

Original Research Article

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Unilateral Uterine Torsion and Rupture in a Labrador - A Pathomorphological Report

N. Jayanthi^{1*}, R. Saahithya², L.J. Harish³ and G.V.S. Rao⁴

Department of Veterinary Pathology,
Department of Veterinary Clinical Medicine, Madras Veterinary College, Chennai – 7, India

*Corresponding author

ABSTRACT

Keywords

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The aim of this report is to describe in detail the gross pathological findings in a two year female Labrador which was presented for necropsy with a history of collapse during whelping. Necropsy examination revealed a gravid near-term uterus with distended horns and a dead emphysematous fetus in the abdominal cavity. The left horn was twisted on its axis (360°) with a tear of about 2cm x 3 cm. The left horn was dark red black in color and on incision had two emphysematous fetuses, hemorrhages and blood clots. The right horn was pink and edematous and had a dead emphysematous fetus with serosanguineous fluid.

Introduction

Uterine torsion in dogs is a serious ramification of gestation period. Twisting of uterus on its axis could be varied in degree in canines and subsequent rupture is an unusual finding in the pregnant dogs. Rupture could follow uterine torsion or trauma. However, the prevalence of uterine rupture in dogs is not clearly known (Hajurka *et al.*, 2005; Kacprzak *et al.*, 2014). Most of the reports exclaim that various reasons viz., excessive foetal movement, lack of foetal fluids, premature uterine contractions, usage of ecbolic therapy, hereditary weakness of uterine ligament,

hyperactivity of the pregnant animal like jumping, rolling, running in late gestation period may be the causes (Dogruer *et al.*, 2018).

The severity of the case depends on the degree of uterine torsion.

Rupture may supervene in some cases. It is a life threatening condition which might cause systemic derangements which requires prompt medical and surgical intervention (Umamageswari *et al.*, 2014; Kacprzak *et al.*, 2014).

Materials and Methods

A two year old female Labrador was presented to the Teaching Veterinary Hospital, Madras Veterinary College, Chennai with a history of constant straining since a day with signs of whelping. It was reported that the animal was near term pregnant. Supportive therapy was administered. However, the animal collapsed and was brought to the Department of Veterinary Pathology for necropsy examination.

The necropsy examination was conducted keeping in record the history, clinical signs and a set of differentials. Necropsy examination was carried out as per standard necropsy techniques and the gross morphological findings observed were noted down.

Results and Discussion

Necropsy examination revealed a gravid near-term uterus with distended horns and a dead emphysematous fetus in the abdominal cavity. The left horn was twisted on its axis to about 360°. An irregularly circular tear of about 2cm x 3 cm was noticed on the dorsolateral margin of the left horn near bifurcation of the uterine horn.

The left horn was dark red black in color and severely congested and on incision had two full term emphysematous fetuses. The uterine mucosa revealed suffusive and extensive haemorrhages and blood clots. The right uterine horn was congested and edematous. It contained a dead emphysematous fetus with serosanguineous fluid.

The other major organs revealed severe congestion. Altogether, the left uterine horn contained two full term fetuses and the right uterine horn contained one full term fetus. One of the dead emphysematous foetus in the left

uterine horn revealed evisceration of the intestine through the ventral abdominal wall near to the umbilicus. All the three fetuses were in normal fetal position.

The above mentioned gross pathological findings revealed the presence of uterine torsion (360°) and rupture. The present case was in agreement with the findings of Dogruer *et al.*, 2018; Raut *et al.*, 2008; Hajurka *et al.*, 2005) who have reported that uterine torsion occupies only 1.1 per cent out of the 5 per cent of canine dystocia cases which is highly common in gravid uterus most of the time in late gestation period.

Unilateral uterine torsion in the present case was in agreement with the reports of Kacprzak *et al.*, (2014) who have reported that most often one horn torsion occurs in 93 per cent of the cases of which left horn torsion is most frequent. In this case, the exact etiology was unknown. However, in this case the unequal distribution of fetuses in both the uterine horns might have predisposed to torsion and subsequent rupture. This fact could be correlated with the findings of Umamageswari *et al.* (2014) who have exclaimed that unequal distribution of fetal number and subsequent hyperactive movements of the bitch might have resulted in uterine instability and torsion.

