



The Indian Journal of Animal Reproduction

The official journal of the Indian Society
for Study of Animal Reproduction
Year 2025, Volume-46, Issue-2 (June)



ISSN 0970-2997 (Print)

ISSN 2583-7583 (Online)

Dystocia due to Unilateral Uterine Torsion with Concurrent Uterine Rupture in a Rottweiler Bitch

Jayanta Das, Nikhil Sachan, Rajesh Kumar* and Saurabh

Department of Veterinary Gynaecology and Obstetrics, College of Veterinary Science and Animal Husbandry, Acharya Narendra Deva University of Agriculture and Technology, Kumarganj, Ayodhya-224229, UP, India

ABSTRACT

A 3-year-old pregnant Rottweiler bitch was presented with a primary complaint of bloody genital discharge and loss of appetite past two days. History revealed bitch was presented 63 days post-mating, expected to whelp within the next 48 hours and treated with oxytocin. Physical examination revealed a partially dilated cervix with the notable palpation of the foetal head. A caesarean section was performed to resolve the case. The bitch was recovered uneventfully.

Keywords: Bitch, Uterine rupture, Uterine torsion.

How to cite: Das, J., Sachan, N., Kumar, R., & Saurabh. (2025). Dystocia due to unilateral uterine torsion with concurrent uterine rupture in a Rottweiler bitch. *The Indian Journal of Animal Reproduction*, 46(2), 98-101. 10.48165/ijar.2025.46.02.14

INTRODUCTION

A twisted gravid uterus along its longitudinal axis is referred to as uterine torsion and the condition is one of the major canine obstetrical emergencies. The clinical condition is seen in variable species including buffalo, cow, sheep and goats and rarely in dogs and cats (Roberts, 1986). Furthermore, late gestation is the primary risk factor for uterine torsion, other reported causes are excessive foetal activity during the late gestation period, premature uterine contractions, low uterine tone, less foetal fluids, partial abortion, ligament deformation from a prior parturition, ovarian and uterine ligament weakness in hereditary form, variations in the uterus' length and mobility, hyperactivity in pregnant animals, and administration of oxytocin (Kacprzak *et al.*, 2014). Uterine torsion or rupture can be met with some other conditions like uterine neo-

plasms (Carbonell Rossello *et al.*, 2020). Uterine torsion when presented in an acute clinical state may be fatal. The uterine rupture may occur in non-pregnant bitches due to automobile accidents (Kim *et al.*, 2024) or other causes. The twisted gravid uterus impaired blood circulation in gravid or non-gravid horn, or both as well as in the fetuses (Roberts, 1986). The foetal mortality and subsequent emphysema, uterine rupture, necrosis across the afflicted portion of the uterus, and peritonitis are all caused by the disruptions in genital circulation secondary to uterine torsion (Roberts, 1986).

A unilateral uterine horn torsion of 180° to 720° has been reported thus far (Roberts, 1986). The degree of torsion determines how severe the clinical disease is in cats and dogs. The dog may exhibit clinical symptoms of variable severity, ranging from vague symptoms like leth-

*Corresponding author.

E-mail address: dr Rajesh25@gmail.com (Rajesh Kumar)

Received 12.05.2024; Accepted 14.03.2025

Copyright © The Indian Society for Study of Animal Reproduction (acspublisher.com/journals/index.php/ijar)

argy, ataxia, anorexia, and emesis to shock and even death (Kacprzak *et al.*, 2014), hence early diagnosis is crucial (Forsberg, 2015). The case can be diagnosed using anamnesis, clinical symptoms, abdominal radiography, and sonography. Moreover, fetal viability can be assessed using sonography (Kacprzak *et al.*, 2014). The cases can be treated with a total or partial ovariohysterectomy. In the present case, the bitch has unilateral uterine horn torsion measuring 180 degrees.

CASE HISTORY AND OBSERVATIONS

A pregnant Rottweiler bitch (3-year-old, 36kg body weight) was presented to the Veterinary Teaching Hospital, ANDUAT, Kumarganj, Ayodhya with a primary complaint of bloody genital discharge and loss of appetite past two days. With the second parity, the bitch was presented 63 days post-mating, the physiological parameters, except the rectal temperature (102°C), were all outside the normal range (the heart, pulse and respiratory rates were 182 bpm, 169 bpm and 57cpm respectively). Trans-vaginal palpation revealed a dilated cervix and one finger could pass through it. The foetus was in the anterior longitudinal presentation. Radiography revealed the presence of two foetuses in the uterus and one wedged in the pelvic cavity. The fetus in the pelvic region was delivered per vaginam. A caesarean section was performed to retrieve another two fetuses.

