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## An unusual case of dystocia due to diprosopus monster fetus and its management in crossbred cow

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### Abstract

On caesarean section, a dead emphysematous diprosopus male fetus was relieved following the physical examination of the dead fetus revealed duplicated facial structures (Diprosopus) on one neck (monauchenos), four limbs and a single body. Postoperatively the animal was treated with fluid therapy, antibiotics and antihistamines for seven days. The animal recovered uneventfully.

**Keywords:** Cow, dystocia, caesarean section, diprosopus fetus

### Introduction

Dystocia in cow often arises due to the presence of fetal monstrosities resulting from abnormal or arrested fetal development (Shukla *et al.*, 2007) [7]. Fetus with deformities involving single organ or particular body part is known as anomaly, whereas if the deformity multiple body parts or organs is called as monster (Roberts, 2004) [4]. Twin monsters are characterised by the duplication of the anterior, posterior or both portions of the fetal body and are common in ruminants. The cranial region of the foetus is more commonly duplicated than the caudal region (Shukla *et al.*, 2007) [7]. The present case reported and documented as a successful management of dystocia due to diprosopus monster fetus through caesarean section.

### Case History and Observations

A 5 years old crossbred Jersey cow on its second parity was referred to Obstetrics unit with history of animal was full term pregnant, water bag ruptured but failure to progress in parturition since 24 hours. On per vaginal examination found that the dilated cervix with double head emphysematous, anterior longitudinal presentation and dorso sacral in position fetus. It was decided to perform caesarean section (C-section) to relieve the large emphysemated double head fetus.

### Treatment and Discussion

Pre operatively the dam was stabilized with fluid therapy (DNS and RL 2 litres respectively). Under epidural anaesthesia and inverted 'L' block (2 percent lignocaine) the C-section was performed followed by a dead diprosopus male fetus was relieved (FIG.1). The physical examination of the dead fetus revealed duplicated facial structures (Diprosopus) with one neck (monauchenos), four limbs and a single body. The fetus had four eye sockets without eye, two pairs of nostrils, two mouths, each with a tongue and teeth but only two ears (FIG. 2 and 3). Radiography revealed craniofacial duplication of fetus could be observed (FIG.4). Post operatively the animal was treated with Ceftriaxone 20 mg/kg, Meloxicam 0.25 mg/kg, Chlorpheniramine maleate 0.5 mg/kg along with fluid therapy for 7 days.

Diprosopus also known as craniofacial duplication, is an extremely rare congenital disorder where the frontal region, nose and mouth or entire face, partially duplicated on the head resulting in a double-faced anomaly. In contrast, dicephalus monsters exhibit two heads on a single body (Purohit *et al.*, 2012) [3]. These anomalies occur during embryonic development when there is an abnormal duplication of the germinal area leading to fetuses with partially duplicated body structures (Sharma *et al.*, 2010) [6]. The occurrence of Inherited development

anomalies in cows were due to a single autosomal recessive gene. The common causes of congenital anomalies are prenatal viral infection, vitamin deficiency (A, D, B<sub>12</sub> and folic acid) and ageing of the ovum prior to fertilization, imperfect implantation or defective ova or sperm, chronic poisoning, hormonal disturbances, alterations of oviduct or uterus, altered blood supply and oxygen tension to the fetus (Robert, 2004)<sup>[4]</sup>.

Dicephalus monsters have been reported in goats (Murugan *et al.*, 2019)<sup>[1]</sup>, buffaloes and cattle (Selvaraju *et al.*, 2002)<sup>[5]</sup>. The present case report concurrence with Purohit *et al.*, (2012)<sup>[3]</sup>, the fetus is monozygotic arising from a single ovum representing the incomplete division of one embryo into two components generally at the primitive streak of the developmental stage. Sharma *et al.* (2010)<sup>[6]</sup> reported that the Diprosopus monster fetus usually resulting in dystocia can be removed manually whereas Vermunt *et al.* (2009)<sup>[8]</sup> relieved the Diprosopus monster fetus by fetotomy. According to Purohit *et al.* (2012)<sup>[3]</sup> and Murugan *et al.* (2023)<sup>[2]</sup> the dystocia due to monsters fetus were commonly relieved by caesarean section than the fetotomy.



**Fig 1:** A dead diprosopus male fetus was relieved



**Fig 2:** Two pairs of nostrils, two mouths, each with a tongue and teeth but only two ears



**Fig 3:** Two pairs of nostrils, two mouths, each with a tongue and teeth but only two ears



**Fig 4:** Radiography revealed craniofacial duplication of fetus

**Conclusion**

The present study concluded that the economic loss (in the form of dead calf production, reduced milk yield and increased intercalving interval) to farmers due to occurrence of Obstetrical disorders is huge during peripartum period and it might be reduced by early attempt and proper obstetrical managemental practices were required for avoiding the worsening of such obstetrical condition.

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