

## Management of dystocia due to unilateral uterine torsion in a Labrador bitch: a surgical approach

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**Abstract:** Uterine torsion is an uncommon disorder of bitch and is more likely to occur in the pregnant animals. A three-year-old Labrador bitch was presented to the Madras Veterinary College Teaching Hospital with the history of having delivered two live puppies in the morning with no further signs of parturition. On abdominal palpation, the fetal mass was palpable. Radiography revealed three fetal skeletons and ultrasound revealed viable fetuses. Based on the history and clinical examination, the case was tentatively diagnosed as primary uterine inertia. Even after two inductions, no puppies were delivered and hence to save the life of puppies, emergency caesarean section was performed. Right uterine horn torsion with severe necrosis was noticed upon laparotomy; hence, ovariohysterectomy was performed and the animal had an uneventful recovery.

**Key words:** Dystocia, unilateral uterine torsion, ovariohysterectomy, bitch

### 1. Introduction

Torsion is the twisting of the uterus on its own longitudinal axis, commonly observed in dairy cattle and occasionally reported in bitches (1). Although it is an uncommon cause for dystocia in bitches, uterine torsion is usually associated with late pregnancy where the lack of fetal fluids and instability of uterine horns along with violent uterine contractions (2) or a sudden fall may induce the condition. The incidences of uterine torsion in nonpregnant bitches have also been reported whereby the condition is predisposed by hematometra, uterine focal adenomyosis, and cystic endometrial hyperplasia or pyometra complex (3). Due to the life-threatening nature of the condition, caesarean section is warranted to diagnose and resolve the condition. Effective and timely intervention may avoid complications such as septic shock, peritonitis, and hemostatic abnormalities. The present paper describes the successful management of uterine torsion with retained fetus in a bitch through caesarean section.

### 2. Case history

A three-year-old primiparous Labrador retriever, weighing 21 kg, was presented to the Madras Veterinary

College Teaching Hospital with the history of having already delivered two live puppies in the morning with no further signs of parturition. Clinical examination revealed restlessness and panting with lack of abdominal straining. The rectal temperature was 37.2 °C. Pink conjunctival mucous membrane was observed, but no palpable lymph node was present. Abdominal palpation revealed the presence of fetus mass and on vaginal examination no fetal parts were palpable. Radiography revealed the presence of three fetuses (Figure 1), which were found to be viable in ultrasonography with heart beat around 200 beats/min. The case was diagnosed as dystocia due to primary uterine inertia.

### 3. Results and discussion

The bitch was treated for primary uterine inertia and induced with slow intravenous infusion of 10% calcium gluconate (10 mL) and oxytocin (20 IU) in 50 mL of 20% dextrose solution. Repeated ultrasound examination revealed the heartbeat of the single retained fetus to be <120 bpm. Hence, it was decided to perform an emergency caesarean section to save the life of puppy.

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**Figure 1.** Lateral abdominal radiography showing three fetal skeletons.

The animal was premedicated with glycopyrolate (0.04 mg/kg) subcutaneously and anesthesia was induced with intravenous propofol (5 mg/kg) and maintained with 2% isoflurane. One dead male fetus was excised through celiotomy (midventral approach). Examination of the uterus revealed 270° torsion of the right uterine horn (Figures 2 and 3) with ischemic necrosis and hematometra (Figure 4). Hence, to avoid further complications, ovariectomy was performed with the owner's consent. The surgical wound was closed as per standard procedure and the animal was treated with ceftriaxone at 20 mg/kg and butorphanol at 0.5 mg/kg postoperatively for 7 days. The bitch recovered uneventfully.

