Short Communication

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Uterine Rupture Associated with Uterine Torsion in a Pregnant Bitch

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ABSTRACT

Uterine torsion is an unusual and potentially serious problem in pregnant she-dogs. This case documents the surgical treatment of uterine rupture associated with torsion of uterus in a she-dog presented on the 68th day of pregnancy. The bitch was given Oxytocin therapy by local paravet staff. The pregnancy was confirmed by radiological examination and dead foetuses were observed in trans-abdominal ultrasonography. Therefore, laparahystorotomy was planned. Upon exploration of abdominal cavity, torsion was observed over the uterine body and just adjacent to uterine torsion, there was evidence of rupture. Therefore, laparahysterectomy was performed. The post-operative care included broad spectrum antibiotics, anti-histaminics, anti-inflammatory drugs and fluid therapy. The bitch had uneventful recovery.
Keywords: Bitch, Caesarean section, Ovariohysterectomy, Pregnancy, Uterine torsion.

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INTRODUCTION

Torsion of uterus in canines is a serious complication during pregnancy. Twisting of the pregnant cornua along its longitudinal axis results in torsion of cornua potentially compromises blood flow to the fetuses and the mother involving only gravid horn (Nagaraja *et al.,* 1997), non-gravid horn (Barrand, 2009) or both (Kochhar *et al.,* 1996). Uterine rupture usually occurs due to excessive fetal movement, scanty fetal fluids, pre-partum uterine contractions, ecbolic therapy, weak uterine ligament, hyperactivity of dam like jumping, rolling and running in pre-parturient period (Dogruer *et al.,* 2018). Torsion of uterus in enceinte bitches result in secondary uterine inertia, which contraindicates the injections of oxytocin (Parkinson *et al.*, 2019) and incline the condition towards uterine rupture. The perturbations in the genital blood flow due to uterine torsion results into necrosis over the affected part of uterus, adherences, fetal death, fetal emphysema, uterine rupture, and peritonitis. In this case report, she dog was suffering

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from dystocia due to obstructive etiology and surgical intervention was undertaken to rescue the dam.

CASE HISTORY AND OBSERVATIONS

A she dog of Bully breed weighing 55kg was reported to the university clinics with the anamnesis of over gestation (68th day of pregnancy), off feed since one day and painful ventral abdominal enlargement. On presentation the rectal temperature, pulse and respiratory rates were 103.5^{0}F., 114/min and 28/min respectively. The bitch was administered with Inj. Oxytocin by the field paravet staff. Per-vaginal digital examination was non-conclusive as no fetal part was palpable. Radiological examination confirmed four fetuses (Fig.1) which were confirmed dead upon trans-abdominal ultrasonography. Therefore, emergency ventral midline laparohystorotomy was planned.

Fig. 1: Radiographic examination revealing presence of four fetal skeletons

TREATMENT AND DISCUSSION

Induction of general anaesthesia and maintenance was achieved using Propofol @ 5mg/kgb. wt. and Isoflurane (0-4%) after premedication with glycopyrrolate @ 0.1 mg/kg b. wt. and butorphanol @ 0.2mg/kg b. wt intravenous. Upon exploration of abdominal cavity, uterus was carefully exteriorized and uterine torsion was evidenced. Five counter-clockwise rotations were observed over the uterine body (Fig. 2) and just adjacent to uterine torsion, there was rupture of the uterus (Fig. 3). A total of three fetuses were lying in the left cornua caudal to torsion and putrification had commenced indicating death of the foetuses before about 24 to 48 hours. The left cornua seemed undergoing necrosis and one fetus was observed in the right uterine horn. Uneven distribution of fetuses and oxytocin therapy could be the reason for uterine torsion. The abdominal and uterine contents were blackish brown and foul smelling fluid. Therefore, ovariohysterectomy was performed (Fig. 4) and normal saline solution was infused into the abdominal cavity followed by its suction (Fig. 5) till the colour of suctioned fluid became transparent. Finally, the abdominal cavity was lavaged with liquid metronidazole. The abdominal cavity was meticulously closed layer by layer in normal manner.

