

Dystocia due to Dicephalus Dipagus Monster in a Dangi Cow

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ABSTRACT

A rare case of Dicephalus Dipagus monster causing dystocia and its successful clinical management in a cow is placed on record.

Key words: Bovine, Dicephalus Dipagus, Monster fetus

INTRODUCTION

Conjoined or fused symmetrical twins are usually monozygotic and represent incomplete division of one embryo into two components. This usually happens during the primitive streak stage of embryonic development (Noden and Lahunta, 1985). Duplication of body parts can occur at both cranial and caudal ends with the middle area of the foetal monster remaining single. Duplication of the cranial part of the fetus is more common than that of the caudal portion (Roberts, 1971). This occurs in about 1 in 1,00,000 bovine births (Hancock, 1954 and Arthur, 1956), most commonly in cattle but very rare in sheep, pigs, dogs, cats and horses.

CASE HISTORY, OBSERVATIONS AND TREATMENT

A pluriparous full-term pregnant cow of Dangi breed in third parity was presented with a history of dystocia that was attended at the doorstep of a farmer. The cow had completed two lactations and previous both the calving were reported to be normal. The animal was reported to be straining since 12 hrs. The water bag had ruptured about two hours before, but no foetal parts were visible through vagina. Per vaginal examination of animal carried out after proper restraining revealed fully dilated cervix and a live foetus in anterior longitudinal presentation appeared to be double headed in the birth canal at the pelvic brim. The double head caused obstruction due to postural problem. Using

epidural anaesthesia, ample lubrication and aseptic precautions both the head were brought outside one followed by other from the birth canal by applying digital manipulation and traction. The monster was delivered alive, but died soon after birth. The foetal membranes passed out normally within five hours.

Careful examination of the monster externally revealed fully developed male calf with duplication of head in the cranial region (Dicephalus). The two head components were equal and conjoined together in the same direction by a single neck. Monster was characterized by presence of two forelimbs, two hind limbs and one tail with partial duplication of spine, whereas abdomen and other body parts were singular (Fig.1). Such a condition is described as "dicephalus dipagus".



Fig. 1. Dicephalus Dipagus Monster

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DISCUSSION

The blastocyst contains a portion of embryonic disc, which divides into two parts immediately before gastrulation. During this stage of embryonic development, there may be some sharing of extra embryonic membranes between the two fetuses.

Following the gastrulation in the early stages of embryonic development the primitive streak is formed. During this stage if the twins are monozygotic, then the division and duplication of head gives rise to two heads known as dicephalus dipagus. In the event of asymmetrical division of primitive streak the conjoined twins may develop into cephalopagus, thoracopagus, abdominopagus or pygopagus (Noden and Lahunta, 1985). The anatomical characters of the present bovine monster revealed dicephalus dipagus condition. Dystocia due to dicephalus dipagus female monster in a crossbred cow was also reported by Mahajan *et al.* (2002). Whereas, dystocia due to dicephalus monostomus in a crossbred cow was reported by Chandrahasan *et al.* (2003) in which there was no evidence of duplication of neck, thorax and body except a head but union of both the heads behind the ears was noticed.

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