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Successful per vaginal delivery of Monocephalus Thoracopagus Tetrabrachius Tetrapus Dicaudatus Monster foetus in a Murrah buffalo

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Abstract
A rare case of monocephalic thoracophagus tetrabrachius tetrapus monster with incomplete caudal ventral abdomen portion in a buffalo was reported and successfully delivered by per vaginal manipulation in a buffalo. Partially duplicated with single head (Monocephalic), two 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) monster foetus and animal recovered uneventfully after delivery of fetus.

Keywords: Monster, conjoined twin, Thoracophagus, Tetrabrachius, Tetrapus

Introduction
Monsters are the result of formative aggravations that includes different organs and frameworks which can cause incredible twisting of the individuals (Vegad 2007) [18]. Strange duplication and additionally disturbance of the internal cell mass in an embryo lead to innate fetal anomalies with fractional duplication of body structures. Conjoined twins are also known as diplopagus monsters or Siamese twins. Structural or numerical duplication during the embryonic stage give rise to fetuses whose body structures are partially but not completely duplicated (Roberts, 1971) [11]. They are the product of an imperfect division of a fertilized ovum and range from partial duplication to nearly total separation of two individuals, linked in only a few spots. The cranial portion of the fetus is more commonly duplicated than the caudal region. (Roberts, 2004) [12]. The incidence of fetal monsters, though rare, was reported by Sharma *et al.*, 2010 [14]; Singh *et al.*, 2011 [16]; Prasad *et al.*, 2012 [9]; Singh and Pandey, 2013 [17] in buffaloes and Khasatiyan *et al.*, 2009 [6]; Jerome *et al.*, 2010 [5]; Ravikumar *et al.*, 2012 [10]; Sharma *et al.*, 2013 [13]; Kumar *et al.*, 2014 [7]; Balamurugan *et al.*, 2018 [1] and Balamurugan *et al.*, 2020 [2] in buffaloes. This communication reports a rare case of conjoined twin monster (Monocephalus Thoracopagus Tetrabrachius Tetrapus Dicaudatus) in a Murrah buffalo which was relieved by per-vaginal manipulation of monstrous calf.

Clinical History and Observations
A Murrah buffalo presented to Department of Veterinary Clinical complex, college of veterinary science, Proddatur in normal condition with history of full-term gestation and straining and also the unsuccessful attempt was made by a paravet to relieve the dystocia. The animal was active apparently healthy and have normal vital parameters. Detailed Gynaeco-clinical examination revealed that the birth canal with four limbs and everted congested swollen intestines. Per vaginal examination revealed many limbs mostly hindlimbs, intestines from undeveloped ventral portion of fetus near hind quarter (Figure 1) which confirmed the foetal monstrosity with posterior presentation and might be prime cause for dystocia.

Treatment and Discussion
Since animal is stable and all the vital parameters were under normal physiological range, directly 5 mL of 2% lignocaine hydrochloride is injected into sacro-coccygeal space of dam and slowly controlled traction was applied on each of hind limb using snare applied over hock

joint palpable in birth canal with simultaneous retropulsion over back portion by repeller. Two hind limbs and two fore limbs along with half of monster was retrieved outside and then traction was applied on remaining hind limbs to take out other portion of calf. The calf taken out was a conjoined female co-twin had one head, two fetuses joined at the thoracic region four forelimbs, four hind limbs and both pelvis are separate with incomplete ventral caudo abdominal portion through which intestines were everted out (Figure 2).

Conjoined twins can result from a variety of circumstances, including genetics, the environment, and infectious agents (Gahlod *et al.*, 2017) [4]. The embryonic disk starts to differentiate on the 13th day of conception. If the split occurs after day 13, then the twins will share body parts in addition to sharing their chorion and amnion (Finberg, 1994) [3]. Congenital embryonic duplication of the germinal layer resulting from a single ovum causes this type of foetus (Kumar and Reddy, 2008) [8] that gives rise to monozygotic foetus with partial duplication of body structures. Simon *et al.*, (2009) [15] stated that conjoined twins were always genetically identical and shared the same sex. The present case seemed to be a non-inherited teratogenic defect of development as there was no history of monstrosity in previous calving.

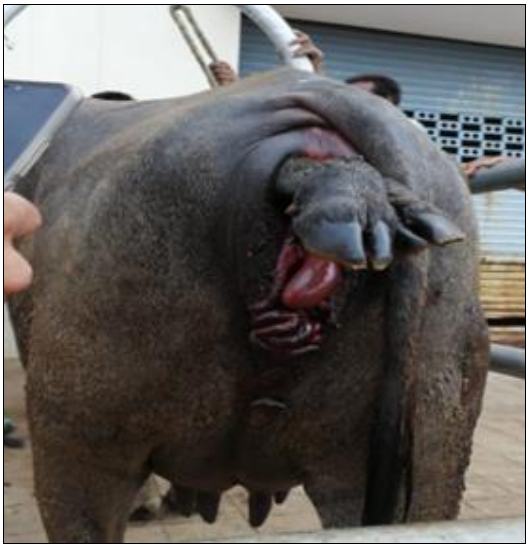

Fig 1: Hindlimbs, intestines from undeveloped ventral portion of fetus

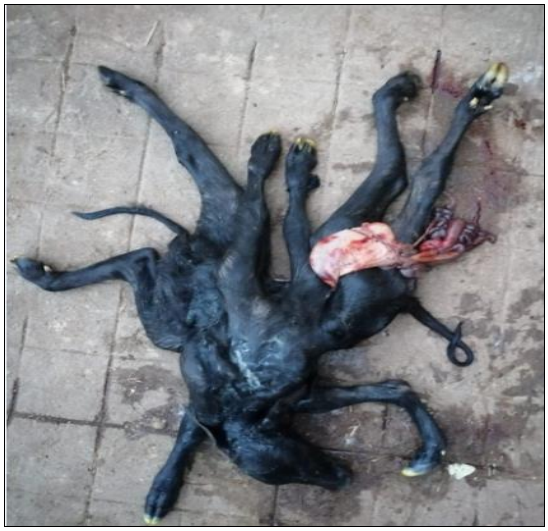

Fig 2: Ventral caudo abdominal portion through which intestines were everted out

Conclusion

In the present case the fetuses were conjoined at the thoracic region and the conjoined twins possessed one head (Monocephalus) and two fetuses joined at the thoracic region (thoracopagus) and possess four forelimbs (Tetrabrachius), four hindlimbs (Tetrapus) and two tails (Dicaudatus) twin monster. In majority of monster fetus dystocia is relieved either by fetotomy or caeserian section but in the present case fetus is relieved by careful traction without any tear in the birth canal apart going for fetotomy and ceserian section and animal recovered eventfully after delivery of fetus.

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