



## Dystocia due to Lateral Deviation of Head and Carpal Flexion in Mare - A Case Report

Aswini Sivan G<sup>1</sup>, Anju kujur<sup>1</sup>, Brijesh Kumar<sup>1</sup>, Srivastava N<sup>1</sup>, Tarun Sahu<sup>1</sup>

<sup>1</sup>Division of Animal Reproduction, ICAR-Indian Veterinary Research Institute, Izatnagar, Bareilly, Uttar Pradesh-243122, India

### ARTICLE INFO

**Key Words:** Goat, Dystocia, flexion, mare

doi: [10.48165/aru.2022.2.2.6](https://doi.org/10.48165/aru.2022.2.2.6)

### ABSTRACT

Although dystocia in mares is uncommon, it may be brought on by the way the fetal extremities develop. Dystocia in horses is a serious condition. The referral veterinary polyclinic of ICAR-IVRI received a call about a stray mare who had been straining for the last four hours. She was about 6-7 years old. The absence of foetal responses revealed a dead foetus, and rectal examination indicated that it to be a case of lateral deviation of the head. For the purpose of facilitating head-deviation correction, the foetus was repulsed back into the uterus. A forcible extraction was used to remove the dead foetus following the use of the obstetrical hook to adjust the fetal head position. Anti-inflammatory drugs along with antibiotics were administered. Additionally, tetanus shots were administered prophylactically. The most frequent cause of dystocia in the mare is head deviation, which is a critical condition that can affect both the dam and the foetus.

### Introduction

Dystocia in mares is among one of the most demanding obstetrical conditions (Purohit, 2011). Dystocia is quite infrequent among foaling mares, with incidences spanning less than 1% to 10%. Apart from cattle, in mares it has few incidences of feto-maternal disparity or primary uterine inertia. In mare, the most common cause being the disposition of foetal extremities of anterior presentation in the birth canal due to long neck and limbs of the foal, compared to other species (Frazer, 2001). Looking at the presentation of the fetus in mare, 98.9% of foetuses in normal term are anteriorly presented, 1.0 percent is poste-

riorly presented, and 0.1 percent is transversely presented (Vandeplasse, 1987).

### Case history

A non-descript stray mare aged around 6-7 years was brought to Referral Veterinary polyclinic of ICAR-Indian Veterinary Research Institute, Izatnagar. The presented animal was recumbent and according to the history animal was straining since 4 hours. On general examination, the body of the animal was grossly injured, which might be due to struggling while intense straining, and also due to

<sup>\*</sup>Corresponding author.

E-mail address: [sangnee15@gmail.com](mailto:sangnee15@gmail.com) (Neeraj Srivastava)

Received 06.08.2022; Accepted 16.08.2022

Copyright @ Animal Reproduction Update ([acspublisher.com/journals/aru](http://acspublisher.com/journals/aru))

injuries sustained at the time of loading to the animal to the vehicle.



Fig. 1. Appearance of vulva

On per vaginal examination, head of foetus could not be approached, whereas hoof of the foetus was palpable, with absence of foetal reflexes suggesting that foetal death had occurred in-utero (Fig. 1). Thorough examination confirmed it was a case of lateral deviation of the head with both the carpals flexed.

## Management

The dam's tail was secured using bandages and the perineum was properly washed before the commencing vaginal examination. On examination of the birth canal, dilatation of cervix was found to be normal, but due to long extremity postural correction was needed, which was achieved by repulsion of foetus back into the uterus. Ample amount of warm carboxymethyl cellulose (CMC) was instilled to get sufficient lubrication for the correction. Neck and forelimbs were repelled by simultaneously applying pressure over mandible to the correct head deviation. Obstetrical hook was employed to manipulate the head by applying it inside the mouth on mandibles to facilitate neck rotation into the normal anterior presentation (Fig. 2 and 3). After correction of head presentation of each forelimb were corrected by cupping the hoof and corrected in an arc like movement (Fig. 3 and 5). On application of chain on both forelimbs and head, and application of simultaneous traction expulsion of the dead female fetus was achieved, simultaneously placenta was also evacuated. It was observed that the umbilical cord was abnormally twisted several times, restricting flow of blood to the fetus, which might have enhanced early death of foetus along with normal early placental separation in equines.



