

OBSTETRICAL MANAGEMENT OF UTERINE RUPTURE CAUSED BY EMPHYSEMATOUS FETUSES IN A MONGREL BITCH

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ABSTRACT

A four-year-old mongrel bitch was presented with a history of foul-smelling greenish-black vaginal discharge and whelped four puppies three days earlier. Clinical, ultrasonographic and radiological examinations confirmed a diagnosis of foetal remnants with emphysematous changes. During a midventral laparotomy, a uterine rupture at the dorsal curvature of the left uterine horn was identified and two deceased fetuses were removed. Ovariohysterectomy was performed at the owner's request as per standard surgical procedure. The bitch was treated with antibiotics, anti-inflammatory and supportive therapy, alongside surgical wound care. The bitch made an uneventful recovery.

Key words: Uterine rupture, emphysemated foetus, ovariohysterectomy and mongrel bitch

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INTRODUCTION

Dystocia or difficult birth, can occur in a bitch for various reasons and uterine rupture is one among the more severe and

life-threatening causes. Uterine rupture is a rare but serious condition where the muscular wall of the uterus tears during labour. Uterine rupture in bitches is an acute, life-threatening condition that typically occurs at the end of pregnancy or during parturition and most commonly as a result of dystocia (Hajurka *et al.*, 2005). It is a rarely diagnosed clinical condition in canines and the exact prevalence of uterine rupture in dogs remains unclear (Hajurka *et al.*, 2005; Kacprzak *et al.*, 2014). Various factors,

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such as excessive foetal movement, lack of foetal fluids, premature uterine contractions, use of ecbolic agents (Noakes *et al.*, 2001; Jackson, 2004), hereditary weakness of the uterine ligaments and hyperactivity in late gestation such as jumping, rolling or running are suggested causes (Dogruer *et al.*, 2018). This case report describes a rare instance of uterine horn rupture discovered during an emergency caesarean section in a 4-year-old mongrel bitch with a history of foetal remnants.

CASE HISTORY AND OBSERVATION

A four-year-old mongrel bitch was presented with a history of anorexia, greenish vomiting occurring twice a day and foul-smelling blackish-green vaginal discharge. The pet had whelped four puppies three days earlier. The caretaker was unaware of its past breeding history. On physical examination, the dog appeared dull and depressed, with a slightly elevated body temperature (103.2°F). A hard mass was palpated in the cranial aspect of the abdominal cavity though palpation did not elicit pain. Vaginal examination revealed foul-smelling, brownish-black discharge, but no fetal parts were present in the vaginal canal. Ultrasonographic examination reveals absence of cardiac activity (Fig. 1). However, radiological examination (Fig. 2) showed the presence of two fetal skeletons, along with gas accumulation in the abdominal cavity.

TREATMENT

Due to delayed presentation of the case, an emergency caesarean section was advised. The surgical site was prepared aseptically and premedicated with inj. atropine (0.02 mg/kg BW, subcutaneously) and inj. xylazine (1.1 mg/kg BW, intramuscularly). Anaesthesia was induced with inj. ketamine (5 mg/kg BW) and inj. diazepam (0.5 mg/kg BW, intravenously) and maintained with 3% isoflurane gas. A midventral laparotomy revealed uterine ruptures on the dorsal curvature of both the left and right uterine horns (Fig. 3), with the presence of fetal parts exposed outside the uterus (Fig. 4). Two deceased fetuses were delivered via caesarean section. Due to the extensive ruptures, an ovariohysterectomy (OHE) was performed (Fig. 5). Following the OHE, peritoneal lavage was performed using normal saline and metronidazole to prevent sepsis, as recommended by Kirby (2003). Post-operative treatment included antibiotics, anti-inflammatory medication, and regular wound care. The sutures were removed after 8 days, and the animal had a smooth recovery.

RESULT AND DISCUSSION

Uterine rupture is an uncommon but emergency complication in bitches. Although rare, it may occur spontaneously due to unknown causes or secondary to factors such as abortion, dystocia, emphysematous fetuses, the fragility of

uterine walls during the forced extraction of an oversized fetus, improper administration or overdose of oxytocin or PGF2 α , uterine trauma or uterine torsion (Johnston *et al.*, 2001; Jackson, 2004; Pretzer, 2008). Uterine rupture may lead to the release of endotoxins and inflammatory mediators into the circulatory system, potentially leading to multiple organ failure (Kacprzak *et al.*, 2014). Early surgical intervention, along with peritoneal lavage, can reduce the risk of further infection or peritonitis, as was observed in the present case, allowing for the dog's eventual recovery.

Clinical signs of uterine rupture can vary but commonly include abdominal distension, pain, vaginal discharge, dehydration, hypothermia and shock (Payan-Carreira *et al.*, 2012; Voorwald *et al.*, 2012). Diagnosis is typically based

on the patient's history, clinical signs, laboratory tests, abdominal ultrasound and exploratory laparotomy (Voorwald *et al.*, 2012). Peritoneal lavage is particularly important in cases of uterine rupture as it helps prevent adhesions, further infection and sepsis (Kirby, 2003). In this case, the bitch exhibited symptoms such as abdominal distension and vaginal discharge and the diagnosis was confirmed through exploratory laparotomy.

CONCLUSION

Uterine rupture caused by emphysematous fetuses in a non-descript dog was successfully managed with ovariohysterectomy and peritoneal lavage, without life-threatening complications such as peritonitis.



Fig.1. Ultrasonography revealed absence of cardiac activity



Fig.2. Radiographic examination showed the presence of two fetal skeletons, along with gas accumulation in the abdominal cavity



Fig.3. Necrosis of right and left uterine horn ruptured area in pregnant mongrel bitch



Fig.4. Ruptured uterine horns with emphysematous foetus



Fig.5. Ovariohysterectomy uterus

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