Short Communication

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Dystocia Due to Monocephalic Thoracopagus Tetrabrachius Tetrapus Monster in a Murrah Buffalo

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ABSTRACT

This case report describes the management of dystocia with two female fetuses joined at the thoracic region (Thoracopagus) and having well developed eight limbs *i.e.* four forelimbs (Tetrabrachius) and four hind limbs (Tetrapus) and both pelvis are separate (Dicaudatus) with ruptured amniotic sacs and the fetus lodged in the birth canal.

***Keywords*:** Buffalo, Congenital deformities, CMC gel, Dystocia, Fetal monster.

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INTRODUCTION

The incidences of fetal abnormalities are rare, and reports in buffaloes were limited (Singh *et al*., 2020; Dutt *et al*., 2021). Monstrosity refers to a developmental anomaly that affects multiple organs and systems, leading to significant physical distortion of the individual. Congenital deformities can result from defective genetics or environmental factors or a combination of both and cause dystocia. The most common cause of dystocia in cattle and buffaloes is thought to be conjoined twins, which are monozygotic and arise from a single ovum (Arthur, 1956). Congenital fetal abnormalities, which are characterized by partial duplication of bodily structures, might arise from the internal cell mass of the embryo's unique duplication and disturbance that leads to dystocia. Dystocia is defined as delayed or difficult calving, sometimes requiring significant human assistance. In bovines, the incidence of dystocia is quite higher than other farm animal species. For the obstetrical management of conjoined twins, delivery by caesarean section is usually undertaken (Singh *et al*., 2019). The present case study reports successful management of fetal monster having monocephalic thoracopagus tetrabrachius tetrapus dicaudatus through caesarean section.

CASE HISTORY AND OBSERVATIONS

A Murrah buffalo in 5th parity was presented to the Department of Veterinary Clinical Complex, GADVASU, Ludhiana with history of full term gestation period and animal was straining since 24 hours but unable to deliver fetus. The case was attempted by a local practitioner at field level and after diagnosis, he referred the case immediately to university clinics. The buffalo was in standing position and active when referred to the university clinics. Per-vaginal examination revealed fully dilated cervix and dead

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fetus in anterior presentation. Three limbs were present in birth canal and two limbs palpated deep in the uterus with head of fetus directed downward which confirmed the case of fetal monstrosity.

TREATMENT AND DISCUSSION

First of all, epidural anaesthesia was given between sacro-coccygeal space with 5 ml of 2% lignocaine hydrochloride. As forced extraction of monster was impossible due to completely impacted birth canal with three limbs and head was directed downward. So, it was decided to go for fetotomy to relieve the dystocia. After proper lubrication with 2% carboxy methyl cellulose (CMC) gel fetotomy was performed by using fetotome, one head and four forelimbs were removed. But even after the partial fetotomy extraction of fetus was impossible. So, it was decided to go for caesarean section to relieve the dystocia. The buffalo was stabilize before caesarean section with Inj. Dextrose normal saline (Dextrose 5%) 5 liter IV, Inj Ceftiofur sodium 1gm IM and Inj flunixin meglumine 1000mg IV. Caesarian section was performed by left lower flank approach and a joined thorax of both the fetus having four hindlimbs were removed. The buffalo was able to stand after three hours of surgery without any assistance. Post-operative care involves Inj Ceftiofur sodium 1gm IM; Inj flunixin meglumine 1000mg IV; Inj Pheniramine maleate 227.5 mg I.M for 5 days, Inj Calcium-magnesium-borogluconate 450 ml slow IV once; Inj metronidazole 800ml IV and Inj. Dextrose normal saline (Dextrose 5%) 5 liter IV for 3 days. Antiseptic dressing of the surgical wound was advised daily and skin sutures were removed on the day 14 post-caesarean section.

The monster was a conjoined female twins fused at the thorax region containing two pair of forelimbs, two pair of hind limbs and posterior regions of both twins well developed and having separate pelvis with external genitalia and rectum. There was single head and neck with two eyes, two ears, two clear nostrils and complete jaw. There was a single heart in thoracic cavity with two pairs of separate lungs (Fig. I, II).

Fig. I. A Monocephalic thoracopagus tetrabrachius tetrapus fetal monster

Fig. II. Fetal monster have single heart with separate two pairs of lungs.

Conjoined twins can arise from various factors including genetic, environmental and infectious agents. Assisted reproductive techniques like In vitro fertilization (IVF) and Intra-cytoplasmic sperm injection (ICSI) have also been proposed as possible factors (Romero *et al*., 1988). Finberg (1994) stated that differentiation of the embryonic disk begins on the 13th day of conception and if the split happens after this point, the twins will share not only their chorion and amnion but also body parts. This type of conjoined twin formation is due to the congenital duplication of the germinal layer from a single ovum (Kumar and Reddy, 2008), leading to a monozygotic fetus with partial duplication of body structures. Simon et al. (2009) stated that conjoined twins are invariably genetically similar and of the same sex. However, Dystocia caused by conjoined twin monsters was rarely reported in buffaloes (Dhami *et al*., 2000). The cesarean section was performed in buffalo to extract dicephalus monsters, with varied duplication of other body parts (Pandey and Singh, 2012; Singh *et al*., 2018).

CONCLUSION

The fetal monstrosities were found very rarely in buffaloes. In such cases, partial fetotomy leads to easy delivery of fetus per vaginum if deformity is present in anterior body parts of the fetus. But in cases of conjoined twin monsters with less intrauterine space, caesarean section is the best method.

CONFLICT OF INTEREST

Authors have no conflicts of interest.

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