Haryana Vet. (December, 2020) **59(2)**, 297-299

Clinical Article

SUCCESSFUL MANAGEMENT OF UNILATERAL UTERINE TORSION IN A RAJAPALAYAM BITCH

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Received: 22.04.2020; Accepted: 12.05.2020

SUMMARY

A two year primiparous Rajapalayam bitch was presented to Veterinary Clinical Complex with the history of anorexia, enlarged abdomen and greenish vaginal discharge. Radiological and ultrasonographical examination revealed multiple viable foeti. Animal did not respond after two inductions of parturition. On repeated ultrasonographical examination, the foetus on the caudal end was seen not viable. Hence, emergency caesarean section was performed. Surgical intervention revealed anti-clockwise twisting of the left gravid uterine horn with severe congestion and necrosis which is an indicative of unilateral uterine torsion. Eight live pups along with one dead fetus were recovered through caesarean section. Ovariohysterectomy was done after correcting the torsion to save the life of the bitch and animal had uneventful recovery.

Keywords: Bitch, Dystocia, Ovariohystrectomy, Rajapalayam breed, Unilateral uterine torsion

Uterine torsion is twisting of uterus or uterine horn perpendicular to its long axis (Roberts, 1982). Torsion is a rare, but life-threatening obstetrical complication in the bitches (Johnston *et al.,* 2001; Kumru *et al.,* 2011). Gravid unilateral uterine torsion is more common in bitches (Biddle and Macintire, 2000; Dogruer *et al.,* 2018). Predisposing factors in bitches include premature uterine contraction in late pregnancy, foetal physical activities, partial abortion, hereditary weakness or variations in length and mobility of the proper ovarian and uterine ligaments (Stone, 2003), lack of foetal fluids and instability of uterine horns along with violent uterine contractions (Arunmozhi *et al.,* 2014). However, causes of uterine torsion in non-gravid uterus have been reported in bitches included hematometra, uterine focal adenomyosis, and cystic endometrial hyperplasia or pyometra complex (Barrand, 2009). Uterine torsions cause septisemic state along with severe abdominal pain (Darvelid and Linde Forsberg, 1994), peritonitis, and hemostatic abnormalities. This paper describes successful surgical management of late-gestational uterine torsion in a Rajapalayam bitch.

A two year old, primiparous Rajapalayam bitch weighing 30 kg was presented to Veterinary Clinical Complex, Veterinary College and Research Institute, Tirunelveli with the history of inappetence, sternal recumbency, occasional vomiting, engorgement of mammary glands and greenish vaginal discharge with no abdominal straining. Clinical examination revealed subnormal body temperature (37.2° C), bradycardia, reduced pulse rate and congested mucous membrane with dehydration. Abdominal palpation revealed multiple hard foetal masses but no fetal parts were palpable on vaginal examination. Ultrasonographical and radiological examination revealed viable fetuses with 186-218 heart beat per minute (range of foetal heart beats) and more than six numbers of foetal skeletons, respectively. Leucocytosis was revealed on hematological examination. Serum biochemistry revealed normal calcium and phosphorus level. The case was tentatively diagnosed as primary uterine inertia.

The parturition was induced with slow intravenous infusion of Inj. 10% calcium gluconate (10 mL) and Inj. oxytocin (10 IU) in 100 mL of 25% dextrose solution. After four hours, same intravenous therapy was repeated. On repeated ultrasound examination, the heartbeat of the foetus on caudal end was absent. Hence, emergency caesarean section was performed to save the life of bitch and other foetuses.

The animal was pre-medicated with Inj. Atropine @ 0.02 mg/kg and Butarphanol @ 0.2 mg/kg subcutaneously and anaesthesia was induced with intravenous propofol (6 mg/kg) and maintained with 2% isoflurane with variable vaporizer settings. Celiotomy (midventral approach) revealed 180° twisting of the left gravid uterine horn (Fig. 1) with severe congestion, localised hematoma with ischemia and necrosis (Fig. 2) which is an indicative of unilateral uterine torsion. Eight live (five female and three male) and one dead male pups were recovered through caesarean section. Ovariohysterectomy was performed after

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Fig. 1. Left horn of the gravid uterus twisted and overlapping the right horn of the gravid uterus.

Fig. 2. Gravid uterus having the severe congestion and necrosis

correcting the torsion to save the life of the bitch with the owner's consent. The animal was treated post operatively with inj. ceftriaxone @ 20 mg/kg body weight, inj. Ringer's Lactate 250 ml i/v, inj. DNS 150 ml i/v, inj. Pantaprazole @ 1 mg/kg body weight for five days. The bitch recovered uneventfully after treatment.

Misumi *et al.* (2000) and Umamageswari *et al.* (2014) has reported uterine torsion both in gravid and non-gravid female dogs, respectively, but its occurrence is higher in gravid than non-gravid uterus (Biddle and Macintire, 2000). Similarly unilateral torsion is more likely to occur than bilateral (Shull *et al.,* 1978). In this study, the bitch was full term pregnant with unilateral uterine horn torsion which was similar to the findings of Raut *et al.* (2000), Arunmozhi *et al.* (2014) and Mohamed *et al.* (2019). The increase in uterine weight, excessive foetal motility and contractions during late gestation predisposes for uterine torsion. In dog, uterine torsion is also caused due to lack of foetal fluid or sudden physical movements i.e. falling from height or sudden rolling (Roberts, 1982 and Johnston *et al.,* 2001). In present case, excessive foetal movement due to large litter size could predispose the unilateral uterine torsion.

Thrombosis, shock, uterine rupture, ischemic necrosis, haemostatic abnormalities, such as disseminated intravascular coagulation, fetal, and/or maternal death resulting from obstruction of blood supply to the uterus are frequent outcomes of uterine torsion (Kacprzak *et al.,* 2014). In this case, laparotomy revealed severe congestion, localised hematoma with ischemia and necrosis. Ultrasonographical examination suggests the viability of the foetuses (Kacprzak *et al.,* 2014). In present case, ultrasonography revealed dead foetus on the caudal end and multiple viable foetuses based upon which emergency caesarean section was performed. Ovariohysterectomy without detorsion is the treatment of choice in torsion with ischemic necrosis of uterine horn as detorsion can release toxins into the systemic circulation of bitch leading to life threatening emergencies (Jutkowitz, 2005). In present case, detorsion was accomplished before removal of foetuses, to recover the viable foetuses followed by ovariohystrectomy with the consent of owner.

This case is documented as the successful surgical management of unilateral uterine torsion in a Rajapalayam bitch.

ACKNOWLEDGEMENT

The authors are thankful to the Director of Clinics, TANUVAS and Dean, Veterinary College and Research Institute, Tirunelveli to support for carry out this case study successfully.

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