

## Surgical management of dystocia due to ectopic pregnancy in a cat

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### Abstract

A 3 year old indigenous female cat was presented with symptoms of dystocia persisting for three days after delivering one kitten. Radiographic and ultrasonographic examination revealed presence of four live foetuses, with one dead foetus located abnormally more anteriorly attached to the wall of small intestine. It was confirmed as a case of concurrent intrauterine and ectopic pregnancy. An emergency caesarean section was performed, during which four live intrauterine foetuses were retrieved and a dead mummified foetus embedded in the serosal layers of the intestine was removed successfully. The case demonstrates the importance of diagnostic imaging and prompt surgical intervention in managing rare reproductive anomalies such as ectopic pregnancy in felines.

**Key words:** *Cat, Ectopic Pregnancy, Dystocia, Caesarean Section*

### Introduction

Dystocia in cat (queen) is defined as difficulty in the delivery of the kitten through the birth canal at the time (6-12 hours) of labour (Dar *et al.*, 2015). The causes of dystocia are classified into those caused by maternal, those caused by foetal, and in some cases combination between them (Stedile *et al.*, 2011). Ectopic pregnancy, defined as the implantation of a fertilized ovum outside the uterine cavity, is extremely rare in domestic cats but, leads to obstetric emergencies often reported in feline species (Sophia *et al.*, 2023). The present report documents a rare instance of feline dystocia caused by a combination of intrauterine and extrauterine pregnancies.

### Materials and Methods

A female domestic cat of three years old age having body weight 4.1 kg was presented to the Veterinary Clinical Complex, CVSc & AH, OUAT, Bhubaneswar, with a history of dystocia for three days following the delivery of a single live kitten. The animal appeared dull, weak, and anorectic, with a rectal temperature of 92°F. Abdominal palpation suggested the presence of multiple hard structures suggestive of possible foetuses. The haematological parameters were within the normal range. Radiography revealed presence five foetal skeleton among which one was positioned abnormally more interiorly

near the last ribs (Fig.1). Ultrasonography confirmed four viable foetuses within the uterus. One abnormally located foetus embedded in intestinal wall showed no cardiac activity, absence of amniotic fluid around the foetus, suggesting death and possible calcification.

At first, the queen was rehydrated with administration of warm fluid therapy (DNS). The animal was exposed to light of infrared lamp to address hypothermia due to low environmental temperature. After stabilization of patient, it was decided for caesarean section.

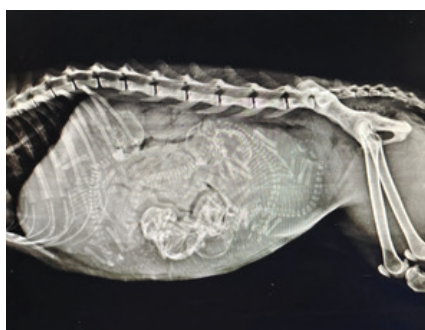
The cat was preanesthetized with Inj. atropine sulphate at the dose rate of 0.04 mg/kg body weight (bwt.) and Inj. Butorphanol @ 0.2 mg/kg bwt intramuscularly. Induction of anesthesia was done with administration of mixture of Inj. Xylazine @ 1 mg/kg bwt and Inj. Ketamine @ 10 mg/kg bwt. intramuscularly. Anaesthesia was maintained with additional doses of Inj. Ketamine.

The mid-ventral region was prepared for surgery following standard operating procedure. A linear skin incision of about 4 cm length was given mid ventrally posterior to umbilicus. After incising linea alba, abdominal cavity was accessed to grab the uterus containing foetuses which was taken out over surgical field with gentle traction. An incision was made on uterine body and four live foetuses were retrieved from the uterus. The uterus

was sutured with chromic catgut no.1-0 with cushioning pattern. The uterus was pushed back in to the abdominal cavity. Then the abnormally located dead foetus was searched and taken out over surgical field. The dead foetus was seen embedded into serosal layer of small intestine (Fig.2). It was separated carefully from underlying tunica muscularis layer with gentle force using fingers and plain thumb forcep. The open serosal layer of intestine was sutured using chromic catgut no. 4-0 with simple continuous pattern. Then, the abdomen was flushed with warm normal saline followed by metronidazole solutions

(Inj. Metrogyl). The abdominal muscle was apposed using polyglactin 910 suture (Vicryl no 1-0) in simple continuous pattern. Skin was closed using polyamide suture (Ethilon no 2-0) in cross mattress pattern.

Post-operatively, the animal was administered with broad-spectrum antibiotics (Inj. Montaz 125mg IV) for seven days and anti-inflammatory drugs ( Inj. Melonex @0.2 mg/kg bw) for three days. Regular dressing was done and mupirocin ointment (Mupropet) was applied on wound. Skin sutures were removed after two weeks.



**Fig.1. X-ray image of cat showing foetal skeletons**



**Fig.2. Ectopic foetus attached to wall of intestine**



**Fig.3. Retrieved ectopic foetus**

## Results

All four intrauterine kittens were retrieved alive and healthy. The extrauterine foetus was devoid of soft tissues and partially calcified, indicating prolonged intra-abdominal retention (Fig.3). The mother cat recovered uneventfully following supportive therapy. Skin sutures were removed after two weeks of surgery. Follow-up observations over the next few days revealed full recovery without any complications.

## Discussion

The causes of dystocia are classified into maternal, foetal and a combination of them (Niyas *et al.*, 2023) which can occur during any stage of labour. Ectopic pregnancy in cats is exceedingly rare and generally occurs as a secondary abdominal pregnancy resulting from partial or complete uterine rupture during early gestation. The fertilized ovum or embryo escapes into the peritoneal cavity, where it may attach to nearby organs

such as the spleen, omentum, or intestinal serosa (Sophia et al., 2023).

In this case, the concurrent presence of intrauterine foetuses and a calcified extrauterine foetus indicates a **secondary ectopic pregnancy**. The calcification suggests foetal death at an earlier stage, followed by mineral deposition due to prolonged retention. Radiography and ultrasonography played a crucial role in diagnosis by identifying the abnormal foetal position and viability status.

The caesarean section must be performed as soon as feasible as another way for treatment dystocia in case of destructive dystocia or when medical treatment fails or is not practicable (Olivira, 2016).

In the current case, prompt surgical intervention was lifesaving for both the dam and the viable kittens. This case emphasizes that unexplained dystocia in cats, particularly with abnormal foetal positions, should raise suspicion of ectopic pregnancy or uterine rupture.

## Conclusion

This case demonstrates the diagnostic value of imaging and the necessity for prompt surgical management in feline dystocia cases complicated by ectopic pregnancy.

Awareness of such rare conditions enables veterinarians to provide timely intervention, ensuring better outcomes for both the dam and offspring.

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