterm birth is caused by several factors, including small pelvic size, anomalies of the caudal reproductive system, primary or secondary uterine inertia, starvation, parasitism, other abnormalities of the uterus, aberrant ejection induced by causes other than uterine, and other maternal factors (Pretzer et al., 2008).

According to Raut et al., 2009 uterine inertia, often known as ineffective or nonexistent uterine contractions after parturition, is the most frequent reason for maternal dystocia. There are two types of this condition: primary and secondary inertia (Gendler et al., 2007). The primary cause of uterine inertia is the uterine muscle's inability to contract sufficiently due to a range of physiological or chemical factors.

Medication is typically used to manage emergencies related to pregnancy. Surgery is necessary when medical treatment for the emergency condition is ineffective. According to a study, between 60 and 80 percent of bitch and queen dystocia instances require surgical intervention. (Traas et al., 2008).

Recently, the pet population mostly cats is being increased and more dystocia cases are being found. Here, this study employs radiographic and ultrasonographic tools to diagnose the presence of three emphysematous fetuses in the abdominal cavity, leading to an emergency cesarean section in a Persian cat followed by ovariohysterectomy.

MATERIALS AND METHODS

i. Case Presentation

On October 17, 2023, a 3-year-old Persian queen cat (Fig. 1) with dystocia symptoms and a body weight of 4.5 kg was brought to the Teaching and Training Pet Hospital and Research Center (TTPHRC). The cat was mated naturally and fulfilled the 65 days of gestation. The cat displayed parturition symptoms such as anorexia, panting, agitation, and straining throughout the day. When there was no more improvement and the cat became depressed, the cat was sent to the hospital.

Figure 1: A Persian cat presented to TTPHRC

ii. Case Diagnosis

The abdomen was tight and swollen upon clinical examination. A vaginal examination revealed edematous vulvar lips with bloody discharge but no visible fetus or fetal component. Additionally, the case was submitted to diagnostic tools including ultrasound scanning and radiographic examination of the abdomen, both of which revealed the presence of three dead and emphysematous fetuses (Fig. 2). Dystocia was diagnosed in the case and suggested emergency cesarean section. A cesarean section was performed followed by an ovariohysterectomy to remove the dead emphysematous fetuses.

Figure 2: X-ray reveals the presence of emphysematous fetuses

iii. Surgical procedure

First, the queen cat was given an intramuscular (IM) injection of xylazine (xylazine®, Modern Agencies Ltd.) at a dose of 1 mg/kg of body weight. After ten minutes, the cat was given a ketamine (Ketalar®, Popular Pharmaceuticals Ltd.) injection at a dose of 8 mg/kg of body weight to induce general anesthesia. After fifteen minutes, the cat was put to sleep, and it was secured to the operating table with side ropes and cushions to help it stay in place. The surgical site was then clipped, shaved, and disinfected with povidone-iodine (Povisep®, Jayson Pharmaceuticals Ltd.). Finally, the patient was covered with a surgical draper.

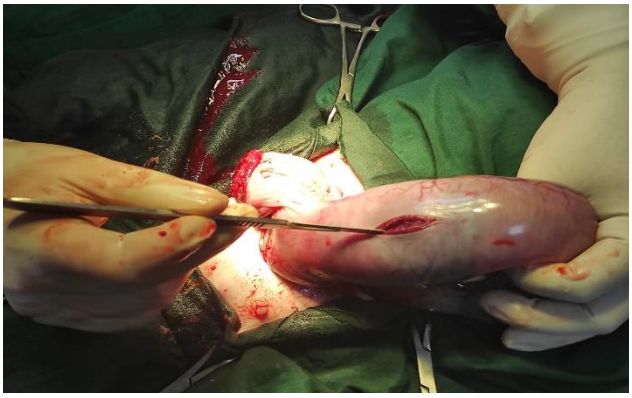
A 5–6 cm incision was made at the ventral abdominal midline, and caudal to 1 cm below the umbilicus. Subsequent incisions were made in the skin, subcutaneous tissue, linea alba, and peritoneum. To avoid major blood arteries and the placental belt, a longitudinal incision was made on the larger curvature of the uterus around the point where the uterine horns divide. The left uterine horn was used to remove the three fetuses. Ovariohysterectomy was then begun.

