



# International Journal of Veterinary Sciences and Animal Husbandry

ISSN: 2456-2912  
 VET 2024; 9(3): 637-639  
 © 2024 VET  
[www.veterinarypaper.com](http://www.veterinarypaper.com)  
 Received: 17-05-2024  
 Accepted: 15-06-2024

**Priyanka Narwade**  
 Department of Veterinary  
 Gynaecology and Obstetrics,  
 Faculty of Veterinary and Animal  
 Sciences, I.Ag. Sc, RGSC-Banaras  
 Hindu University, Barkachha,  
 Mirzapur, Uttar Pradesh, India

**Sanjay Kumar Ravi**  
 Department of Veterinary  
 Gynaecology and Obstetrics,  
 Faculty of Veterinary and Animal  
 Sciences, I.Ag. Sc, RGSC-Banaras  
 Hindu University, Barkachha,  
 Mirzapur, Uttar Pradesh, India

**B Balamurugan**  
 Department of Veterinary  
 Gynaecology and Obstetrics,  
 Faculty of Veterinary and Animal  
 Sciences, I.Ag. Sc, RGSC-Banaras  
 Hindu University, Barkachha,  
 Mirzapur, Uttar Pradesh, India

**Vinod Kumar**  
 Department of Veterinary  
 Gynaecology and Obstetrics,  
 Faculty of Veterinary and Animal  
 Sciences, I.Ag. Sc, RGSC-Banaras  
 Hindu University, Barkachha,  
 Mirzapur, Uttar Pradesh, India

**Dyanidhi Jena**  
 Department of Veterinary  
 Gynaecology and Obstetrics,  
 Faculty of Veterinary and Animal  
 Sciences, I.Ag. Sc, RGSC-Banaras  
 Hindu University, Barkachha,  
 Mirzapur, Uttar Pradesh, India

**Rabindra Mohan Mishra**  
 Department of Veterinary  
 Gynaecology and Obstetrics,  
 Faculty of Veterinary and Animal  
 Sciences, I.Ag. Sc, RGSC-Banaras  
 Hindu University, Barkachha,  
 Mirzapur, Uttar Pradesh, India

**Corresponding Author:**  
**Priyanka Narwade**  
 Department of Veterinary  
 Gynaecology and Obstetrics,  
 Faculty of Veterinary and Animal  
 Sciences, I.Ag. Sc, RGSC-Banaras  
 Hindu University, Barkachha,  
 Mirzapur, Uttar Pradesh, India

## Complete primary uterine inertia resulting with dystocia in a non-descript queen – A case report

**Priyanka Narwade, Sanjay Kumar Ravi, B Balamurugan, Vinod Kumar, Dyanidhi Jena and Rabindra Mohan Mishra**

### Abstract

A 2.5-years old non-descript queen was presented to the Faculty of Veterinary and Animal Sciences, Barkachha Mirzapur, in the Teaching Veterinary Clinical Complex. Based on the information received from the owner's, the queen had completed gestation period but was unable to deliver the fetuses and she was slightly depressed, had stopped eating and drinking a day before. Gynaeco-clinical observation including abdominal palpation and pervaginal palpation revealed that cervix was partially open and showed no signs of parturition. After an ultrasound scan, it was discovered that uterus contained 2 to 3 viable fetuses. A cesarean section was performed on the queen, and live fetuses were extracted from the uterus. All of the kittens who received neonatal care survived. The queen miraculously recovered after the post-operative treatment.

**Keywords:** Queen, uterine inertia, cesarean section, treatment

### Introduction

Feline dystocia is more common in exotic breeds of cats than in ordinary cats, but it is likely less common in companion cats than in dogs. Incidence of dystocia, or abnormal queening, is reported as 3 to 6%. There are few references to the true incidence of dystocia in cats and dogs. The actual prevalence of dystocia in dogs and cats is rarely discussed. Dystocia was reported by owners of most pedigree cats in a survey, and Gunn-Moore & Thrusfield (1995) [2] found that 5.8% of almost 3000 litters had dystocia. In a colony of mixed-breed cats, dystocia was observed in 0.4% of litters, whereas in Devon Rex litters, the incidence was 18.2%. Other than this partial or incomplete dilation of cervix could be cause of dystocia in queen (Jackson 2004) [3].

