Short Communications

UTERINE RUPTURE AND SEPTIC PERITONITIS IN A LABRADOR DOG

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Periparturient uterine rupture and its complications are uncommon sequel to dystocia in dogs. It may occur as a secondary complication to obstructive dystocia, overdose of oxytocin or $PGF_{2\alpha}$ for inducing parturition, abdominal trauma during late gestation as in automobile accidents and during improper obstetrical manipulations (Jackson, 2004). Uterine rupture during whelping can occur when uterine wall is compromised by infections, dead foetus, uterine torsion or careless obstetrical procedures. Spontaneous rupture of uterus during parturition and its management has been reported (Thilagar *et al.*, 2005; Singh *et al.*, 2011; Das *et al.*, 2014). Asymptomatic uterine rupture (Hayes, 2004), uterine rupture with complications like foetal maceration (Fasulkov *et al.*, 2014), mummification (Voorwald *et al.*, 2012) and septic peritonitis (Humm *et al.*, 2010) has also been reported.

This case report presents an uncommon case of uterine rupture incidental to whelping, uterine necrosis, septic peritonitis, retention of dead foetuses in uterus and abdomen and its successful treatment in a Labrador dog.

A 1½ year old female Labrador dog in its first parity, weighing 32 kg, was presented to the clinic with a history of off-feed for the last five days. Animal was bred 67 days back and had not delivered yet. The animal was being treated systemically with fluids, antibiotics and analgesics by a local Veterinarian for two days, with no improvement in condition.

The animal was found to be lethargic with distended abdomen and the mucous membranes were icteric. On trans-abdominal palpation, abdominal walls were held tight, elicited pain on palpation and hard structures suggestive of foetuses were palpable. Per-vaginal examination could not reveal any foetal parts or discharges.

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On trans-abdominal ultrasonography (Aloka-Prosound α6), foetuses of gestational age 61 ± 2 days, without any heart beat could be detected. Foetal abdominal contents were not clear suggestive of foetal death and autolysis of internal organs. Small amount of free fluid could be detected in the dam's abdomen (Fig. 1).

Haematology revealed anaemia with leukocytosis and thrombocytopenia in the animal.

Medical management for induction of parturition was attempted using parenteral fluids (Dextrose 10% solution), calcium (Calcium sandoz @ 0.2 ml/Kg. body wt.) and oxytocin (3 IU i/m), which failed to elicit any response. It was decided to perform caesarean section to save the life of the animal.

Midventral laparotomy under general anaesthesia (atropine-diazepam-propofol) revealed serosanguinous, foul smelling fluid accumulation in the abdominal cavity. The abdominal cavity was lavaged with normal saline and the uterus was exteriorized. The left uterine horn was necrosed with an intact foetus inside and constriction at the base. The right uterine horn was empty, involuting and highly congested with a 6 cm long longitudinal tear in the middle. Uterine body was highly congested with a 5 cm long longitudinal tear on the dorsal surface. Since the uterine damage was irreparable, en-bloc surgery was performed. Two dead foetuses with intact dark foetal membranes could be recovered from the abdominal cavity (Fig. 2). The peritoneum and mesentery were highly congested indicating septic peritonitis. The peritoneal cavity was thoroughly lavaged three times using warm normal saline mixed with 0.5% metranidazole (5:1) and completely siphoned out using a surgical suction pump. Peritoneal cavity was filled with 200 ml of 0.5% metranidazole and the laparotomy incision was closed as per standard surgical procedure.

Animal was treated parenterally with antibiotics (Cefazoline @ 20 mg/Kg. body wt. and metranidazole @ 15 mg/Kg. body wt.), analgesics (Tramadol @ 1 mg/ Kg. body wt.), plasma volume expanders (Hydroxyethyl starch 6 % solution @ 10 ml/ Kg. body wt.) and intravenous fluids (Ringer lactate @ 10 ml/ Kg. body wt.) for the next three days. Oral antibiotic therapy and wound dressing was followed for next one week. The sutures were removed on the 10th post operative day and the animal had an uneventful recovery.

Uterine rupture associated with whelping in dogs is uncommon and is a rarely diagnosed clinical condition. The condition may pass unnoticed when the uterine contents are sterile and are not likely to induce peritonitis. The severity of the condition depends on the extent and site of uterine rupture, degree and persistence of haemorrhage, contamination of abdominal cavity with foetal and uterine contents, subsequent peritonitis, adhesions, retention of foetus within the uterus or in abdomen (Payan-Carreira *et al.*, 2012). In this case the uterine rupture and persistent haemorrhage led to maternal anaemia. Abdominal retention of foetus and devitalisation of uterus made it an obstetrical emergency and en-bloc surgery was performed to save the life of the dam. Peritonitis had set in,

which might be due to seepage of infected uterine contents. Ovariohysterectomy was performed as the treatment of choice for uterine rupture cases with complications (Voorwald *et al.*, 2012; Bodh *et al.*, 2014; Fasulkov *et al.*, 2014; Park *et al.*, 2014).

In this case, uterine rupture might have occurred as a secondary complication to prolonged obstructive dystocia as there is no history of usage of ecbolics, trauma or obstetrical interventions. Uterine rupture during normal whelping has been associated with very large litters, causing marked stretching and thinning of uterine wall and uterine torsion (Park *et al.*, 2014). Signs of systemic illness and a foul smelling discharge were seen in bitches undergoing foetal maceration (Johnston *et al*., 2001). Clinical and laboratory tests supported the presence of systemic illness (leukocytosis) in bitch in the present study. Anaemia was developed due to persistent bleeding from the uterine tear into the abdominal cavity.

