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## Caesarean section in a buffalo to deliver *dicephalus tetrabrachius tetrapus sternopagus* *dicaudatus* conjoined twins

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### Abstract

Conjoined twins refer to two fetuses that are born physically connected to each other. They develop when an early embryo separates in a partial manner to form two individuals. The present case report records similar findings in which a pluriparous murrah buffalo was presented with dystocia at full term of gestation period. After proper history, initial treatment and stabilization of the animal, per-vaginal examination was performed, which revealed one forelimb and three hindlimbs in birth passage along with four more limbs as well as duplication of other fetal structures. Findings were collectively suggestive of some twin fetal monstrosity and an immediate decision to relieve dystocia through an emergency cesarean section was taken. Caesarean section was performed using oblique Paramedian approach, which resulted in the successful delivery of *dicephalus tetrabrachius tetrapus sternopagus dicaudatus* conjoined twin fetal monster. Animal made an uneventful recovery after post-operative treatment.

**Keywords:** Buffalo, caesarean section, conjoined twins, dystocia

### 1. Introduction

Dystocia is defined as delayed or difficult calving <sup>[1]</sup>, that may require significant human assistance <sup>[2]</sup>. Dystocia can occur either due to fetal or maternal causes with former being more common than latter because of fetal abnormalities or monstrosities <sup>[3]</sup>. Among all the fetal monstrosities, development of conjoined twins or diplopagus monsters are reported to be rare in bovine <sup>[4]</sup>. Conjoined twins arise from the incomplete subdivision of embryonic axis that occurs at a relatively later phase of development <sup>[5]</sup>. Structural duplications during the embryonic stage give rise to fetuses whose body structures are partially duplicated. Delivery by cesarean section is usually undertaken in order to relieve dystocia caused by conjoined twins <sup>[6]</sup>. The present communication reports a case of dystocia in a buffalo due to *sternopagus conjoined twin fetal monster* which was relieved through an emergency caesarean section.

### 2. Materials and Methods

The case was diagnosed as dystocia which might be caused by some twin fetal monstrosity, based upon the history provided by the owner of the animal as well as the observations made following clinical examination.

#### 2.1 History

A pluriparous murrah buffalo was presented with dystocia at full term of gestation period. As per the history provided by the owner, animal was in third parity having no history of any earlier illness or dystocia in the previous parities. The water bags had ruptured eight hours ago and animal was straining since then with unsuccessful delivery attempts and only limbs were protruding out through vulva. Owner waited for two hours after the rupture of water bags for normal parturition to take place. When normal delivery did not occur within that waiting period, he called a local veterinarian for assistance. Veterinarian attempted traction at the presenting limbs for several times, which proved futile and no progression in further delivery of fetus took place. Eventually, the owner was advised to take his animal to the University Veterinary Hospital for further treatment.

## 2.2 Clinical Examination and Observations

Animal was presented to the University Veterinary Hospital about eight hours after the rupture of water bags. Visibly, only limbs of the fetus were protruding out through vulva. Straining was still evident and animal was listless. Basic physical parameters were recorded and epidural anaesthesia with 7 ml of 2% Lignocaine hydrochloride (Loxicard® by Neon Laboratories Ltd.) was administered at sacro-coccygeal junction in order to stop the straining and reduce pain to the animal. Animal was further stabilized through intravenous fluid therapy and steroid drug (10 ml of Dexamethasone; 44 mg; Dexona® by Zydus). As soon as the condition of animal improved, further investigations were done. Per-vaginal examination performed thereafter, revealed one forelimb and three hindlimbs in birth canal. Deeper exploration led to the palpation of some more limbs along with the duplication of other fetal structures. All these findings were collectively suggestive of some kind of twin fetal monstrosity. In order to save the life of buffalo from the painful dystocia, it was thus decided to perform an emergency caesarean section.

