International Journal of Veterinary Sciences and Animal Husbandry

ISSN: 2456-2912
NAAS Rating (2025): 4.61
VET 2025; 10(7): 243-244

www.veterinarypaper.com
Received: 15-05-2025
Accepted: 17-06-2025

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Rare case of dicephalus monster in a jersey crossbred heifer

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DOI: https://www.doi.org/10.22271/veterinary.2025.v10.i7d.2411

Abstract
Congenital anomalies such as fetal monstrosities are rare but significant causes of dystocia in bovines. Dicephalus, characterized by two heads on a single trunk, is a rare and typically non-viable condition that can obstruct normal delivery. This short communication reports a case of dystocia in a 2-year-old primigravid Jersey crossbred heifer caused by a dicephalic fetus. The animal exhibited prolonged straining and exhaustion by the time of veterinary intervention. Per-vaginal examination revealed an anterior longitudinal presentation with two well-formed heads and extended forelimbs. With sufficient lubrication and gentle manual traction, the malformed fetus was successfully delivered vaginally without the need for fetotomy or surgical intervention. Post-delivery management included antibiotics, anti-inflammatory medication, fluid therapy, and oxytocin. The heifer recovered uneventfully within a few days. This case underscores the importance of timely veterinary attention and skilled obstetrical handling in managing rare congenital anomalies under field conditions, thereby preventing complications and reducing economic losses.

Keywords: Dicephalus, dystocia, heifer, jersey crossbred, primigravida

1. Introduction
Congenital defects, including fetal monstrosities, though infrequent, can pose serious challenges during parturition in bovines and often recognized as important cause of dystocia. Dicephalus is a rare developmental anomaly marked by the presence of two heads on a single body, typically resulting from incomplete division during embryogenesis (Noakes *et al.*, 2009) [6]. This condition is usually incompatible with postnatal survival and often leads to obstructed labour due to the abnormal fetal morphology. While such cases have occasionally been reported in cattle (Arthur *et al.*, 2001; Purohit *et al.*, 2012) [1, 7], they are rarely encountered in routine field practice. This case report describes an unusual incidence of dystocia in a heifer caused by a dicephalic fetus, which was successfully managed via per-vaginal delivery using manual traction at the farmer's doorstep.

Case History and Treatment
A 2-year-old primigravida Jersey crossbred heifer was presented during a late evening emergency call with a history of persistent straining for the past 10-12 hours. According to the owner, the water bag had ruptured approximately 3 hours earlier, but no further progress in parturition was observed. Upon arrival, the animal was found in a state of exhaustion, lying in sternal recumbency.
Per-vaginal examination revealed a partially dilated birth canal, with one forelimb and an unusually large structure resembling two separate cranial masses occupying the pelvic inlet. Further careful examination confirmed the presence of two fully developed heads positioned side by side, indicating a dicephalic fetus in anterior longitudinal presentation with both forelimbs extended.
Adequate lubrication using liquid paraffin and gentle manual correction allowed proper alignment of the fetus within the birth canal. As the cervix was sufficiently dilated and no

bony obstruction was detected, traction was applied using obstetrical snares. Sustained moderate traction over a period of 20 minutes led to the successful per-vaginal delivery of a dicephalic dead male fetus.

Gross examination of the fetus revealed two completely formed heads conjoined at the cervical region, sharing a single trunk (Figure 1). Each head had normally developed eyes, ears, and mandibles. Both forelimbs and hindlimbs appeared anatomically normal, and no other visible congenital abnormalities were noted.

Postpartum care involved intramuscular administration of TT-Cef (3.0 g; TTK Healthcare) once daily for five days, along with Meloxicam @ 0.2 mg/kg body weight (Melonex®, Intas) as an anti-inflammatory and analgesic. Supportive fluid therapy was provided via intravenous infusion of Ringer's Lactate (1 L) and Normal Saline (1 L). Oxytocin (100 I.U., I/M) was also administered to facilitate complete uterine clearance. The heifer recovered without complications within 3-4 days.

Fig 1: Dicephalic fetus recovered from a heifer presenting with dystocia. The congenital anomaly is characterized by the presence of two distinct heads on a single trunk, resulting from incomplete embryonic twinning.

Discussion

Fetal anomalies, though uncommon, can be significant contributors to dystocia in cattle, often arising from disruptions during early stages of embryogenesis. Dicephalus, a type of conjoined twinning, represents axial duplication where two distinct heads are attached to a single torso. These developmental defects are typically nonviable and often remain undetected until complications arise during parturition (Roberts, 2004) [8].

The precise causes of dicephalus and similar fetal deformities remain uncertain. However, several factors have been proposed, including hereditary influences, nutritional deficiencies, teratogenic substances, certain viral infections, and exposure to environmental toxins during gestation (Kalman, 1989; Arthur *et al.*, 2001) [1, 4]. While occurrences of dicephalus are rare, they have been occasionally reported in various domestic animals such as cattle (Dennis, 1974; Purohit *et al.*, 2006), goats (Majeed *et al.*, 1992), and sheep (Balagopalan *et al.*, 1996) [2, 3, 5, 7].

In the present case, despite the severity of the malformation, the fetus was successfully delivered vaginally without resorting to fetotomy or surgical intervention. This was likely possible due to the fetus's relatively small pelvic dimensions, even though the cranial region was enlarged. Timely assistance and careful obstetrical management played a key role in the successful outcome.

Due to limitations in field settings, radiographic or post mortem examinations could not be conducted; however, the external morphology was sufficient to establish the diagnosis. Prenatal detection of such conditions remains rare, especially in rural areas, where ultrasonography is not routinely practiced. This case underscores the value of prompt veterinary intervention in dystocia cases and the need for awareness regarding rare congenital anomalies. With adequate skill and field-level resources, even complex presentations involving malformations like dicephalus can be managed effectively.

Conclusion

Dicephalus is an uncommon congenital defect that can lead to dystocia in cattle. This report highlights the successful vaginal delivery of a dicephalic fetus in a heifer managed under field conditions, demonstrating the critical role of timely and skilled obstetrical intervention. Early diagnosis and appropriate handling are essential to safeguard the health of the dam and reduce financial losses for the farmer.

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How to Cite This Article
Sethi M, Shah N, Yadav DK, Meena M, Kumar N. Rare case of dicephalus monster in a jersey crossbred heifer. International Journal of Veterinary Sciences and Animal Husbandry. 2025;10(7):243-244.