In this case, severe torsion might have caused obstruction of blood supply to the uterus, with resulting thrombosis or rupture of uterine vessels, congestion, shock, fetal and/or maternal death (Fig. 1–8).

The location of twisted component relative to major vascular supply, duration of torsion and extent of vascular compromise might be more relevant factors in progression and severity of the clinical signs (Martins-Bessa *et al.*, 2015; Humm *et al.*, 2010).

Fig. 1 and 2

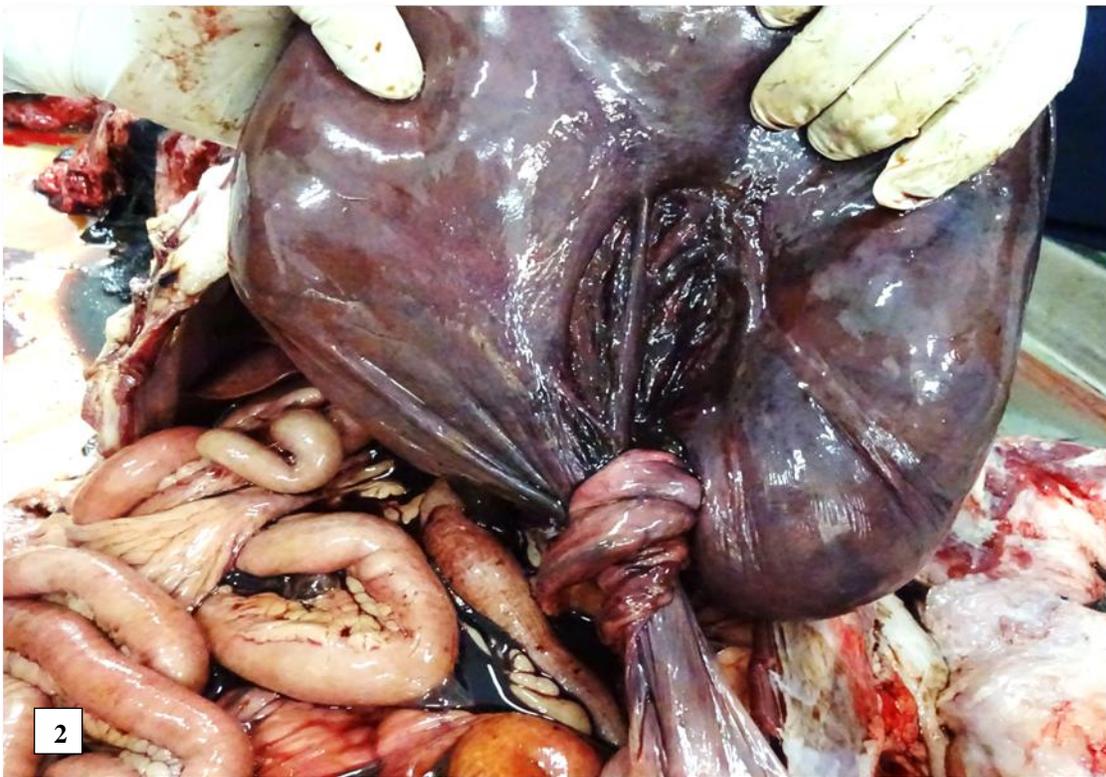
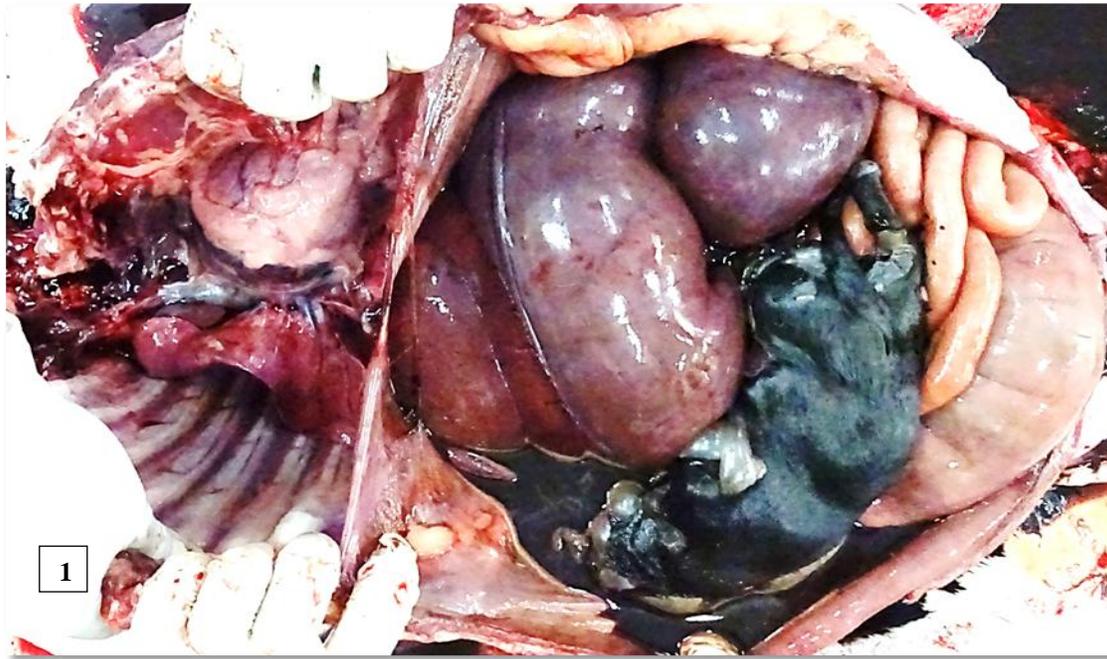


