

Caesarean section followed by Ovariohysterectomy: A successful surgical intervention of dystocia in a persian cat.



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Caesarean section followed by Ovariohysterectomy: A successful surgical intervention of dystocia in a persian cat.



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Abstract

This case report is on Caesarean section in a Persian cat in Bangladesh, that suffered from dystocia. A Persian cat with dystocia symptoms was brought to the Teaching and Training Pet Hospital and Research Center. The fetuses could not be delivered by the cat. The cat had stopped eating, seemed despondent, had a noticeably enlarged abdomen, and made no apparent effort to exert itself. Both sides of the abdomen had bony-like features that could be palpated. Two fetuses appeared on the X-ray. Then an Ultrasonographic (USG) test was performed, which verified the presence of two fetuses, in a horn of the uterus. There were no fetal movement. Dystocia was shown to be present in the cat. Two rotten and enormous deceased kittens were extracted during a Caesarean operation. Besides, an Ovariohysterectomy was performed after the uterus was discovered to be degraded and offensive-smelling. The queen totally recovered. Here, a successful C-section and Ovariohysterectomy performed on a Persian cat in Bangladesh who had severe dystocia.

Key words: *Caesarean section, Dystocia, Ovariohysterectomy, Persian cat.*

Chapter 1

Introduction

Dystocia, also known as difficult parturition, is a state in which the dam is unable to expel the fetus without manual assistance or medicinal or surgical interventions (Sahoo *et al.*, 2018).

The occurrence of dystocia is less in small animals like dogs and cats. A study shows that Cats have dystocia in between 3.3% and 5.8% of all births (Pretzer *et al.*, 2008). The two main causes of dystocia are maternal and fetal factors. Small pelvic size, abnormalities of the caudal reproductive system, primary or secondary uterine inertia, malnutrition, parasitism, other abnormalities of the uterus, aberrant ejection caused by non-uterine reasons, and other maternal variables are among those that contribute to preterm birth (Pretzer *et al.*, 2008). According to (Raut *et al.*, 2009), the most prevalent cause of maternal dystocia is uterine inertia, which refers to weak or absent uterine contractions during parturition. This condition is divided in primary and secondary inertia (Gendler *et al.*, 2007). Primary uterine inertia is due to failure of the uterine muscle to work sufficiently due to a variety of physical or hormonal reasons.

Pregnancy emergencies are primarily treated with medication. When medicinal treatment fails to improve the emergency condition, surgical intervention is indicated. A study shows, Surgical intervention is required in approximately 60–80% of dystocia cases in the bitch and queen (Traas *et al.*, 2008).

Recently, pet population mostly cat is being increased and more dystocia cases are being found. But there are very few cases report related to the surgical interventions of cat dystocia in Bangladesh.

Here, the surgical management of dystocia with Caesarean section was reported followed by Ovariohysterectomy in a persian cat and two dead fetuses were removed by this operation.

Chapter 2

CASE REPORT

i. Case details

A 6-year-old persian queen cat (Fig1), weighing 3.70 kg body weight was presented to the Teaching and Training Pet Hospital and Research Center (TTPHRC) on October 17, 2022 with signs of dystocia. The cat was mated naturally and fulfilled the 65 days of pregnancy. The cat showed the signs of parturition like anorexia, panting, restlessness and straining on the day for some period. Then there was no further progress and it was depressed, then the cat was brought to the hospital.



Figure 1: A persian cat presented to TTPHRC

ii. Case diagnosis

Physical examination was performed and on palpation bone like structures were found in the pelvic cavity. In order to make a more accurate diagnosis, an X-ray was taken (Fig 2), which showed the existence of two fetuses. An ultrasonography (USG) examination was then carried out for confirmation, which proved the presence of two fetuses in one uterine horn without any fetal movement. The case was diagnosed as dystocia and referred to surgery for the removal of dead fetuses.