Fig. 2. Presented foetal posture



Fig. 3. After correction of head



Fig. 4. Corrected right carpal



Fig. 5. Corrected left carpal

To aid uterine flushing, 20 mL of povidone iodine was diluted with 20 mL of distilled water and infused into the uterus. Three litres DNS (5 %) was administered intravenously. After three days of antibiotic injection (Intacef 3 G) and anti-inflammatory medication (Flunixin 7.7 mL), the mare recovered to normal health. Furea bolus (4 Boli OD) was given intrauterine for two consecutive days. Tetanus toxoid (7 ml) was given intramuscularly as a prophylactic injection.

## Discussion

Postural abnormality of foal is the most frequent causes of distortion in mare as the extremities of the foetus proportionately long compared to other species. Of which head deviations are the most difficult among all dystocia in mare, as it can be deviated laterally or ventrally between both forelimbs. Normally parturition of the mare is rapid in the second stage, with forceful occurring within a period of 20 minutes with active participation from foetus compared with other species. Death of the foetus can occur rapidly after initiation of second stage if not expelled promptly due to early placental separation seen in diffused placentation.

Various approaches are available to expel the foetus, but the nature of intervention need to be carefully decided according to the presenting condition, such as

1. Assisted vaginal delivery - if the foetus is in normal presentation and if the prognosis of manipulation is considered favourable
2. Controlled vaginal delivery – using sedation when mare cannot be transported
3. Foetotomy- can be considered in case of fetal demise and in active, healthy dam, which can withstand the stress of fetotomy. The fetotomy, if not conducted by trained personnel, will be potentially risky for the mare (Higgins and Wright, 1999)
4. Caesarean section - have a better prognosis for both mare and the foal (Dugdale, 2007)

Dystocia in equids are an emergency condition for both dam and foal (Freeman et al., 1999). Based on reports by Vandeplassche et al. (1980), the most common cause of

dystocia in equids is the deviation of head, of which 27% are corrected by repositioning, 65% by fetotomy and fewer than 8% by C - section. The pathological condition referred to as 'umbilical cord torsion' may be described as excessive twisting of the cord such that there is complete or partial occlusion of the umbilical vessels or urachus (Williams et al. 2002). Aneurysms, ripping of the intima of vessels, haemorrhage, thrombosis of vessels, local edema, and urachal dilatations of various diameters could all occur in the affected areas of the cord (Schlafer, 2003).

**Conflict of interest statement:** Authors declare no conflict of statement

## References

- Dugdale DJ. Dystocia. BEWA Equine Stud Medicine Course, 2007; 225-28.
- Frazer GS. Fetotomy technique in the mare. Equine Vet Educ. 2001; 13(3):151-159. doi: 10.1111/j.2042-3292.2001.tb00081.x.
- Freeman DE, Hungerford LL, Schaeffer D, Lock TF, Sertich PL, Baker GJ, Vaala WE, Johnston JK. Caesarean section and other methods for assisted delivery: comparison of effects on mare mortality and complications. Equine Vet J. 1999;31(3):203-7. doi: 10.1111/j.2042-3306.1999.tb03173.x.
- Higgins AJ, Wright IM. The equine manual, Saunders, Oval Road, London, 1999.
- Purohit GN. Intra-partum conditions and their management in mare. J Livest Sci. 2011; 2: 20-37.
- Schlafer DH. The umbilical cord- lifeline to the outside world: Structure, function, and pathology of the equine umbilical cord. In: Proceedings of a Workshop on the Equine Placenta, University of Kentucky, 2003; 92-99.
- Vandeplassche M. Obstetrician's view of the physiology of equine parturition and dystocia. Equine Vet J. 1980;12(2):45-9. doi: 10.1111/j.2042-3306.1980.tb02307.x.
- Vandeplassche MM. The pathogenesis of dystocia and fetal malformation in the horse. J Reprod Fertil Suppl. 1987;35:547-52.
- Williams NM. Umbilical cord torsion. Equine Disease Quart. 2002;10: 3-4.