Short communication

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Management of Dystocia Due to Posterior Presentation and Umbilical Torsion in a Jenny

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ABSTRACT

The present case report puts on record of successful management of dystocia in a jenny suffering from posterior presentation of fetus and torsion of the umbilical cord. A five-year-old pregnant jenny in its last trimester with the history of vaginal discharges followed by mild straining without any progress was reported at the farm. The vaginal examination revealed a fully dilated cervix with the presence of a fetus with breech presentation. The fetus was relieved successfully by repulsion of the fetus, extension of flexed hind legs and final traction of the fetus without any administration of anesthesia.

Key words: Jenny, Dystocia, Umbilical cord torsion, Breech presentation

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INTRODUCTION

Donkeys are much similar in reproductive aspects to the horse mare (Pugh, 2002). The gestation period of jenny is of 365 to 376 days (Noakes, 2001) but extreme variations range from 340 to 395 days is observed (Chauhan *et al.,* 2013). The process of foaling in equines is a rapid (30minutes) and violent process with low incidence of dystocia (Bhoi *et al.,* 2010). Although uncommon, equine dystocia is recognized as being an emergency with potentially fatal consequences for both fetus and dam. In the equids, because of the relatively early separation of the placenta, foal survival is very short; thus if there is any dystocia there will be stillbirth (Noakes, 2001). Dystocia was found to be responsible for 20% of foal mortality within 48 hours of birth (Katiyar *et al.,* 2015). Donkey dystocia or obstetric cases have been reported, but their true incidence and nature is still unknown and it was only occurring in 1-4% of all foalings (Threlfall, 2007). Early intervention is necessary if the foal is to be saved (Ricketts *et al.,* 2006). Any fetal disposition other than anterior presentation, dorsal position and normal posture is likely to result in dystocia. Caudal or posterior presentation is an uncommon cause of dystocia in the jennies. Torsion of the umbilical cord in the jenny or mare can be a cause of fetal death and abortion, commonly seen in mid to late gestation. Length of the umbilicus is considered to be a contributing factor. Measured lengths of less than 84 cm were considered normal in a study among Thoroughbred mares in one report (Mizushima, 2005). Increased lengths have

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been associated with excessive torsion and allantochorionic necrosis. Little is known about what causes excessive twisting of the umbilical cord, and up till now, only the length of the umbilical cord has been identified as a risk factor for umbilical cord torsion. Present case report conforms to these indications of vascular obstruction as the cause of fetal death, with visible twisting and excessive cord length after delivery of the dead foal presented posteriorly in the birth canal.

CASE HISTORY AND OBSERVATIONS

A 5 year old, primiparous jenny was reported to be suffering from dystocia. The jenny was inseminated with frozen semen of a fertile jack 10 months ago. The jenny was weighing about 475 Kgs with good body condition score at the time of foaling. Clinical examination of the jenny revealed symptoms of discomfort or straining and water bag is protruding from the vulva. The jenny was found to be restless and suffering from labor, but there was no progress and the water bag is neither ruptured nor the fetal parts are visible. The temperature, respiration rate and pulse rate were recorded and found to be slightly elevated than normal. Per- vaginal examination revealed a breech presentation of the fetus with both the hind limbs were flexed and tail could be palpated. The fetus was found to be dead and positioned dorsally.

TREATMENT AND DISCUSSION

The primary examination revealed that the jenny is delivering a single fetus and presence of twins was ruled up on per-vaginal examination. The fetus was in posterior presentation with flexed limbs and fetus has no moments. The breech foal has hind legs flexed, in dog sitting position facing its rump towards the dorsal side of the dam and the rump is jammed against the cervix. As it was fresh case no anesthesia was administered and decided to deliver the fetus through vagina, without any surgical intervention or fetotomy. The jenny was restrained tightly with ropes and laid down in lateral recumbency on the ground safely. The perineum was cleaned with antiseptic liquid. The water bag was punctured and found very little fluid coming out from the birth canal. Fetus and birth passage was thoroughly lubricated with liquid paraffin for easy effective obstetrical maneuvers. There was very little space to manipulate the hind limbs. Initially the fetus was repelled back in the abdominal cavity via introducing a lubricated hand in to the birth canal and the hands were gently passed under the flexed hind limbs which were grasped gently and extended one by one back in to the pelvis to make it posterior presentation with extended limbs in the pelvis. After the fetal posture and position were corrected, traction was applied in an arc fashion along the line of the birth canal to retract the fetus from the birth canal. A dead fetus with soft skin and fully developed size was forcefully extracted from the birth canal with success. The weight of the fetus was found to be at 34.5 kgs and the placental weight was up to 10.5 kgs. The umbilical cord was examined after the delivery and found to be twisted completely and it was found to be longer than usual which may be the cause for the death of the fetus. Close examination revealed multiple twisting (torsion) of the umbilical cord (Fig. 1; A-C).

