DICEPHALUS INIODYMUS MONSTER IN A CROSSBRED HF COW

S. KANTHARAJ[1], K. MURUGAVEL[2], ABDUL SALAM[3], C. EZHILARASAN[3] AND M.S. RAJU[4]

Department of Veterinary Gynaecology and Obstetrics,
Rajiv Gandhi Institute of Veterinary Education and Research, Kurumbapet, Pondicherry-605 009.

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ABSTRACT

This report describes a case of a live dicephalus iniodymus monster delivered pervaginally in a crossbred HF cow.

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KEY WORDS: Dicephalus, Bovine, Monster

INTRODUCTION

Monstrosities is a disturbance of the development that affect a single structure or function, an entire system, part of several systems or a structure and function which can cause great distortion of the antenatal individual (Vegad, 2007). These monstrosities are associated with either infectious disease or congenital defects (Arthur *et al.*, 2001). The present report describes a case of a dicephalus iniodymus monster calf delivered with assistance per vaginum in a crossbred HF cow.

CASE HISTORY AND OBSERVATION

A crossbred HF cow aged 7 years in its 3rd parity was referred to the Department of Veterinary Gynaecology and Obstetrics with a history of dystocia after 4 hours of rupture of water bags. The cow was standing with intense labor pain with futile efforts to deliver the calf. Vaginal examination revealed a fully dilated cervix by the appearance of entire fetal head in the birth passage. Further careful examination revealed the presence of a live calf with double head and the two forelimbs lodged in the vagina. Since the vagina was completely relaxed, it was decided to deliver the calf per vaginally.

1- Assistant Professor, 2- Associate Professor
3- M.V.Sc. Scholars, 4- Professor and Head

TREATMENT AND DISCUSSION

After routine aseptic procedure, epidural anesthesia was given with 5 ml of 2% lignocaine Hcl to reduce the straining. The vaginal passage was well lubricated and traction was applied to one of the eyes of the monster with the help of Harris eye hook and a live female monster with double head was removed. The cow was treated with antibiotics and supportive therapy. The calf died three hours after the assisted delivery.

External inspection and necropsy of the fetus revealed a full term calf with normal structures of the trunk, tail and limbs. The calf presented two complete and separate heads on a single neck. Further, there was a single trachea and esophagus while tracing the two head below (Fig 1 and 2). Radiograph of the monster head revealed that the two heads were fused at the level of the atlanto-occipital joint.

Genetic or environmental factors responsible for incomplete separation of the primitive streak after fertilization is considered an etiological factor for congenital duplication (McGirr *et al.* 1987). Abnormal duplication and/or disruption of inner cell mass in an embryo give rise to congenital fetal abnormalities with partial duplication of body structures. Duplication of cranial portion of fetus is more common than that of caudal portion (Roberts, 1986). Dicephalus is a state of embryonic duplication which involves the head with or without involvement of the neck (Buck *et al.*, 2009).

Dicephalus condition represents fetal oversize with resultant dystocia which could be resolved through fetotomy or caesarean section. But, in the present case, the monster was removed per vaginally with assistance.

Camon *et al.* (1992) stated that dicephalus fetus could assume the following forms: Atlodymus (two complete and separate skulls and one neck), Iniodymus (two skulls with fusion at the occipital level) and Derodymus (two complete and separate skulls with 2 separate necks). Based on this, the present monster was termed dicephalus iniodymus monster calf. El-Sheik *et al.* (2010) reported dicephalus atlodymus type of monster in a buffalo cow.

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REFERENCES

Arthur, G.H., Noakes, D.E., Pearson, H. and Parkinson, T.J. (2001). Veterinary Reproduction and Obstetrics, 8th Ed. W.B. Saunders Company Ltd. Lnodon.

Buck, B.C., Zoeller, M., Baumgartner and Distl, O. (2009). A rare occurrence of dicephalus, scoliosis and complex heart anomalies in a male black and white German Holstein calf. *Berl. Munch. Tierarztl. Wochenschr.*, **122**: 116-120.

Camon, J., Sabate, D., Verdu, J., Rutllant, J. and Lopez-Plana, C. (1992). Morphology of a dicephalic cat. *Anat. Embryol.*, **185**: 45-55.

El-Sheikh, H., Hegab, A.O. and Zaabel, S.M. (2010). Dicephalus atlodymus monster associated with hydrops amnii in a buffalo cow: A case report. *Vet. Res.*, **3**(3):46-48.

McGirr, M.A., Hussain, S.S. and Hur, G. (1987). Two-headed, two-necked conjoined twin calf with partial duplication of thoracoabdominal structures: Role of blastocyst hatching. *Anat. Rec.*, **217**:196-202.

Roberts, S.J. (1986). Veterinary Obstetrics and Genital Diseases. 3rd Ed. David and Charles Inc., Ithaca, New York.

Vegad, J.L. (2007). Textbook of Veterinary general pathology. 2nd Reprint Ed. International Book Distribution Company.

Dicephalus Iniodymus monster with normal trunk, tail and limbs.