TREATMENT AND DISCUSSION

The surgical site was clipped and scrubbed with povidone-iodine and the bitch was positioned on dorsal recumbency and draped for the surgery. Normal saline

was infused at the rate of 10 ml/kg/h via the cephalic vein through a pre-placed 22 gauge scalp vein set. General anaesthesia was induced using Propofol (1%) @ 5mg/kg body weight, one-third of the calculated dose was injected as a bolus injection intravenously, and thereafter slow intravenous infusion was carried out until pedal reflexes were abolished. Maintenance of general anaesthesia was done using one-third of the total dose at 15-minute intervals. Ventral abdominal skin was incised using a scalpel blade and a stab incision was made into the linea alba to reach into the abdominal cavity. The left gravid uterine horn was identified and exteriorized. To prevent leakage of uterine fluid into the abdominal cavity, the saline-soaked gauze swabs were placed into the incision of the abdominal cavity. An incision was made on the uterine horn, over a presenting foetus, and the foetus was delivered with its placenta. Foetal membranes were removed. The dead puppy was transferred to a tray. Similarly, another puppy was delivered. The ruptured part of the uterus was repaired and the incised portion of the uterus was repaired using Schmeiden suture pattern using chromic catgut No. 0 and over-sewn by Cushing suture pattern. The abdominal incision was apposition in three layers; followed by the closure of the peritoneum and linea alba using chromic catgut No. 0 in a cruciate pattern. Subcutaneous tissues were repaired using chromic catgut No. 0 in a simple continuous suture pattern. In the last, the skin was closed using nylon No 0 in a cruciate suture pattern. Uterine torsion may be complicated by hypovolemic shock, peritoneal effusion and uterine rupture as well as septic peritonitis. The prognosis of aforementioned complications is very poor, however successful treatment of such cases has been reported (Ritt & Fossum, 1997). An incision was made on it and a large volume of clotted blood/dark fluid of about 2 litres was evacuated before the two dead foetuses could be removed (Fig. 1a).



Fig. 1: a) Dead foetus



b) Uterine rupture following uterine torsion

On exteriorization, the right uterine horn was observed to have twisted over 360° from the intracornal junction along its longitudinal axis in a clockwise direction. The twisting was corrected and a close examination of the right uterine horn revealed extensive widespread necrosis of the uterine tissues (Fig. 1b). The uterine horns were removed surgically. Postoperatively, the bitch was administered ceftriaxone at 25 mg/kg (intravenously) and meloxicam at 0.2mg/kg (intramuscularly) twice daily for 7 and 3 days respectively.

Uterine torsion of the left horn probably leads to the compromised blood supply to the uterus and subsequently fetus. In addition, the rupture of the blood vessel into the right uterine horn is evidenced by clotted blood/dark fluid. The degree of uterine torsion and magnitude of rupture observed in this case is uncommon. Local anaesthetic techniques are generally considered the “gold standard” for optimal maternal and foetal survival (Claude & Meyer, 2016). Uterine torsion in a pregnant bitch is relatively difficult to diagnose with most imaging techniques. Colour Doppler ultrasound has however been suggested as the best diagnostic tool (Biddle & Macintire, 2000). This was not available at this hospital, which may suggest why the condition was diagnosed at surgery. The exact etiology of uterine torsion, in this case, could not be ascertained. Some authors have hypothesized that a pre-parturient torsion could occur on a uterine horn, and there is a possibility of expulsion of puppies from the untwisted or a caudal portion of the twisted horn (Mohammed *et al.*, 2019). Uterine torsions result in a quickly deteriorating shock-like state associated with severe abdominal pain (Biddle & Macintire, 2000). Bitches with uterine torsion may therefore present with life-threatening systemic derangements requiring prompt medical and surgical intervention. This was evident in this case as the bitch presented with signs of shock caused by strangulated vessels. The presence of neutrophilia with a left shift might be indicative of septicemia induced by the emptying of uterine fluid into the peritoneal cavity from the ruptured horns. In the present case, oxytocin was administered thrice at 30-minute intervals by quack; which might cause uterine tetany, transient hypotension, foetal hypoxia and death, as well as uterine rupture (Parkinson *et al.*, 2019). Furthermore, oxytocin administration is contraindicated in uterine torsion (Parkinson *et al.*, 2019). As in such cases, oxytocin predisposes the uterus to rupture since its contractive effect pushes against the obstruction and similar observations were made by Jackson (2004). Uterine torsion is a surgical emergency since the condition is fatal for the dam and fetuses as well (Parkinson *et al.*, 2019). Caesarean section with partial or total ovariohysterectomy has been recommended for management depending on the severity of damage to the uterus

and vessels. Unilateral cornuectomy was performed in this case to preserve the viable contralateral horn. Subsequent pregnancies after treatment of unilateral uterine torsion by partial hysterectomy have also been reported (Kumru *et al.*, 2011), although there was a reduction in litter size.

