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Clinical Article

VENTRAL MIDLINE CELIOTOMY FOR THE MANAGEMENT OF UTERINE TORSION IN A MARE - A CASE REPORT

JASMEET SINGH KHOSA*, ARUN ANAND and PREM SAIRAM
Department of Veterinary Surgery and Radiology,
Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana-141 004, Punjab, India

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SUMMARY

The present paper reports a case of full-term pregnant mare presented to Teaching Veterinary Clinical Complex, Ludhiana, Punjab with a history of intermittent colic. The ultrasonography, per rectal and per vaginal examinations revealed the condition as uterine torsion with dead fetus and surgical correction was advised. Ventral midline celiotomy along with hysterotomy was performed and the condition was corrected. Postoperatively analgesics, antibiotics and fluid therapy were administered and the animal made an uneventful recovery.

Keywords: Celiotomy, Hysterotomy, Mare, Uterine torsion, Ventral midline

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Torsion of uterus is an uncommon condition accounts for 5-10% in pregnant mares which occurs any time during the mid and mostly during last stage of gestation but very rarely at the time of foaling (Martens *et al.*, 2008). The rolling activity associated with gastrointestinal tract problem, intense fetal movement, and a large fetus in a small volume of fluid were thought to be the causes where definitive etiology is still unknown (Yorke *et al.*, 2012). The affected animals typically shows moderate to severe form of colic and clinical signs associated to it (Chaney *et al.*, 2007). Palpation of broad ligament by rectal examination can confirm the condition along with ultrasonography for further valuable information about the uterine status, fetal viability and with other associated pathologies (Woodie, 2012). Various correction techniques were established like per vaginal manual rotation through cervix, rolling under anesthesia (avoided during the end term as it leads to rupture of uterus), standing flank laparotomy and ventral midline laparotomy (Saini *et al.*, 2013). The current paper reports the diagnosis and successful surgical management of chronic uterine torsion through ventral approach in a mare.

A 36 months old, nulliparous mare weighing 358 Kg in her last trimester of gestation was presented with a history of intermittent colic for 72 hours. The animal was restless, anorexic and looking at the flank, sweating, micturating frequently and kicking the abdomen. The heartrate was 52 bpm, rectal temperature 38.2º C, CRT 4 seconds and also had severely congested conjunctival mucous membrane. Hematobiochemical parameters revealed lactate 1.7 mmol/L, leukopenia of reduced TLC 4200/µL, PCV 26.6% and normocytic normochromic anemia. Per rectal examination confirmed the condition as right sided 1800 uterine torsion and fetal viability was assessed by 8 MHZ probe which showed dead fetus. Based on the clinical presentation and diagnosis of the of the mare a surgical approach was advised to the owner. Venous access was achieved by the placement of three-way central venous catheter in jugular vein (Fig. 1) and Ringer's lactate was administered to stabilize initially. The animal was premedicated with Inj. Xylazine hydrochloride@ 1.1 mg/kg intravenously and 10 minutes later induced with Inj. Ketamine @ 2.2 mg/ kg, intravenously. After the endotracheal intubation the mare was maintained on isoflurane. On dorsal recumbency and the ventral midline area was prepared according to standard aseptic protocol.

An incision was made ventrally on the skin approximately measuring 25 cm and extended upto linea-alba via subcutaneous fascia. The gravid uterus was approached and looked for adhesions and gross pathological changes. Sterile drapes/towels were packed in the abdominal cavity to avoid spillage of uterine contents. By making an incision on the gravid uterus, caesarean section was performed and dead foal with strangulated umbilical cord was identified and removed before prior ligation (Fig. 1). Inversion sutures were applied *viz*., Lembert followed by Cushing to close the hysterotomy incision using polydioxanone No. 1 (Fig. 3). The uterus was placed in its anatomical position by manual detorsion which was confirmed simultaneously through per vaginal and intra-abdominal examinations. Large quantities of 0.9% normal saline solution was used to lavage the abdominal cavity prior to close the celiotomy incision. The linea-alba and subcutaneous tissues were closed using Polydioxanone no. 2 in simple interrupted and simple continuous pattern respectively. Skin was opposed using polyamide no. 2 in interrupted cruciate manner and bandaged. Post-operative administration of

*Corresponding author: jasmeetkhosa@gmail.com

analgesic and antibiotics were advised asInj. Flunixin meglumine @1.1 mg/kg B.W. o.d. I/V and Inj. Metronidazole @10 mg/kg, B.W. I/V b.i.d. for 3 days, Inj. Amikacin @10 mg/kg B.W. I/V once daily and Inj. Piperacillin tazobactum @50 mg/kg B.W. I/V b.i.d. daily for 5 and 7 days, respectively. The surgical wound was dressed with povidone iodine on every alternate day and skin sutures were removed on 12th post-operative day.

In the current case diagnosis was made straight forward by palpating the twist per rectally, cranial to the cervix, with both the broad ligaments felt following the direction of rotation. In terminal stages of pregnancy, the broad ligaments are firmly stretched descending by gravid uterus ahead to the pelvic rim (Vasey, 1993). In the present report, ventral celiotomy was preferred as the animal was in last stage of gestation and also it helped to assess the condition of uterus for concurrent conditions like tears, hemorrhage, edema, necrosis, and congestion. Apart from this, this technique yields a good prognosis for long-term survival in mares with chronic uterine torsion. In addition, it also helps to approach the gastrointestinal tract if indicated, to treat concomitant gastrointestinal problems (Steel and Gibson, 2001; Doyle *et al.*, 2002; Palace, 2014). Another commonly seen concurrent clinical sign is colic, where the severity of pain has been related to degree of torsion (Saini *et al.*, (2013). The percentage of fetal death increases or the prognosis is poor when the torsion occurs at gestation ≥ 320 days (Chaney *et al.*, 2007).

Pregnant mares with abdominal discomfort or colic in the final stages of gestation should be evaluated for uterine torsion. A multimodal diagnostic approach including per-rectal and per-vaginal examination along with ultrasonography will help in better understanding to assess the condition. Ventral midline celiotomy is found to be a better technique to address the uterus and associated structures.

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