Uterine torsion in the mare*

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Introduction

Uterine torsion is less common in mares than in cows, perhaps due to a more stable anatomical suspension of the equine reproductive tract (i.e., sublumbar ovarian attachment, dorsally attached uterine broad ligaments). However, uterine torsion accounts for a significant percentage of the more serious cases of dystocia in mares.

Exact causes of uterine torsion are unknown. Suggested contributing factors include sudden falls or vigorous movement of a large fetus in a relatively small volume of fluid. Uterine torsion in the mare is reported to be as likely to occur in the last half of gestation as during labor. At the Texas Veterinary Medical Center, mares presented with uterine torsion are more commonly in mid- to late-gestation.

Clinical signs of uterine torsion are primarily those of intermittent unresponsive, often severe, colic. Impending parturition may be suspected due to the mare's restlessness, sweating, anorexia, and frequent attempts at urination. Severity of clinical signs is related to the degree of uterine rotation and vascular impairment. Immediate correction is required to restore circulation and improve chances of fetal survival. While torsions of less than 180 degrees may or may not require correction, rotation is frequently ≥360 degrees.

Kweywords: Uterine torsion, dystocia, mare, parturition

Diagnosis

Diagnosis of uterine torsion is confirmed by detection of displacement in either direction, since clockwise and counterclockwise torsions occur. Palpation of the uterus per rectum reveals a tense broad ligament spiraling in the direction of uterine rotation. The other broad ligament is usually palpable as it disappears beneath the uterus. Occasionally only one broad ligament is palpable, coursing from one side of the twisted uterus dorsally over and down to the other side. Identification of the ovaries serves to distinguish broad ligaments from taut mesentery. Anterior vaginal constriction spiraling in the direction of torsion is only occasionally evident on vaginal examination, in contrast to its more frequent occurrence in the cow.

Manual correction of uterine torsion

Preparation of the mare for standing intervention, with or without sedation, was described in the previous Theriogenology Handbook Fact Sheet on correction of dystocia by mutation and traction.[1] Manual correction of uterine torsion is reserved for term mares in which the cervix is dilated sufficiently to permit the hand to be passed into the uterus to manipulate the fetus. The obstetrician grasps a portion of the fetus ventrolaterally while resting the arm on the pelvic floor. The fetus is gently rocked until enough momentum is gathered to lift it upward and over within the uterus opposite to the direction of the torsion. If successful, the fetus and uterus will rotate into the normal position and the mare should enter second stage labor as the genital tract fully dilates. Administration of 10-20 units of oxytocin intravenously may promote cervical dilation and delivery if congestion of the genital tissues has compromised the dilation process. Fetal delivery should be assisted. If cervical dilation does not proceed, cesarean section is indicated.

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Rolling to correct uterine torsion

The rolling technique for correction of uterine torsion is primarily used in preterm mares and other cases in which the cervix is closed. Some authors have cautioned against rolling of the mare to correct uterine torsion, primarily because of increased risk of separation of the chorioallantois and uterine rupture. Clinicians at the Texas Veterinary Medical Center, however, have had good success encountering few such problems when using the technique described by Schaffer[2] and modified by Bowen.[3]

The mare is cast in lateral recumbency (on the side of the direction of torsion) after being anesthetized with a short-acting anesthetic regimen, and maintained with inhalation anesthesia. The mare is hobbled, ropes are applied to the limbs, and a wooden plank (2" x 12" x 12') is placed as shown in Figure 1. The mare is gently rolled in the direction of the torsion to her other side (Figures 2 and 3) while a person kneels in the middle of the plank. One person cradles the mare's head during the rolling procedure to protect it and prevent trauma to the cervical spine. The genital tract is examined per rectum to determine if the torsion has been corrected or it is determined that rolling is not beneficial. Reexamination is performed in the standing mare after recovery from anesthesia to ensure that the uterus has remained in its normal position and that the fetus is viable. In term mares, delivery should be assisted. Close monitoring for several days in preterm mares is necessary due to the potential for fetal death, abortion, and other complications such as uterine rupture.

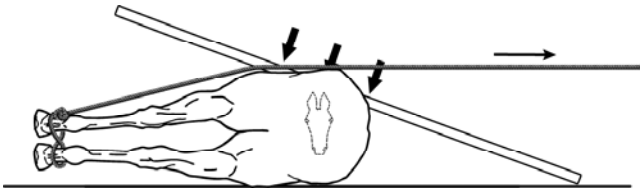

Figure 1. Position of mare and plank prior to rolling

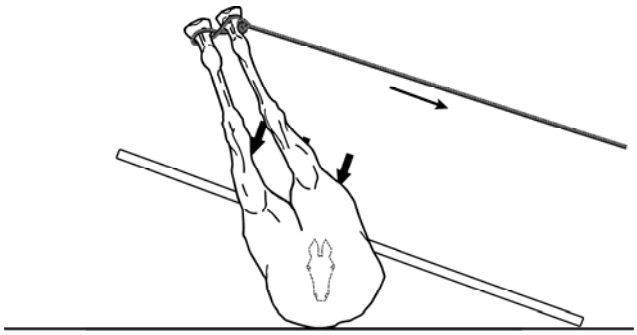

Figure 2. Uterine (fetal) position maintained by weight of plank during rotation of mare.

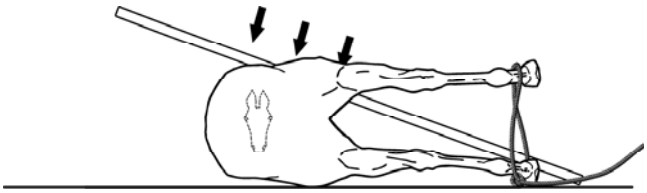

Figure 3. Position following reduction of 180 degrees of uterine torsion.

Surgical correction of uterine torsion

Surgical correction of uterine torsion is generally reserved for cases that are unresponsive to rolling or for the clinician who does not have immediate access to adequate personnel or

equipment for general anesthesia and rolling. The reader is referred to reviews on the procedure for surgical correction for discussion of preparation, anesthesia, and surgical approaches.[4-6]

If a standing laparotomy is performed, uterine torsion is corrected by reaching under the uterus, grasping the legs of the foal and gently rocking the foal and uterus with a pull-and-lift motion until it is returned to a normal position. If room permits, one hand can be used to grasp a fetal bone through the underside of the uterus and pull toward the operator while the other hand is simultaneously used to push against the dorsal aspect of the uterus. Following rotation of the uterus, the ovarian ligaments are traced along their course from their dorsal attachments to the tips of the uterine horns to confirm attainment of the normal uterine position.

The ventral abdominal approach should be used with suspected uterine tears, emphysematous fetuses or uterine devitalization. In uncomplicated cases of uterine torsion, return of the uterus to its normal position is accomplished by grasping the limbs of the foal and rotating the uterus. Cesarean delivery prior to correction of the rotation is sometimes necessary with the previously mentioned abnormalities, or with very large term or twin fetuses.

Acknowledgement

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Additional reading

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