In cases of uterine torsion, the administration of oxytocin causes a rupture of the uterus (Jackson, 2004). Uterine torsion usually takes place at the base of the uterus due to the absence of inter-cornual ligament (Roberts, 1986). The occurrence of uterine torsion is 1.1 per cent out of the 5 per cent of dystocia in dogs which is usually common towards the end of pregnancy (Dogear *et al.*, 2018). Mostly single cornual torsion is encountered in 93 per cent of the bitches and left cornual torsion is the most frequent (Kacprzak *et al.*, 2014) which was also seen in the present case. In the present case, the unequal distribution of fetuses in both the uterine horns might have resulted in torsion which is also reported by Niwas *et al.* (2023).

CONCLUSION

In conclusion, since the diagnosis of primary and secondary uterine inertia is a challenge, especially in poor resource settings, the option of surgical intervention should be considered as an emergency by both pet owners and clinicians. This will preclude complications that could arise from the use of oxytocin which is so common in field conditions.

CONFLICT OF INTEREST

None

REFERENCES

- Biddle, D. and Macintire, D.K. (2000). Obstetrical emergencies. *Clin. Tech. Small Anim. Pract.*, **15**: 88-93.
- Carbonell Rossello, G., Ferrandis, I., Masso, J.F.B. and Jimenez Pelaez, M. (2020), CT and surgical management of a uterine torsion associated with leiomyosarcoma in a dog. *Vet. Rec. Case Rep.*, **8**: e001103. <https://doi.org/10.1136/vetreccr-2020-001103>
- Claude, A., and Meyer, R. E. (2016). Anaesthesia for Caesarean section and for the pregnant patient. *BSAVA Manual of Canine and Feline Anaesthesia and Analgesia*, 366-375.
- Dogruer, G., Kose, A.M., Urer, E.K. and Dogruer, A. (2018). Unilateral Uterine Torsion in a Pregnant Bitch. *Eurasian J. Vet. Sci.*, **34**(1): 60-64.

- Forsberg, C.L. (2015). Dystocia in the bitch, In: Mechanisms of Disease in Small Animal Surgery, Eds; Bojrab MJ, Monnet E, Teton New Media, Jackson, WY, USA, pp:1-10.
- Jackson, P.G.G. (2004). Dystocia in the dog and cat In: Jackson P.G.G.: Handbook of Veterinary Obstetrics, 2nd ed. W.B. Saunders Company, Philadelphia. pp: 141-166.
- Kacprzak, K.J., Jurka, P., Max, A., Czerniawska-Piątkowska, E. and Bartyzel, B.J. (2014). Etiology, symptoms and treatment of uterine torsion in domestic animals. *Folia Pomer. Univ. Technol. Stetin., Agric., Aliment., Pisc., Zootect.*, **315**(32): 21–30.
- Kim, Y. E., Nam, S. H., Lee, W. J., Moon, C. H., Hong, G. L., Jung, J. Y., Jeong, J. M., Lee, H. B., Jeong, S. M. and Kim, D. H. (2024). Asymptomatic Uterine Rupture Caused by Trauma in a Small-Sized Non-Gravid Dog. *J. Vet. Clin.*, **41**(2): 112-116.
- Kumru, I. H., Seyrek-Intas, K., Seyrek-Intas, D., Tek, H. B. and Wehrend, A. (2011). Clinical case: Unilateral en bloc ovariocornuectomy as a treatment for uterine torsion in a bitch. *Rev. Med. Vet.*, **162**(2): 76-78. .
- Mohammed, S.A., Kannan, K., Narayanasamy, A., Palanisamy, S. and Purushothaman, S. (2019). Management of dystocia due to unilateral uterine torsion in a Labrador bitch: A surgical approach. *Turk. J. Vet. Anim. Sci.*, **43**(2): 296-298.
- Niwas, R., Jinagal, S., Amandeep, and Dutt, R. (2023). Uterine Rupture Associated with Uterine Torsion in a Pregnant Bitch. *Indian J. Anim. Reprod.*, **44**: 93-95. 10.48165/ijar.2023.44.02.18.
- Parkinson, T.J., Vermunt, J. and Noakes, D. (2019). Maternal Dystocia: Causes and Treatment. In: Veterinary Reproduction and Obstetrics (DE Noakes, TJ Parkinson & GCW England editors) WB Saunders Co., Philadelphia. pp: 236-249.
- Ritt, M. G., and Fossum, T. W. (1997). Successful treatment of uterine torsion and fetal retention in a postparturient Great Pyrenees bitch with septic peritonitis and prothrombotic complications. *J. Am. Anim. Hosp. Assoc.*, **33**(6): 537–539.
- Roberts, S.J. (1986). Veterinary Obstetrics and Genital Diseases. Indian Reprints 1986, CBS Publishers and Distributors. Delhi.