Dystocia due to dicephalus monster calf and its surgical management in a crossbred Holstein heifer - A case report

Supradip Das*, Saurabh Majumdar1 and Chinto Debbarma2

Animal Resources Development Department, Veterinary Dispensary Salema, Dhalai-799 278, Tripura, India.

Received: 12-05-2016 Accepted: 30-08-2016

ABSTRACT

Dicephalus Monsters occurs as a cause of dystocia in crossbred Holstein heifer is reported.

Key words: Crossbred, Dicephalus, Dystocia, Heifer, Monster

Dicephalus is a state of embryonic duplications which involved the head with or without involvement of the neck (Wakuri et al., 1990; Otonari et al., 1993). Dicephalus occurrence is about one in one lakh bovines, at birth (Hancock, 1954) and duplication of cranial part of the foetus is more common than of the caudal parts (Roberts, 1971). Double headed calf represent a case of absolute foetal monster which leads to dystocia. Such condition could be resolved through fetotomy or caesarean section (Sharma, 2006, Long, 2009). This is a rare report of a dystocia due to dicephalus monster in a cross bred Holstein heifer.

A 2.5 years cross bred Holstein heifer with complete gestation period presented to the Veterinary Dispensary Salema, Dhalai, Tripura had the history of labour pain since 7 hours, attended by local paravet with unsuccessful attempts for delivery by applying traction and delivery hook. Vulva was inflamed and oedematous. Vaginal mucus membrane was dry and congested with protruded foetal forelimbs and one forelimb cut by paravet. The animal was recumbent with vital signs within normal range. Per-vaginum examination revealed fully dilated cervix with foetus in anterior presentation and dorso-sacral position. Further, per vaginal examination revealed two heads attached to the same foetus with two palpable oral cavities. Foetal movements and other reflexes were absent. It was decided to perform caesarean section.

Treatment

Animal was stabilized with adequate intravenous fluids mainly normal saline and Isoflupredone Acetate. Caesareotomy was performed in left lateral recumbency (lateral approach) under local analgesia (2% Lignocaine hydrochloride solution) with local infiltration along the site of incision vertical incision in the left paralumbar fossa following all aseptic precautions. The uterine incision on the uterus was made away from its attached border and enough to deliver a double headed foetal monster by grasping hind limbs. Uterus was then closed after flushing with antibiotic solution. The uterine incision was closed by a double layer of Lembert sutures using chromic catgut No. 3. Abdominal incision was closed in routine manner. Following closure of the surgical wound, the dam was kept on antibiotic -Ceflactum 3gm (Ceftriaxone 2gm plus sulbactum 1gm), inj Meloxicam 20 ml and serratiopeptidase 60 mg for 7 days with supportive therapy. The cow recovered uneventfully.

The monster foetus weighing 22.3 kg consisted of two heads (Dicephalus), each head with separate nostrils and two eyes (tetraophthalmus), two tongues and two ears. Two heads had separate atlas bone (biatlanticus) but caudal parts of the axial bone were fused and continued as the single vertebral column. The neck, thorax, abdomen and limbs were grossly normal (Figure-I). On post-mortem examination, the calf had only one trachea and oesophagus. Internal organs contained only one heart, lung, spleen, liver and a pair of kidneys within the monster calf with normal size.

Congenital duplication can be defined as incompletely separated monozygotic twins with subsequent malformations ranging from partial duplication of one part of the body up to almost total formation of 2 fused foetuses (McGirr et al., 1987). Congenital duplication may be genetic or environmental factors and any factor responsible for incomplete separation of the primitive streak after day 13 of fertilization is considered an etiological factor (Easton, 1985; McGirr et al., 1987). Embryonic duplication is one of the major congenital problem could occur due to imperfect duplication of germinal area forming partially or completely duplicated body structures (Roberts, 1971). Dicephalus
monster is a malformed foetus due to embryonic duplication of the head (Jenkins and Hardy, 1968). Monstrosities are associated with either infectious disease or congenital defects (Arthur et al., 2001) and may or may not interfere with birth. Dystocia due to dicephalus monster in a crossbred cow has been also reported by Nakhashi et al., (2006). In the present case the two heads were continued to a single neck leading to single thorax, two forelimbs, two hind limbs and one tail. Similar cases were reported earlier (Chandrahasan et al., 2003, Chauhan et al., 2012 and Nag et al., 2015).

REFERENCES

**Figure I:** Dicephalus calf - each head with separate nostrils and two eyes (tetraophthalmus) and two ears.