

## CASE REPORT

# Dystocia due to Dicephalic Parapagus Tetrabrachius Tetrapus Twin Monster in a Cow: A case Report

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Monsters are developmental abnormalities that distort organs and body systems. Developmental abnormalities of the ovum, embryo or fetus occur in all species of domestic animals. Monstrosity is a disturbance of the development that involves various organs and systems which can cause great distortion of the individual (Vegad, 2007). The monstrosities are associated with either infectious diseases or congenital disabilities (Arthur et al., 2001), which may or may not interfere with birth. Abnormal duplication and/or disruption of the inner cell mass in an embryo give rise to congenital fetal abnormalities with partial duplication of body structures. Duplication of cranial portion of the fetus is more common than caudal portion (Roberts, 2004). It is important to know various types of monsters in animals that usually cause dystocia, which cannot be easily delivered and require a Caesarean section or a fetotomy mostly (Patil et al., 2004; Sharma, 2006). The incidence of fetal monsters, though rare, have been reported in cows (Khasatiya et al., 2009; Jerome et al., 2010; Ravikumar et al., 2012), in buffaloes (Dhami et al., 2000; Prasad et al., 2006; Sharma et al., 2010) and in goats (Pandit et al., 1994). This communication reports a rare case of conjoined twin monster (Dicephalus Paracopagus Tetrabrachius Tetrapus Dicaudatus) in a pluriparous crossbred cow.

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## CASE HISTORY AND OBSERVATIONS

An eight-year-old Jersey crossbred cow (CB-78215693) in its 5th lactation pregnant by Sahiwal IVF embryo (Donor No S-7826 and Sire No SL-10070) was presented at Bidaj farm with a history of a prolonged second stage of labor with forceful abdominal contractions and two hind limbs protruding from the vulva (posterior presentation). Obstetrical examination revealed the presence of two tails in the vagina. Further detailed examination confirmed the presence of an abnormal fetus. It was decided to manage the dystocia by forced extraction.

## TREATMENT AND DISCUSSION

A forced extraction was performed and full-term dead fetal monster was extracted. The fetal monster was a conjoined female twins fused in their lower abdominal region containing a well-developed anterior portion of both the twins and pair of hind limbs in each (Fig. 1). The cow was treated with an injection of Amoxicillin and Cloxacillin (5 mg/kg b.wt), plus Meloxicam (0.5 mg/ kg b.wt), and supportive therapy for 7 days. The cow recovered uneventfully.

The development of female conjoined twins was complete and the twins were fused in their lower abdominal region (parapagus), and had four front legs (tetrabrachius), four hind legs (tetrapus) and two separate tails (dicaudatus). As per Roberts (2004), the condition could be classified as a dicephalus parapagus tetrabrachius tetrapus dicaudatus twin monster.

Conjoined twins could be caused by several factors, which

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**Fig. 1:** Dicephalic parapagus tetrabrachius tetrapus cattle monster delivered by forced extraction.

are influenced by genetic, environmental, and infectious agents. Assisted reproductive techniques such as *in vitro* fertilization (IVF) and intra-cytoplasmic sperm injection (ICSI) may be a factor (Romero et al., 1988). The embryonic disk starts to differentiate on the 13th day of conception (Arthur et al., 2001). If the split occurs after day 13, then the twins will share body parts in addition to sharing their chorion and amnion (Finberg, 1994). This type of fetus is due to congenital embryonic duplication of germinal layer arising from a single ovum (Kumar and Reddy, 2008) that gives rise to the monozygotic fetus with partial duplication of body structures. Simon et al. (2009) stated that conjoined twins were always genetically identical and shared the same sex. The present case seemed to be a non-inherited teratogenic development defect with early complete duplication of cranial and caudal parts as there was no history of monstrosity in previous calving.

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