The length of the umbilical cord was about 85 cm, showing edema, marked discoloration, and evidence of tissue necrosis primarily in the last 20 cm before the entrance of the cord into the abdominal cavity of the fetus (Fig. 1; A-C). The foal appeared to have died within the previous few hours. There were neither placental nor fetal remnants were observed after the delivery as the major portion of the placenta was expelled during the traction of the fetus itself. The jenny was administered with Flunixin meglumine @1.1 mg/kg, 5 lit of normal saline in which 50 IU oxytocin was administered. A dose of tetanus toxoid was also given on the day of delivery to minimize the

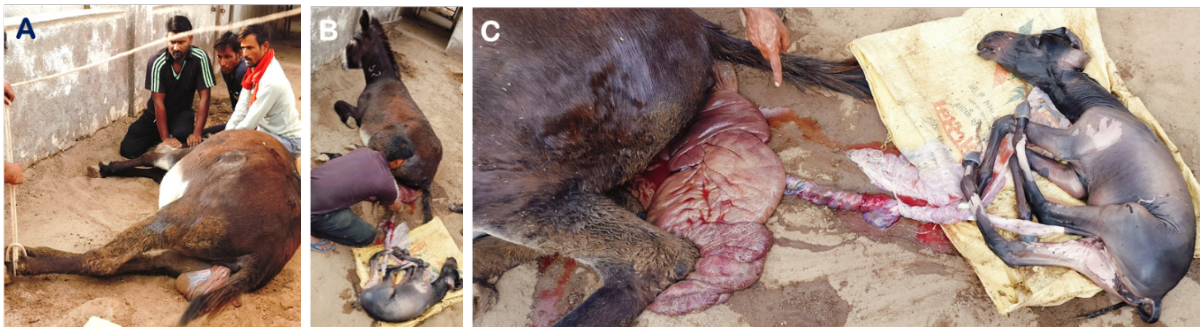

Fig 1: A. Jenny presenting with water bag and suffering from dystocia; B. Process of retraction of the fetus to relieve dystocia and umbilicus; C. Twisting of umbilical cord with stillborn foal.

chance of tetanus. The jenny did not show up any toxemic signs on the next day.

Equine pregnancy failure can occur throughout gestation with aetiologies varying by region. Umbilical cord torsion is a major cause of fetal loss in mares, and has been demonstrated to be the most common cause of abortion and stillbirth with a prevalence up to 52%. Fetal asphyxia associated with dystocia has been identified as a leading cause of equine reproductive loss (Lanci *et al.,* 2022). All studies have shown that dystocia occurs more frequently in primipara than in pluripara (Katiyar et al.,2015). The present case report is also described the dystocia in a primiparous jenny. Breech presentation is a specific form of posterior presentation where there is bilateral flexion of the foal's hips. Usually caesarean section is indicated in these type of cases if the fetus is alive. Nearly half of the fetuses presented in posterior presentation have bilateral hip flexion (Frazer, 2001). The condition appears to occur due to some unexplained failure of normal limb extension mechanism. In this situation, the fetus must be repelled and converted to bilateral hock flexion which must then be corrected and the fetus delivers manually. The condition is very difficult to correct and similar attempt was made in the current report to relieve the dystocia.

Most Umbilical cord torsion associated abortions have been reported to occur in mid to late gestation in equines (Christoffersen et al., 2024). According to a study conducted by Christoffersen *et al.* (2024), the cause of abortion in equines was associated with uterine cord length ($p = 0.002$) and period of gestation ($p = 0.009$). Fetuses aborted due to uterine cord torsion had significantly longer cord lengths (94.8 ± 5.1 cm) compared to abortions due to other causes (67.2 ± 4.9 cm). The length of the cord observed in the current study also corroborates with the earlier findings. The fetal-amniotic unit is highly mobile within the first five months of gestation, hereafter mobility decreases and ceases by approximately day 180 (Ginther, 1993), mainly because of decreased space within the uterine lumen as the fetus growths (Christoffersen et al., 2024). The coiling is considered pathologic, when it is excessive (over coiling) with occlusion of vessels and it has a lethal outcome. The fetus is usually autolyzed as death of the fetus precedes abortion (Williams, 2002). It is well-known that a significant number of abortions are not specifically diagnosed owing to delays in time of discovery, deteriorated tissue samples, and negative laboratory findings. Therefore, thorough post abortion and post-delivery examination of the fetus, placenta, and umbilical cord may reveal other causes that are not identified with laboratory procedures. In the present case report also after thorough examination of the cord and placenta, it is evident that the fetal death might have occurred due to the torsion of the lengthy umbilical cord (85 cms). To date, the only risk factor known to be associated with excessive twisting leading to umbilical cord torsion associated abortions is abnormal long umbilical cord. It could be hypothesized, that the excessive long umbilical cord develops secondary as a response to stretching of the umbilical cord because of tension arising from the twisting of the cord.

CONCLUSION

The present case report puts on record of successful delivery of the stillborn fetus with breech presentation and with twisted umbilicus in a primiparous jenny. Parameters of gestation length, death of the fetus in utero, and post-delivery umbilical cord twists prompted a diagnosis of umbilical cord torsion with vascular obstruction as a cause of fetal death. These findings were further supported and confirmed by the presence of edema, discoloration of cord tissue and early tissue necrosis, which are highly confirming the vascular obstruction preceding fetal death.

CONFLICT OF INTEREST

The authors declare that they do not have any conflict of interest among themselves.

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