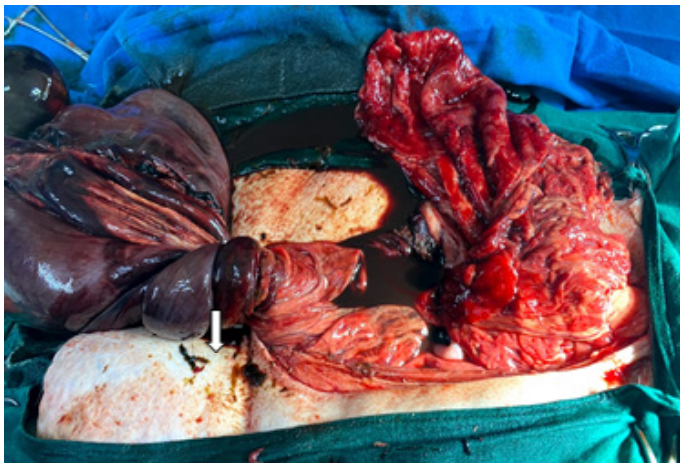

Fig. 2: Uterine horn showing rotations

Fig. 3: Evidence of uterine rupture following uterine torsion

Fig. 4: Surgical removal of gravid uterus and ovaries

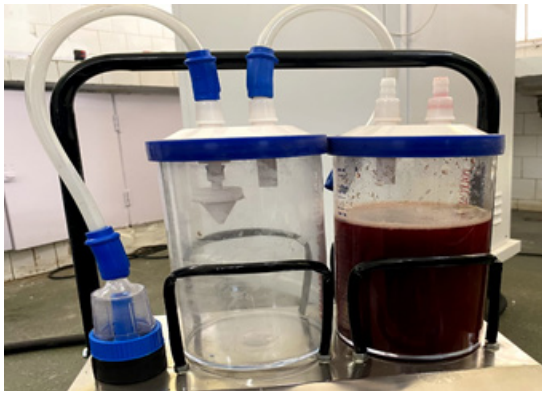

Fig. 5: Suctioned out abdominal lavaged fluid

Post-operative treatment given for seven days included Inj. Chlorpheniramine maleate dose rate of 0.5 mg/kg B. wt. I/MOD, Inj.Ceftriaxone at the dose rate of 30 mg/kg B. wt. I/MBD, Inj. Meloxicam 0.2 mg/kg B. wt. I/M BD, Inj. Metronidazole @ 10mg/kg B. wt. I/V OD and Inj. Normal Saline Solution @ 10ml/kg/hour I/V. The daily antiseptic dressing of suture line with liquid betadine was carried out till removal of sutures on day 12.

Uterine torsion is a rare but critical obstetric complication in she dogs during pregnancy (Schlafer and Miller, 2007). Administration of ecbolics especially oxytocin in obstructive causes of dystocia in she dogs culminate into uterine rupture with severe ramifications for damand fetuses. In cases of uterine torsion, the administration of oxytocin causes rupture of uterus and similar findings were observed by Jackson (2004). Uterine torsion usually takes place at base of uterus due to absence of inter-cornual ligament (Benesch and Wright, 2001).The occurrence of uterine torsion is 1.1 per cent out of the 5 per cent of dystocia in dogs which is usually common towards end of pregnancy (Raut *et al.,* 2008; Dogruer *et al.,* 2018). Mostly single cornual torsion is encountered in 93 per cent of the bitches and left cornual torsion is the most frequent (Kacprzak *et al.,* 2014) which was also seen in the present case. In the present case the unequal distribution of fetuses in both the uterine horns might have resulted to torsion which is corroborated with the observations of Umamageswari *et al.* (2014) and Jayanthi *et al.* (2018).

CONCLUSION

In conclusion, uterine rupture following uterine torsion is a deadly condition in which prompt surgical intervention is warranted.

CONFLICT OF INTEREST

None

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