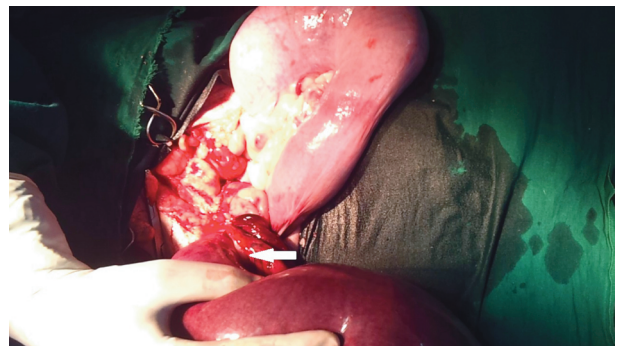
Incidence of uterine torsion is rare in bitches (4) and the location of torsion usually occurs at its base due to lack of intercornual ligament (5).

Even though uterine torsion is reported both in nonpregnant and pregnant bitches, its incidence is higher in pregnant bitches. Similarly unilateral torsion is more likely to occur than bilateral (6). In the present case, the bitch was pregnant and the torsion was unilateral which was similar to the findings of Raut et al. (7) and Arunmozhi et al. (2). The higher incidence in gravid bitches during late gestation or during whelping is probably due to strong uterine contractions along with violent fetal movements. Other possible factors are running/rolling behavior during excessive playing, premature uterine contraction in late pregnancy, hereditary weakness in uterine ligaments, conditions resulting in fluid distension of uterus (e.g., cystic endometrial hyperplasia-pyometra complex, hematometra and uterine mass/tumors) (8).

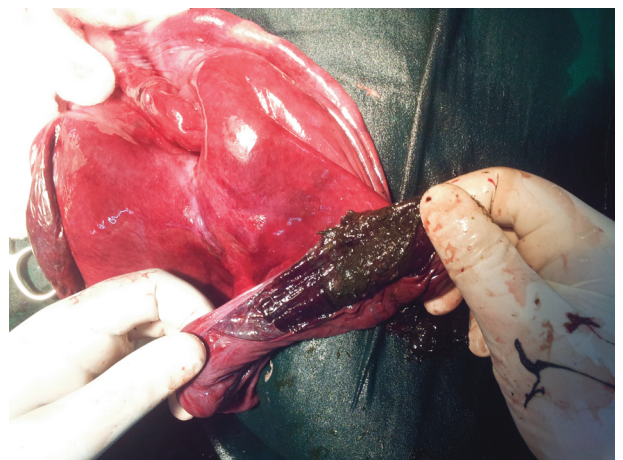
Hyperactive movement of the bitch towards the end of gestation, along with the gravid uterus, could have caused instability of the uterus and hence torsion in the present



**Figure 2.** Right uterine horn is twisted counterclockwise.



**Figure 3.** Unilateral uterine torsion, pointer indicating location of torsion.



**Figure 4.** Incision of rotated uterine horn showing hematometra.

case. In case of torsion, puppies may be born from the nonrotated, sound horn or from the caudal aspect of the rotation site of the uterine horn in a partial torsion. In this case the bitch had already delivered two live puppies and

the torsion was at the base of the right horn. Thus, both puppies that were already delivered must have been from the left horn.

Thrombosis, shock, fetal, and/or maternal death resulting from obstruction of blood supply to the uterus are sequelae to severe uterine torsion (9). Ovariohysterectomy without detorsion of the torqued portion is recommended as the treatment of choice in torsion with ischemic necrosis of uterine structures as detorsion might result in reperfusion damages and release toxins in the systemic circulation of dam leading to life threatening emergencies (4). Unilateral

hysterectomy, unilateral ovario-cornuectomy, and en bloc ovario-cornuectomy were suggested by Kumru et al. (10) to preserve the breeding ability of the bitch in unilateral torsion. However, it is feared that uterine rupture or perforation at the cornuectomy site at bifurcation might occur during labor of future pregnancies and parturition. Also the lack of attachment at the unicorn uterus might favor torsion again. In the present case, since the owner was not interested in breeding the dog in the future, ovario-hysterectomy was performed rather than unilateral ovario-cornuectomy.

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