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Clinical Article

CAESAREAN SECTION FOLLOWED BY OVARIOHYSTERECTOMY IN A DOMESTIC SHORT HAIRED CAT: A CASE REPORT

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SUMMARY

The incidence of dystocia in cats is relatively low compared to other pet and farm animals, however, when dystocia occurs in cats, manual, medical or surgical intervention is required. The present report records a case of caesarean section (C-section) in a domestic short haired cat that suffered from dystocia due to pelvic fracture resulted in narrow pelvic canal. A 4 years old pluriparous short haired cat was presented to the Small Animal Gynaecology and Obstetrics Unit, Veterinary Clinical Complex, Veterinary College and Research Institute, Namakkal with the signs of dystocia. The queen cat had met with an accident 3 months before and suffered from pelvic deformity. The cat had a history of parturient signs from previous day. Radiography confirmed the presence of three fetal skeletons with acetabular fracture and which was confirmed by Computed Tomography. Ultrasonographic examination revealed viable fetuses. The case was diagnosed as dystocia due to narrow pelvis as a result of acetabular fracture. Caesarean section was performed aseptically and two live kittens with one dead fetus were delivered. Ovariohysterectomy was carried out to prevent further pregnancy and the queen cat recovered fully after 7 days of antibiotic therapy. To the best of our knowledge, we report here, for the first time, a successful C section followed by an ovariohysterectomy in a domestic short haired cat suffering from severe dystocia due to acetabular fracture and narrow pelvic canal.

Keywords: Caesarean, Cat, Dystocia, Fracture, Ovariohysterectomy

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Dystocia in cats refers to difficulty throughout the 6 to 12hour labor period when the fetus explodes or the kitten is delivered through the birth canal. Over the different cat breeds, there seems to be a vast range in the kittening process. According to Gunn-Moor and Thrusfield (1995) and Stedile *et al.* (2011), maternal, fetal, and occasionally a mix of these factors are the main causes of dystocia. Although dystocia is very uncommon in companion animals like the bitch and queen (Jackson, 1995), when it does, the dam and the young animals may be at danger of losing their lives. According toEkstrand and Linde-Forsberg, (1994) and Gunn-Moore and Thrushfield (1995), the Persian cat has the highest frequency of dystocia. Siamese type and Devon Rex cats are next in line. The present case report discusses effective surgical therapy of dystocia in a cat brought on by a narrow pelvis and an acetabular fracture.

Case history and Clinical Observations

A Full term pregnant Domestic Short Haired Cat was presented with the history of anorexia,met with an accident at pelvic region 3 months back and having parturient signs since last 24 hours. The owner also reported that the cat is having weight bearing lameness after the accident and he had not treated for that. On clinical examination, all the physiological parameters were within the normal range. On vaginal examination, water bag protruded out and the fetal head was palpated at the pelvic brim (Fig. 1). On radiographic examination, presence of three foetal skeletons and fracture of the hip bone noticed (Fig. 2). On Ultrasonographic examination, foetal heart beat (Fig. 3) was noticed as 162 bpm which indicates that the foetus was under stress. Further, Computed Tomography examination revealed the presence of three foetal skeletons (Fig. 4) and the left acetabular fracture (Fig. 5) with iliosacral separation (Fig. 6). Based on owner's history, clinical signs, vaginal examination, ultrasonographic examination, radiographic examination and Computed Tomography, the present case was diagnosed as dystocia due to narrow pelvis and acetabular fracture and it was decided to go for Caesarean section (C-section) followed by ovariohysterectomy.

Treatment and Discussion

For the anaesthetic protocol, we employed injections of dexmedetomidine (15 mcg/kg) and butorphanol (0.2 mg/kg) for induction, propofol (3 mg/kg) and diazepam (0.5 mg/kg) for maintenance, respectively. An aseptically prepared surgical site was used, and a mid-ventral incision was performed just caudal to the umbilicus. The linea alba and subcutaneous fat were removed. A uterine horn incision was made after the gravid uterus was found and exteriorized. One dead fetus and two live kittens (Fig. 7) were removed. Then ovariohysterectomy was performed