## 3. Treatment

Cesarean section was performed under local infiltration anaesthesia (Lignocaine hydrochloride 2%, 70 ml; Loxicard® by Neon Laboratories Ltd.) in right lateral recumbency using oblique Paramedian approach and a dead conjoined twin monster fetus was delivered. Following delivery, uterus was washed with isotonic normal saline solution and subsequently sutured with Catgut suture material using Cushing's inversion suture pattern. After suturing, uterus was reposed back into the abdominal cavity. Later, peritoneal cavity was flushed with normal saline solution followed by suturing of peritoneum and muscles in two layers with braided silk suture material in a continuous lock stitch manner. Lastly, subcutaneous and skin suturing was done and antiseptic bandage was applied. After delivery, it was found that conjoined twin was of female sex having fusion at the level of sternum (Fig. 1). It had two heads, two pair of forelimbs, two pair of hindlimbs and two hindquarters as evident in Fig.1. As per the nomenclature, it was named as Dicephalus Tetrabrachius Tetrapus Sternopagus Dicaudatus. Post mortem findings of diplopagus monster fetus revealed duplication of visceral organs viz. two pair of lungs and kidneys, two spleens, a common set of digestive organs, one heart and a single extremely hypertrophied liver (Fig. 2). There was no evidence of any other congenital anomaly such as atresia ani and cleft palate. Post operative treatment included intravenous fluid therapy (Normal saline solution, 5 litres), parenteral administration of antibiotic (Ceftiofur 2.0 mg/kg b. wt.) Tefrocef® by MSD, non-steroidal anti-inflammatory drug (Flunixin meglumine 1.5 mg/kg b. wt.) Finadyne® by MSD and supportive medication therapy such as multivitamins and rumenototics for a period of five days. The buffalo recovered well following the treatment as per the information gathered through telephone conversation with the owner 20 days post-caesarean.

## 4. Discussion

Conjoined twins are usually monozygotic in origin and occur due to incomplete division of one embryo into two at the primitive streak of the developmental stage [7]. These might arise due to genetic and environmental factors [8]. Major etiological factor leading to bovine conjoined twins are considered as non-inherited defects, which also holds good in

the current case as there was no history of any fetal monstrosity in previous two parities of the buffalo. Moreover, caesarean section should be the treatment of choice for delivery of such twin fetal monsters. Delivery of sternopagus conjoined twins through caesarean section has also been reported earlier in cattle [9] but the present communication describes the successful surgical management of dystocia caused by sternopagus conjoined twin fetal monster in a murrah buffalo. In general, normal vaginal delivery in such cases may become difficult, so caesarean section proves to be a better option to save the life of the dam and to decrease suffering that may otherwise prove fatal while attempting per-vaginal delivery.



Fig 1: Sternopagus conjoined twins



Fig 2: Visceral organs of conjoined twin monster.

## 5. Conclusion

As reported in the current communication, caesarean section proved successful for the obstetrical management of dystocia caused by sternopagus monster fetus with complete duplication of fetal structures. So, it is concluded that, for the treatment of dystocia caused by twin fetal monsters, caesarean

section should be performed in order to reduce the suffering to the dam which is otherwise likely to be encountered if per-vaginal methods of delivery are opted. Also, the large size of fetal monsters make per-vaginal delivery quite difficult and painful, which is undesirable while performing obstetrical interventions.

## 6. References

1. Purohit G, Kumar P, Solanki K, Shekher C, Yadav SP. Perspectives of fetal dystocia in cattle and buffalo. *Veterinary Science Development*. 2012; 2:231-242.
2. Lombard JE, Garry FB, Tomlinson SM, Garber LP. Impacts of dystocia on health and survival of dairy calves. *Journal of Dairy Science*. 2007; 90:1751-1760.
3. Roberts SJ. *Veterinary obstetrics and genital diseases*, 2nd ed. CBS Publishers, New Delhi, 2004.
4. Singh G, Pandey AK. Dystocia due to conjoined twin monsters in murreh buffaloes. *Haryana Veterinarian*. 2013; 52:139-140.
5. Ravikumar, Krishnakumar K, Ezakial R, Chandrahasan C. Pervaginal delivery of a dicephalus dicaudatus xiphopagus monster. *Indian Journal of Animal Reproduction*. 2012; 33:96-97.
6. Whitlock B, Kaiser L, Maxwell H. Heritable bovine fetal abnormalities. *Theriogenology*. 2008; 70:535-49.
7. Noden DM, Lathunta DA. *The embryology of domestic animals*. Williams and Wilkins, Baltimore, 1985, 376.
8. Shukla SP, Nema SP, Pandey AK, Jain S, Patel BR, Bondade S. Dystocia due to bull dog calf in a she buffalo. *Buffalo Bulletin*. 2007; 26:104-105.
9. Ahuja AK, Singh N, Singhal S, Singh R, Singh P. Surgical management of dystocia in non-descript cow due to sterno-omphalopagus conjoined twin. *Research Journal of Chemical and Environmental Sciences*. 2018; 6(2):89-91.