The causes of feline dystocia, as reported in a retrospective analysis of 155 instances observed in Sweden (Ekstrand & Linde-Forsberg 1994) [1], are listed in below Table.1

**Table 1:** List of cause of dystocia in a queen

Causes of dystocia in queen		
Etiology	No. of cases	Per cent
<b>Maternal causes</b>		
Uterine inertia	94	60.6
Narrow birth canal	8	5.2
Uterine obstruction	1	0.6
Uterine prolapse	1	0.6
Maternal (Total)	104	67.0
<b>Fetal causes</b>		
Fetal maldisposition	24	15.5
Fetal malformation	12	7.7
Fetal oversize	3	1.9
Fetal death	7	4.6
Fetal (Total)	46	29.6
Other causes	5	3.2

The percentage of dystocia and reasons for dystocia in feline are as-

The majority was found to be of maternal origin with various forms of dystocia, and this percentage increased to 66%, 75%, 80%, and 68.75% in 2018, 2019, 2020, and 2021, respectively. The percentages of fetal causes of dystocia are as follows: 34%, 25%, 20%, and 31.25% in 2018, 2019, 2020, and 2021. In cats, the percentage of treatment modalities for dystocia from 2018 to 2021 was 17.07% hormonal treatment and 82.93% caesarean sections (Naoman U.T., 2021)<sup>[8]</sup>.

Persian cats were thought to have a higher incidence of dystocia than cats of other breeds. The main factor associated with the queen is two types of uterine inertia: primary, which refers to a condition in which the uterine muscles do not contract, and secondary uterine inertia, which refers to exhaustion during labour from persistent straining next to a birth canal obstruction (Talukder *et al.*, 2021; Li *et al.*, 2021)<sup>[9, 5]</sup>. There may be partial uterine inertia and complete uterine inertia in polytocous animals. In case of partial uterine inertia, first fetus should be in pelvic inlet and deliver by abdominal straining and in complete primary uterine inertia, uterus unable to contract and deliver the fetuses.

### Materials and Methods

A 2.5-year nondescript queen was presented to Teaching Veterinary Clinical Complex in the Faculty of Veterinary and Animal Sciences at, Barkachha, Mirzapur. Based on the history, queen had completed the gestation period but was unable to deliver the fetuses. She was slightly depressed had stopped eating and drinking a day before case presentation. Fetus was felt on abdominal palpation like a mass. Recorded rectal Temperature was 98 °C, Respiration rate was 32/ min and Heart rate was 132/min, respectively. Externally, no any vaginal discharge and no vulval swelling was observed. Ultrasound scanning revealed 2 to 3 viable fetuses with developed skeleton in normal position. After observing animal primary treatment for cervical dilatation was given but there was no any progression of delivery. So, on this findings and treatment response the case was diagnosed as complete uterine inertia in this queen. Further, the case was managed surgically and caesarean section was performed.

The cat was stabilized by administering intravenous fluid Normal saline at 10 ml/kg body weight to relieve the dehydration and to gain energy. The medical regimen

consisted of administering a mixture of dextrose at the dose rate of 3 ml of 50% I/V slowly over 10 min. 10% calcium gluconate (0.2 ml/kg body weight S/C), and Oxytocin (0.5 IU/Kg body weight I/M). Oxytocin was given to induce uterine contractions and cervical dilatation. To alleviate the situation, an emergency caesarean section was done because the queen did not respond to earlier medications. This case was diagnosed as dystocia due to complete primary uterine inertia.

The queen was transfer to the operation table and all limbs are secured using ropes made of surgical gauze. The tongue was pulled out to the side using tongue forceps and the mouth was closed. Pre anesthetics like inj. Ketamine at the rate 25mg/kg I/M was administered. The operative site was prepared aseptically; the abdomen caudal to the umbilicus, was clipped, shaved, sterilized with povidone iodine and surgical drape was applied over the site. Isoflurane as a gaseous anaesthesia only given for induction. Queen was positioned in supine position for aseptic procedure. She was positioned in dorsal recumbancy; midline incision from umbilicus was extended upto pubis. Maintenance of anaesthesia was carriedout by gaseous anaesthesia isoflurane 2.5%. Stab incision was taken on linea alba after elevation of rectus muscle. Carefully, gravid uterine horn was exteriorized by gentle traction. After exteriorization, incision was made on the dorsal aspect of the uterus close to the bifurcation of horns. There were three kittens were removed by gentle milking along with placenta. Kittens were completely dried with wiping and gently massaged to stimulate respiration. Uterus was sutured with Cushing followed by lumbar suture pattern using chromic catgut number 1-0. The uterus was repositioned into abdominal cavity after complete lavaging. Linea alba incision was closed by cross mattress suture pattern using synthetic absorbable suture material polyglycolic acid number 1-0. Furthermore, Skin opposed by simple interrupted pattern using non absorbable suture material nylon number 1-0 and bandaging was done. The queen was treated with oral antibiotic therapy for 2-3 days in addition to receiving intravenous administration of the broad-spectrum antibiotic Amoxicirum forte (amoxicillin sodium and Sulbactam sodium) at the rate of 7 mg/ kg body weight I/V, and supportive fluid therapy with 50 ml RL and inj. Tolfenamic acid 4 mg/kg S/C for 3 days.



