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## Successful management of dystocia caused by inadequate vulvar relaxation in a crossbred jersey heifer using episiotomy

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### Abstract

A full-term crossbred Jersey heifer was presented with dystocia due to inadequate vulvar relaxation. Initial attempts at fetal delivery by forced traction were unsuccessful. Therefore, episiotomy was performed under epidural anaesthesia using bilateral dorso-lateral incisions at the 11 and 2 o'clock positions, which facilitated successful per-vaginal delivery of a live female calf. Post-operative supportive therapy resulted in an uneventful recovery of the animal. This case highlights episiotomy as a safe and effective emergency obstetrical procedure for the management of inadequate vulvar relaxation-induced dystocia in heifers.

**Keywords:** Dystocia, episiotomy, heifer, inadequate vulvar relaxation, maternal causes

### Introduction

Dystocia, or difficulty in parturition, may occur due to either fetal or maternal causes. Fetal causes commonly include abnormal presentation, position, and posture of the fetus (Behera *et al.*, 2023) <sup>[1]</sup>. Maternal causes of dystocia generally arise due to obstruction or constriction of the birth canal or insufficient maternal expulsive forces. Inadequate vulvar relaxation is an occasional maternal cause of dystocia and is reported more commonly in mares and heifers than in other domestic animals. Inadequate relaxation of the vulva may also be observed during premature birth or abortion (Ravikumar *et al.*, 2017) <sup>[2]</sup>. The present case report describes the successful management of dystocia caused by inadequate vulvar relaxation using the episiotomy technique, resulting in the delivery of a live fetus.

### Materials and Methods

A full-term pregnant crossbred Jersey heifer was presented with a history of straining and signs of parturition. On further enquiry, the owner reported rupture of the water bag two hours earlier. General clinical examination revealed pink mucous membranes, while rectal temperature, heart rate and respiratory rate were within normal physiological limits. External examination of the genital tract revealed an edematous vulva with whitish-colored discharge. Vaginal examination indicated fully dilated cervix and the presence of the fetus in anterior longitudinal presentation, dorso-sacral position, with both forelimbs extended into the birth canal and the head resting over the metacarpal region. Fetal reflexes were present in vaginal examinations, confirming that the fetus was alive. Careful forced traction was attempted for fetal delivery; however, it was unsuccessful due to the narrow vulvar passage. Based on the history and findings of clinical and vaginal examination, the case was diagnosed as dystocia due to inadequate vulvar relaxation. As an emergency obstetrical intervention, delivery of the live fetus by episiotomy was planned.

## 6. Results and Discussion

The animal was properly restrained in a trevis, and the perineal region was thoroughly cleansed with 1% potassium permanganate solution. Epidural anaesthesia was achieved by infiltration of 3 ml of 2% lignocaine hydrochloride solution into the sacro-coccygeal epidural space. Following aseptic preparation with 5% povidone iodine solution, two episiotomy incisions were made using a sterile BP blade at the 11 o'clock position on the left dorso-lateral aspect of the left vulvar lip and at the 2 o'clock position on the right dorso-lateral aspect of the right vulvar lip. The obstetrician's hand was then carefully introduced through the incised vulvar opening, and a live female fetus was delivered successfully using gentle three-point traction applied to both forelimbs and the head. The incised vulvar lips were sutured using a continuous lock stitch pattern with chromic catgut No. 2. Post-operatively, the animal was treated with intravenous fluids consisting of Inj. DNS (1000 ml, i/v) and Inj. Calcium Borogluconate (450 ml, i/v), along with Inj. Enrofloxacin (5 mg/kg b.wt, i/m), Inj. Meloxicam (0.5 mg/kg b.wt, i/m), Inj. Chlorpheniramine maleate (0.5 mg/kg b.wt, i/m), and Inj. Oxytocin (60 IU, i/m). Oral calcium supplementation and oral ecobolics were advised for continued post-partum care. Postoperatively the animal had an uneventful recovery. The animal was followed up for two months and the proper vulval contour was ensured.

Inadequate relaxation of vulva occurs with an incidence rate of 4 percent (Tsaousioti *et al.*, 2023) [3]. Presence of inadequate vulvar relaxation at the time of parturition may be clinically evident and sometimes characterized by difficulty in passing the hand of the obstetrician into the birth canal (Purohit *et al.*, 2011) [4]. The principle of episiotomy involves creating a controlled incision in the perineal region to enlarge the diameter of the vulvar passage, thereby facilitating fetal delivery and relieving dystocia (Biswal *et al.*, 2022) [5]. In the present case, fetal reflexes were present and fetal parts were palpable through the narrow vulvar opening, indicating an obstetrical emergency requiring immediate intervention to ensure fetal survival and safeguard the economic interests of the owner. Therefore, episiotomy was selected as an emergency obstetrical procedure, resulting in the successful delivery of a live female fetus.



**Fig 1:** Incised vulval lips after episiotomy



**Fig 2:** Application of traction on the foetus through incised vulval lips



**Fig 3:** Vulval lips after suturing



**Fig 4:** Healthy calf with the dam after the procedure

## Conclusion

Episiotomy proved to be a simple and effective emergency procedure for managing dystocia due to inadequate vulvar relaxation in a crossbred heifer. Timely surgical intervention ensured delivery of a live foetus with uneventful post-operative recovery.

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## Conflict of Interest

Not available

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