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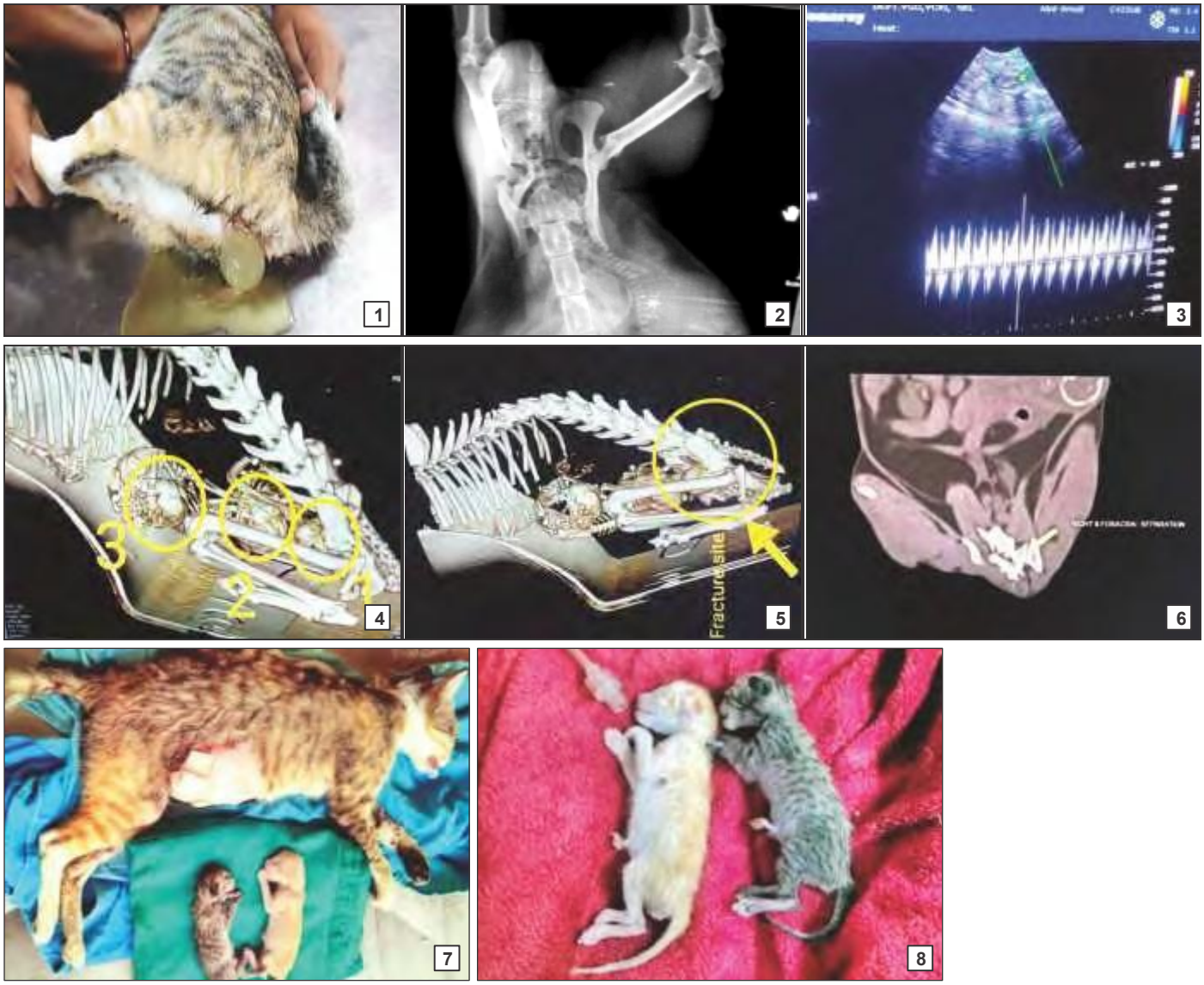

Fig. 1-8. **(1)** Water bag protruded out of birth canal; **(2)** Radiographic examination showing the fracture in the hip region; **(3)** Ultrasonographic examination showing fetal distress; **(4)** Computed Tomography examination shows the presence of three foetal skeletons; **(5)** Computed Tomography examination showing left acetabular fracture; **(6)** Computed Tomography examination showing iliosacral separation; **(7)** Cat with live kittens; **(8)** Oxygen resuscitation to the kittens

as per standard protocol. The linea alba was closed by continuous interlocking suture pattern by using poly glycolic acid 1-0. Subcutaneous and subcuticular sutures were done as per regular manner. Skin was closed by cross mattress suture pattern using sterile silk. Live kittens were given newborn care, including warmth and oxygen resuscitation (Fig. 8).

Dystocia occurs in cats on average 5.8% of the time (Gunn-Moore and Thrushfield, 1995); however, in another study (Gunn-Moore and Thrushfield, 1995), it was 67.1% maternal and 21.9% fetal type. Maternal dystocia occurs on average 83.6% of the time, while fetal dystocia occurs on average 16.4% of the time. According to Ekstrand and Linde-Forsberg (1994), uterine inertia causes 60.6% of cases of dystocia in cats. The primary and secondary forms of uterine inertia are the main contributing factors to the dam (Jackson, 1995). Uterine muscles do not contract when there is primary uterine inertia. Due to persistent strain and an obstruction in the delivery canal, secondary uterine inertia occurs when the uterine muscles get exhausted during labor (Talukder *et al.*, 2021). Labor can be postponed by physiological stress (Oliviera *et al.*, 2016).

According to Ekstrand and Linde-Forsberg (1994), cats who have narrow pelvis are 5.2% more likely to develop dystocia. Obstructive dystocia may be brought on by soft tissue anomalies such neoplasms, vaginal septa, or birth canal fibrosis (Linde-Forsberg and Eneroth, 2000).

Medical and surgical procedures are used for treating dystocia. Treatment for aided birth includes oxytocin, calcium, and physical manipulation of the

vagina (Pretzer, 2008).In the event of obstructive dystocia, the caesarean section must be carried out as soon as is possible (Oliviera, 2016). The owner's hesitation prevented management of the acetabular fracture and ileosacral separation in the current case. Because of the owner's willingness and to avoid future pregnancy difficulties, an ovariohysterectomy was also performed.

CONCLUSION

The queen cat is a sensitive and subtle animal, so all steps to treat dystocia need gentleness, confidence, and complete physical examination before deciding the method of dystocia treatment. Careful management of dystocia in cat is an essence often necessitating an emergency caesarean section to save the kittens when medical therapy with pharmaceutical agents fails to relieve the dystocia.

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