Fig.3: Dog – Necropsy examination - The left uterine horn had an irregularly circular tear of about 2cm x 3 cm; **Fig.4:** Dog – Necropsy examination - Gravid full term uterus with distended horns and a dead emphysematous foetus – Exsitu; **Fig.5:** Dog - The left horn was dark red black in colour and on incision had two emphysematous foetuses, haemorrhages and blood clots

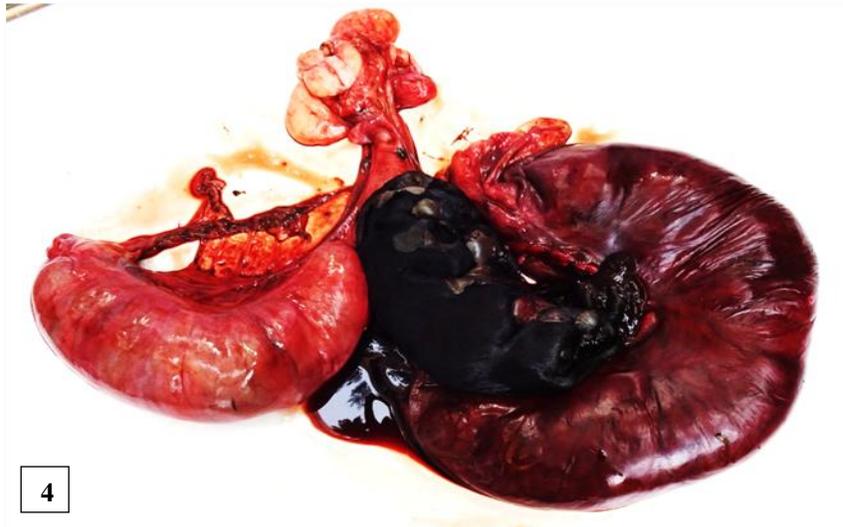


Fig.6 Dog - The right horn was congested and oedematous and had a dead emphysematous foetus with serosanguineous fluid; **Fig.7:** Dog - Dead emphysematous foetus; **Fig.8:** Dog - The dead emphysematous foetus was partially eviscerated through the ventral abdominal wall near to the umbilicus



The incidence of uterine torsion in conjunction with evisceration of fetus was reported by Hajurka *et al.*, (2005). However, the cause was attributed to single puppy syndrome which is not so in our case and the absence of in time diagnosis and surgical intervention caused the severity of this case with uterine rupture followed by release of endotoxins and inflammatory mediators in the systemic circulation might have lead to further compromise of vital organs which was evident as severe congestion in most of the organs (Kacprzak *et al.*, 2014).

In conclusion, the present case describes in detail the gross pathological findings in a Labrador dog which collapsed due to uterine torsion and rupture.

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