The left ovary was promptly grasped using artery forceps, and the distal blood arteries were clamped off. The procedure was repeated for the right ovary. Then they tied up the uterine veins that ran down each side. An arterial forceps was used to access the uterine body. Polyglactin 910 2−0 was employed to form a strong ligature around the cervix. The uterus and ovaries were isolated from other components using sterile scissors and sterile artery forceps.

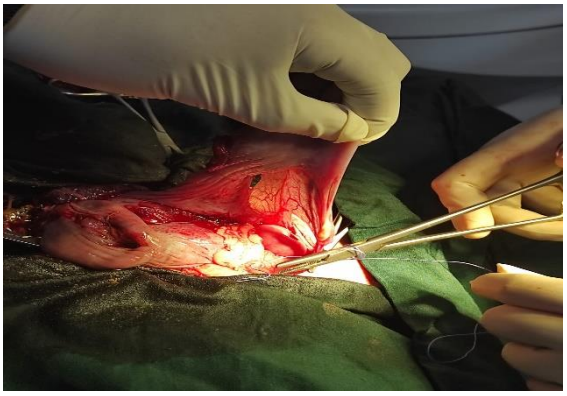
One centimeter up the cranium, the uterus and cervix were separated. The crushing stopped the bleeding. To remove more blood, a surgical mop was employed. Before closing the abdominal wound, we carefully checked for any indications of bleeding. The muscles, subcutaneous tissue, and peritoneum were closed with simple continuous sutures made of Polyglactin 910 2−0.

(a) operative site with surgical drape

(b) Incision on the surgical site



(c) Removal of the dead fetuses from the horn



(d) Ligation of ligament cranial to the ovary by suture material for ovariohysterectomy

Figure 3: Different steps of C-section and Ovariohysterectomy in cat (a - d).

iv. Post-operative care

The queen was also given a painkiller (Mel-Vet®, Acme Laboratories Ltd.) at 0.2 mg/kg body weight, subcutaneously once daily for two days, and a broad-spectrum antibiotic called ceftriaxone (Triject-Vet®, Eskayef Pharmaceuticals Ltd.) at 50 mg/kg body weight IM at 24-hour intervals for seven days. External skin stitches were removed after full healing.

RESULTS AND DISCUSSION

In this case, a Persian cat in Bangladesh had three deceased emphysematous fetuses removed via C-section. The cat went back to its regular routine of eating, drinking, playing, and urinating.

It is noteworthy that cats have been observed to physiologically extend the time it takes to give birth by up to 48 hours (Jutkowitz, 2005; Sparkes et al., 2006). In our situation, the queen was unable to deliver. The cat was tired and not trying at all when she was brought to our hospital. An ultrasound scan also showed no fetal activity. This implied that the fetus had passed away. Maternal toxemia has also been associated with anorexia, vaginal discharge with an unpleasant odor, dullness, and depression. We decided to do a C-section on the dead fetuses for all of these reasons.

In this study, a C-section was performed 48 hours after the onset of dystocia; yet, it was an effective method of removing three dead fetuses, saving the life of the dam. The dead fetuses seemed significantly larger due to gas buildup in the subcutaneous tissue (emphysematous syndrome), which may also be associated with bacterial infections. A strong uterine infection was strongly suggested during the surgery based on the color of the uterus and the foul odor coming from it. Therefore, the uterus and two ovaries were removed to prevent the development of toxemia and septicemia.

CONCLUSION

In conclusion, we successfully performed a Caesarean section and ovariohysterectomy on a Persian cat suffering from dystocia. The dam's life was spared, and three dead kittens were removed by this C-section.

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BIOGRAPHY

This is Mir Mohammad Junayed, the child of Mir Mohammad Amir Uddin and Rokeya Begum. I was born in mir bari, moulana akter shah lane, east madarbari,104-majhirghat raod, chattogram metropolitan area, chattogram district. I enrolled for a Doctor of Veterinary Medicine (DVM) degree at Chattogram Veterinary and Animal Sciences University (CVASU), Chattogram, Bangladesh in the 2013-2014 session. I passed the Dakhil Examination (S.S.C level) in 2010 from Baitus Saraf Ideal Kamil Madrasha, Chattogram, and the Higher Secondary Certificate Examination (HSC) in 2013 from Chattogram Govt. City College, Chattogram. Shortly, I would like to work and have a massive interest in animal medicine.