**Fig 1:** Ultrasound scanning for fetal viabilities.



**Fig 2:** Queen in supine position for cesarean section. (Mid line incision).



**Fig 3:** Exteriorized uterus for fetus removal



**Fig 4:** Live 3 kittens removed after cesarean section

### Results and Discussion

Dystocia is a life-threatening disorder that can kill both the queen and the kittens. Typically, kitting should take two to six hours, but older females may require up to twelve hours (Laliberte, 1986) [4]. Here, in this case report the queen cat was not responding to the medical treatment for primary and complete uterine inertia, therefore an emergency caesarean section was performed. Anomalies during pregnancy, insufficient size of the delivery canal, and uterine inertia are among the maternal reasons of dystocia. There are two types of uterine inertia: primary (no propulsive contractions) and secondary (muscle weakness following ineffective contractions). Hypocalcaemia may be linked to primary uterine inertia, which may have a genetic component. The most often reported cause of dystocia in queens is primary uterine inertia. The inability to react to Oxytocin action as a result of hormonal disruption or pathophysiological conditions that hinder the initiation of response to hormonal changes at the onset of parturition, as well as a lack of calcium, which is crucial for muscle contraction, are the other causes of uterine inertia. When there is an obstacle obstructing the kitten's journey through the birth canal, secondary uterine inertia typically results. In very little queens, the birth canal may be inadequate in size. One rare type of a pregnancy condition is uterine torsion. A case of fetal dystocia in a queen has been reported by Markandeya *et al.*, (1992) [6], but upon scanning the available literature, maternal dystocia in a queen could not be traced. Marrow (1986) [4] reported that the use of forceps for fetal removal is not recommended in felines due to the possibility of injury to the fetus and birth canal. However, in the present case, the uterine inertia that did not respond to an Oxytocin injection and the time lapsed of more than 12 hours in the normal process of kitting were the reasons for the surgical intervention.

### Conclusion

The current study's findings indicated that an emergency caesarean section should be chosen in cases of complete and primary uterine inertia where the dam and the fetuses has a longer chance of survival.

### References

- Ekstrand C, Linde-Forsberg C. Dystocia in the cat: a retrospective study of 155 cases. *J Small. Anim. Pract.* 1994;(35):459.
- Gunn-Moore DA, Thrusfield MV. Feline dystocia: Prevalence and association with cranial conformation and breed. *Vet. Record.* 1995;136:350-353.
- Jackson PG. *Handbook of Veterinary Obstetrics.* Elsevier Limited. 2nd ed; c2004, P. 141-166.
- Laliberte L. Pregnancy, Obstetrics and post partum management of the queen in; Marrow DA, *Current therapy in Theriogenology*, W.B. Saunders Company; c1986, p. 813-816.
- Li P, Wang L, Qian X, Morse A, Garfield RE, Liu H. A study of uterine inertia on the spontaneous of labor using uterine electromyography. *Taiwanese J Obst. Gynae.* 2021;60(3):449-453.
- Markandeya NM, Dhoble RL, Usturge SM. Fetal dystocia in a cat queen. *Indian J Anim. Reprod. I;* c1992, p. 99.
- Morrow A. *Current therapy in theriogenology* Edn. 1<sup>st</sup> W.B Saunder's Co. London; c1986 .p. 816-819.
- Naoman UT. Causes and treatment of feline dystocia. *J. Appl. Vet. Sci.* 2021;6(4):28-31.
- Talukder AK, Das ZC, Rahman MA, Rahman MT, Rahman AN. Caesarean section followed by ovariectomy in a Bangladesi domestic cat: A surgical intervention for management of dystocia due to partial primary uterine inertia. *Vet. Med. Sci.* 2021;7(5):1564-1568.

#### How to Cite This Article

Narwade P, Ravi SK, Balamurugan B, Kumar V, Jena D, Mishra RM. Complete primary uterine inertia resulting with dystocia in a non-descript queen – A case report. *International Journal of Veterinary Sciences and Animal Husbandry.* 2024; 9(3): 637-639.

#### Creative Commons (CC) License

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-Non-Commercial-Share Alike 4.0 International (CC BY-NC-SA 4.0) License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.