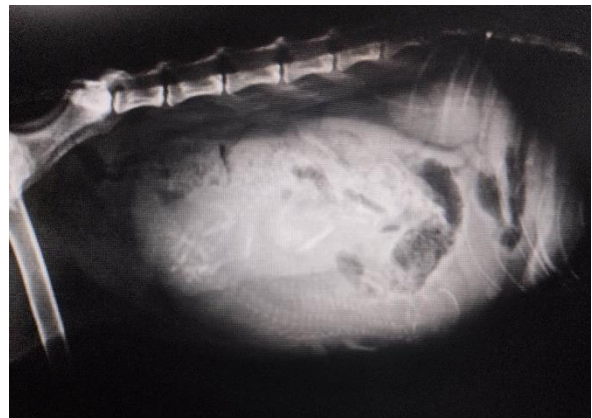


Figure 2: X-ray reveals presence of fetus

iii. Surgical procedure

Firstly, the queen cat was injected with a sedative agent, xylazine (xylazine®, Modern Agencies Ltd.) @ 1mg/kg of body weight intramuscularly (IM). After 10 min, Ketamine (Ketalar®, Popular Pharmaceuticals Ltd.) @ 20 mg/kg of body weight was injected to induce general anesthesia. The cat was anesthetized after 15 min, then it was placed on the operation table and tied with the side ropes and facilitated with cushions to make it stay on the right place. The operation site was clipped, sheared and disinfected with povidone iodine (Povisep®, Jayson Pharmaceuticals Ltd). Then, surgical draper was placed over the patient. An incision of 5-6 cm was made at the ventral abdominal midline, 1cm caudal to the umbilicus. Different layers including skin, subcutaneous tissue, linea alba and finally peritoneum was incised subsequently. A longitudinal incision was made on the greater curvature of the uterus close to the location where the uterine horns divide in order to avoid major blood vessels and the placental belt. The two fetuses were taken out of the left uterine horn. Ovariohysterectomy was accordingly started. With artery forceps, the left ovary was quickly gripped, and the distal blood arteries were tied off. The right ovary had the same operation. The uterine vessels that ran along each side were then tied up. The uterine body was entered with an arterial forceps. Around the cervix, chromic catgut 2-0 was used to create a secure ligature. Using a sterile scissor and sterile artery forceps, the uterus and ovaries were separated from other structures. The uterus was separated from the cervix from 1 cm cranially. Crushing was done to stop bleeding. Surgical mop used to remove further blood. We thoroughly examined the abdominal wound for any signs of bleeding before closing it. Simple continuous sutures made from catgut 1-0 were used to close the peritoneum, muscles, and subcutaneous tissue.

iv. Post operative care

A broad-spectrum antibiotic called ceftriaxone (Triject-Vet®, Eskayef Pharmaceuticals Ltd.) was also administered to the queen. Together with a pain reliever, ketoprofen (Kop-Vet®, Square Laboratories Ltd.), @ 3 mg/kg body weight, IM once daily for five days. @ 50 mg/kg body weight IM at 12-hour intervals for 7 days. Additionally, for 10 days. After full healing, external skin stitches were removed.

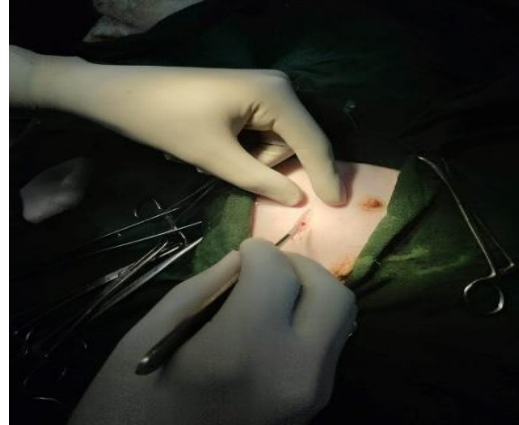
Chapter 3

RESULTS AND DISCUSSION

In the current instance, two dead fetuses were delivered via C-section in Bangladesh from a Persian cat. The cat resumed all daily activities, including eating, drinking, playing and urinating,



