

# PERIPARTURIENT RUPTURE OF UTERUS AND ABDOMINAL ENTRAPMENT OF FOETUS IN A LABRADOR DOG

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A 1½ year old female Labrador in its first parity was presented on the 7<sup>th</sup> day postpartum with a history of lethargy, off-feed and continuous vaginal bleeding since seven days. Abdominal palpation revealed a hard mass in the cranial abdomen, abdominal ultrasonography revealed free fluids in abdomen, involuting uterus and a hazy picture of a foetus. Exploratory laparotomy revealed a transverse tear of 4cm at the cranial end of the right uterine horn with an intact foetus without foetal membranes entangled within the mesentery and intestines. The foetus was removed, ovariohysterectomy was performed and the animal was treated with antibiotics, analgesics and plasma volume expanders for five days, which lead to an uneventful recovery.

**Keywords:** Uterine rupture, Foetal entrapment, Dog.

Periparturient rupture of uterus is uncommon in dogs, mostly incidental to dystocia. It can occur as a secondary complication to obstructive dystocia, overdose of oxytocin or PGF<sub>2α</sub> 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. It is rarely diagnosed and its prevalence in dogs is not known (Hajurka *et al.*, 2005). Asymptomatic uterine rupture (Hayes, 2004), uterine rupture with complications like foetal maceration (Fasulkov *et al.*, 2014) and mummification (Voorwald *et al.*, 2012) were also reported.

This case report presents an uncommon case of uterine rupture during

whelping with abdominal entrapment of last foetus and its treatment in a Labrador dog.

## Case History and Observations

A 1½ year old female Labrador dog in its first parity, weighing 36Kg, was presented to the clinic with a history of vaginal bleeding since six days, lethargy and off-feed. Animal had delivered six live healthy pups six days back and 24 hrs later delivered one more live pup. The animal was being treated with systemic fluids, antibiotics and analgesics by a local Veterinarian after delivery for the past five days, with no improvement in condition.

On trans-abdominal palpation, a hard mass was palpated which was suspected to be a foetus. Abdominal ultrasonography revealed involuting uterus with free fluid in the abdominal cavity and a hazy mass in the cranial abdomen showing the echotexture of head with few bony structures, which was suspected to be a retained foetus (Fig. 1).



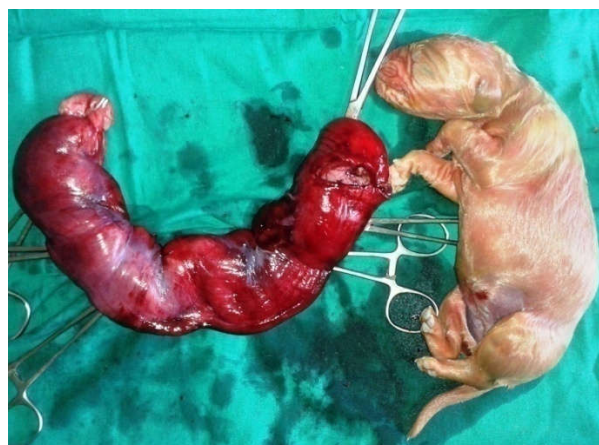
**Fig. 1** Ultrasonography showing hazy picture of foetus with fluids in abdominal cavity

Haematology revealed a total RBC count of 3.5 millions/ $\mu$ l (Ref. range: 5.5–8.5 millions/ $\mu$ l), WBC count of 3500/ $\mu$ l (Ref. range: 6000–17,000/ $\mu$ l), PCV 27% (Ref. range: 37–55%), Haemoglobin 9.4 g/dl (Ref. range: 12–18 g/dl), platelet count of 2,10,000/ $\mu$ l (Ref. range: 2,00,000–5,00,000/ $\mu$ l) and serum creatinine and ALT levels of 1.2 mg/dl (Ref. range: 1.0–2.2 mg/dl) and 46 U/L (Ref. range: 10–109 U/L), respectively. Haematology indicated anaemia with leukopenia in the animal. Based on history, clinical findings, ultrasonography and haematology, it was decided to perform exploratory laparotomy.

### Treatment and Discussion

Midventral laparotomy under general anaesthesia revealed serosanguinous fluid

accumulation within the abdominal cavity. The abdominal cavity was lavaged with normal saline and the involuting uterus was exteriorised. A transverse tear of approximately 4 cm was noticed at the cranial end of the right uterine horn. Ovariohysterectomy was performed as per standard procedure, on request of the owner to sterilize the dog. A hard mass could be palpated at the cranial abdomen. A dead fully grown foetus was recovered, which was entangled with the mesentery and intestines in the cranial abdomen. The foetus was intact without foetal membranes and without any external signs of autolysis (Fig. 2). The laparotomy incision was closed as per standard surgical procedure, after thoroughly washing the abdominal cavity with warm normal saline solution.



**Fig. 2** Involuting uterus with a transverse tear at the anterior end of the right uterine horn with the foetus recovered from the abdomen

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

Uterine rupture associated with whelping in dogs is less frequent due to relatively low weight of the gravid uterus and is a rarely diagnosed clinical entity. The

condition may pass unnoticed as the uterine contents are normally sterile and are not likely to induce peritonitis. The severity of the condition depends on the extent and site of rupture on uterus, degree and persistence of haemorrhage, contamination of abdominal cavity with uterine contents, subsequent peritonitis, adhesions, retention of foetus within the uterus or in abdomen as also reported by Payan-Carreira *et al.* (2012). In this case the persistent haemorrhage leading to maternal anaemia and abdominal entrapment of foetus made it an obstetrical emergency and surgical intervention was inevitable to save the life of the dam.

Peritonitis had not set in, which might be due to seepage of sterile uterine contents.

In this case, rupture might have occurred as a secondary complication to prolonged obstructive dystocia as there is no history of administration of ecbolics, trauma or obstetrical manipulations. Uterine rupture during normal whelping has been associated with very large litters, causing marked stretching and thinning of uterine wall and uterine torsion as also recorded by Park *et al.* (2014). Uterine tear was suspected due to continuous vaginal bleeding for more than six days, pale mucous membrane, presence of a hard mass on abdominal palpation and free fluid in the abdominal cavity. Ultrasonographic picture of foetus was hazy which may be due to autolytic changes within the foetus and covering of foetus with heavily fatty mesentery. Presence of dead retained foetus in uterus and abdomen was identified by radiographic and ultrasonographic techniques as also reported by Bodh *et al.* (2014); Fasulkov *et al.* (2014); Park *et al.* (2014).

Spontaneous uterine rupture is considered 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 abdominal entrapment of a foetus following uterine rupture in a dog incidental to whelping, its diagnosis and surgical management.

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