Pale and icteric mucous membrane, hard mass and pain on abdominal palpation, free fluid in the abdominal cavity and unresponsiveness to medical management lead to laparotomy in this case. Ultrasonographic picture of foetal viscera was hazy which was due to autolytic changes. Retained foetuses in uterus and in abdomen were detected by radiography and/or ultrasonography (Bodh *et al.*, 2014; Fasulkov *et al.*, 2014; Park *et al.*, 2014).

Spontaneous uterine rupture is an obstetrical emergency that results in high rates of morbidity and loss of fertility as a consequence of hysterectomy, as well as neonatal and maternal mortality. The present case reported the unusual occurrence of uterine rupture in a dog incidental to whelping, uterine necrosis, entrapment of foetuses in uterus and abdominal cavity, its diagnosis and surgical management.

REFERENCES

Bodh, D., Gugjoo, M.B., Rafee, M.A. and Singh, K. (2014). Uterine rupture and fetal maceration in an indian mongrel bitch. J. Adv. Vet. Res., 4 (1): 49 – 52.

Das, J., Behera, S.S., Behera, M., Pati, S.R. and Hembram, A. (2014). Spontaneous rupture of bilateral uterine horns in the bitch at parturition with dystocia in Boxer dog. Indian Vet. J., 91 (1): 65 – 66.

Fasulkov, I., Atanasov, A. and Antonov, A. (2014). A clinical case of foetal maceration and post traumatic uterine rupture in a bitch. J. Fac. Vet. Med. Istanbul Univ., 40 (2): 264 – 269.

Hayes, G. (2004). Asymptomatic uterine rupture in a bitch. Vet Rec., 154: 438 – 439.

Humm, K.R., Adamantos, S.E., Benigni, L., Chan, E.A.A., Brockman, D.J. and Chan, D.L. (2010). Uterine rupture and septic peritonitis following dystocia and assisted delivery in a Great Dane bitch. J. Am. Anim. Hosp. Assoc., 46 (5): 353 – 357.

Jackson, P.G.G. (2004). Post parturient problems in the dog and cat. In: P.G.G. Jackson (Ed) Hand Book of Veterinary Obstetrics (2nd ed.), W.B. Saunders, Philadelphia. pp. 233 – 237.

Johnston, S.D., Root-Kustritz, M.V. and Olson, P.N.S. (2001). Canine and feline Theriogenology (1st ed.), W.B. Saunders Co., Philadelphia. Pp.: 592.

Park, C., Oh, K. and Son, C. (2014). Spontaneous uterine rupture in a Greyhound bitch during parturition. J. Emb. Trans., 29 (4): 393 – 395.

Payan-Carreira, R., Albuquerque, C., Abreu, H. and Maltez, L. (2012). Uterine prolapse with associated rupture in a Podengo bitch. Reprod. Domest. Anim., 47: 51 – 55.

Singh, J., Saxena, A.C. and Zama, M.M.S. (2011). Uterine rupture – A sequel of dystocia in a bitch and its surgical management. Intas Polivet, 12 (2): 354 – 356.

Thilagar, S., Zurin, M.J. and Loh, P.K. (2005). Uterine rupture in a Dachshund bitch. Indian J. Vet. Surg., 26 (2): 116.

Voorwald, F.A., Tiosso, C.F., Cardilli, D.J. and G.H. Toniollo, G.H. (2012). Mummified papyraceous fetuses in the abdominal cavity of an elderly female dog with pyometra. Arq. Bras. Med. Vet. Zootec., 64 (2): 311 – 317.

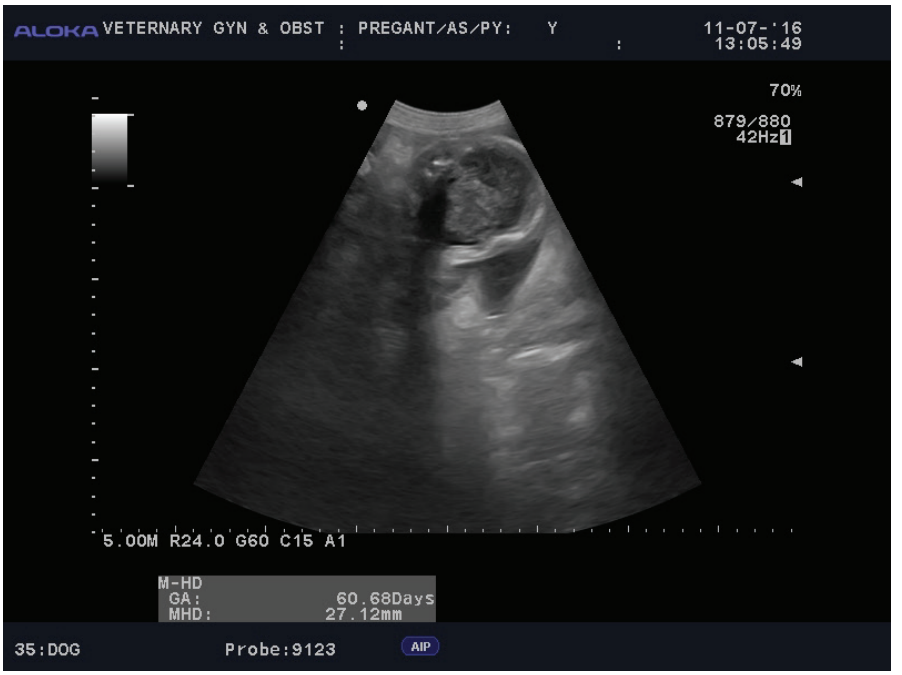

Fig. 1 Ultrasonography showing foetus with free fluids in abdominal cavity

Fig. 2 Uterine tear (Arrows), necrosis of left uterine horn with a foetus and intact foetuses with foetal bags recovered from abdominal cavity