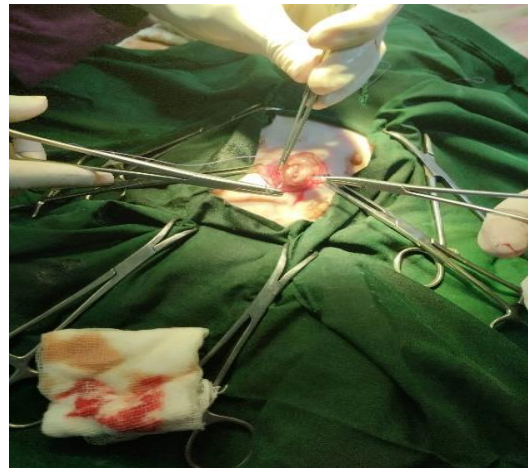
(a) operative site with surgical drape



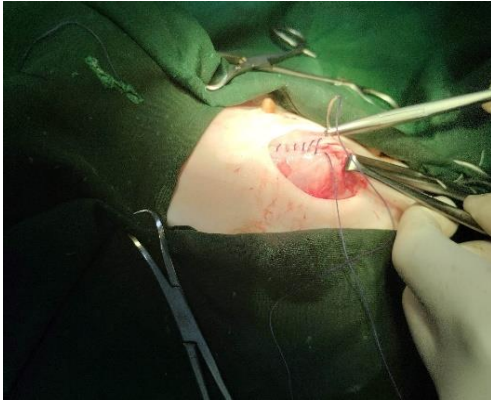
(b) Incision on the surgical site



(c) Removal of dead fetus from the horn



(d) Ligation of cervix for Ovariohysterectomy.



(d) Suturing of abdominal wound after C-section and Ovariohysterectomy.



(e) Surgical site after completion of C-section and Ovariohysterectomy.

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

It should be mentioned that cats have been found to physiologically prolong parturition times up to 48 hours (Jutkowitz, 2005; Sparkes *et al.*, 2006). The queen was unable to deliver in our circumstance. When the cat was admitted to our hospital, she wasn't making any effort, wasn't responding to medication, and was weary. Additionally, an ultrasound scan revealed no fetal movement. This suggested that the fetus was deceased. Additionally, dullness, sadness, anorexia, and foul-smelling vaginal discharge were linked to the development of maternal toxemia. All of these reasons prompted us to deliver the dead fetuses via urgent C-section.

The result of a C-section mostly depends on the dam's physical state and how long she has experienced dystocia.



Figure 4: Two large dead kitten removal by surgical intervention.

In this study, a C-section was carried out after 12 hours of dystocia; yet, it was successfully employed to remove two dead fetuses, saving the dam's life. Due to gas buildup in the subcutaneous tissue (emphysematous syndrome), which may also be linked to bacterial infections, the dead fetuses seemed to be substantially larger in size. During the procedure, a bad uterine odor and the color of the uterus definitely suggested a severe uterine infection. Thus, to stop the development of toxemia and septicemia, the uterus and two ovaries were removed.

In conclusion, we successfully performed a Caesarean section in a Persian cat with dystocia in Bangladesh, followed by an Ovariohysterectomy. This C-section allowed the delivery of two deceased kittens, saving the dam's life.

Chapter 4

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Biography

The author Md. Emon Hossain, son of Mojibor Rahman and Shaheen Rahman, passed his Secondary School Certificate (SSC) examination from West End High School, Lalbag, Dhaka, in 2014 and Higher School Certificate (HSC) examination from Dhaka College, Dhaka in 2016. Thereafter, he enrolled for Doctor of Veterinary Medicine (DVM) degree in Chattogram Veterinary and Animal Sciences University (CVASU), Bangladesh and now is an intern student in this university.