



DYSTOCIA DUE TO CONJOINED DICEPHALUS THORACO-OMPHALOPAGUS TETRABRACHIUS TETRAPUS DICAUDATUS TWIN MONSTER IN BUFFALO

Ravi Dutt^{1*}, Usha Yadav², Sujata Jinagal² and Mohit Kumar²

Department of Veterinary Gynaecology and Obstetrics, Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar - 125 004, Haryana (India)

*e-mail: raviduttvets@yahoo.co.in

(Received 30 August, 2021; accepted 14 October 2021)

Fetal anomalies and monstrosities are the most common cause of dystocia in bovines. Fetal dystocia is a condition that occurs due to abnormal size, position or presentation of fetus resulting in difficult calving. In bovines, the incidence of dystocia is quite higher than other farm animal species (Dutt *et al.*, 2021). Dystocia in dairy animals is responsible for unpredictable economic losses in terms of calf morbidity and mortality (Bicalho *et al.*, 2007), impaired fertility with decreased milk production, treatment cost and dam mortality (Berry *et al.*, 2007). The incidence of fetal monstrosities among fetal causes of dystocia in buffalo ranges from 7.9 to 12.8% (Singla and Sharma, 1992). Conjoined twins arise from a single ovum and are monozygotic and develop after the development of embryonic plate (Whitlock *et al.*, 2008). Depending upon the fusion or non-separation, the types of twins may differ viz., thoracopagus (40%), omphalopagus (33%), pygopagus (18%), cephalopagus (2%) and ischiopagus (2%) (Fernando, 1993). The present paper reports a rare case of conjoined dicephalus thoraco-omphalopagus tetrabrachius tetrapus dicaudatus monster fetus in a buffalo which was successfully delivered by cesarean section.

A 4 years-old primiparous 'Murrah' buffalo at full term was brought to the Veterinary Clinical Complex, Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar (India) with the history of dystocia for last 5 h. Clinical examination of animal showed normal temperature (38.5°C) and normal heart rate (76 beats min⁻¹). Anamnesis revealed amputation of two fetal heads by veterinarian at farmer's door step. Following proper lubrication with liquid paraffin after epidural anesthesia with 5 mL 2% lignocaine hydrochloride, prevaginal examination was performed which revealed ruptured water bag, fully dilated cervix, inadequate fetal fluid, presence of four limbs, two cervical stumps and uterus contracted around fetus indicating non-feasibility of delivery per-vaginum. Therefore, caesarean section was decided to be the line of treatment for delivery of fetal monster. The surgery was carried out by restraining the animal in left lateral recumbency under local infiltration. The incision was given at paramedian site just parallel to milk vein (four fingers above milk vein and just cranial to udder). Uterus was exteriorized and incised to retrieve the fetal monster (Fig. 1). Uterus was washed with a solution of normal saline and povidone iodine and incision was closed in routine manner using chromic catgut applying cushing followed by Lambert suture pattern. Peritoneum along with first muscle layer and second muscle layer were sutured with vicryl number 3 in lock stitch pattern. Skin was sutured with silk (No. 3) in cross mattress pattern. The animal was treated with inj. Oxytocin 10 mL (Evatocin, Neon Laboratories) in 1 L normal saline i/v; inj. dextrose normal saline 1 L i/v (dextrose 5%; Fresenius Kabi), inj. calcium-magnesium-boro-gluconate 450 mL i/v (Mifex[®], Novartis India), inj. cefoperazone plus sulbactam 4.5 g i/m (Pathocef[®], Zydus Animal Health), inj. chlorpheniramine maleate 10 mL i/m (Avil[®], MSD Animal Health), inj. flunixin meglumine 20 mL i/m (Megludine[®], Virbac Animal Health India), inj. metronidazole 1000 mL i/v (Metrogyl[®], JB Chemicals) and inj. vit. B complex 10 mL i/m (Tribivet[®], Intas Pharmaceuticals). Antibiotic, vitamin-B complex and NSAID were advised for 7 days and alternate day dressing of suture site. Sutures were removed on day 14 post-caesarean section. The animal recovered without any post-partum complication.



Fig. 1: Conjoined dicephalic thoraco-omphalopagus tetrabrachius tetrabrachius tetrapus dicaudatus twin monster

A conjoined twin monster having 4 forelimbs joined at the thoracic region, joined abdomen, 4 hind limbs joined at the pelvic region and two separate tails was delivered (Fig. 1). Both the fetii were of male sex. Amputations of two fetal heads were evidenced by presence of cervical stumps. Therefore, the fetus was confirmed as conjoined dicephalic thoraco-omphalopagus tetrabrachius tetrapus dicaudatus twin monster. Conjoined twins are always identical twins and of the same sex and such twins are usually due to non-inherited defects and often lead to severe dystocia (Roberts, 2004). Normal per-vaginal delivery of such types of conjoint twins is difficult

due to their enlarged and abnormal size resulting in dystocia. Dystocia due to a dicephalus thoraco-sternopagus Siamese monster (Sahu and Pandit, 1999) and a conjoined twin monster (Sunder *et al.*, 2011; Singh *et al.*, 2013) have been reported as rare case in buffalo. For the obstetrical management of conjoined twins, delivery by cesarean section is usually undertaken (Singh *et al.*, 2013). The present case study suggested that cesarean section may be the treatment of choice in fetal monstrosities when the case is delayed and manipulated under field conditions.

-
- Berry, D.P., Lee, J.M., Macdonald, K.A. and Roche, J.R. 2007. Body conditions score and body weight effects on dystocia and stillbirths and consequent effects on post calving performance. *Journal of Dairy Science*, **90**(9): 4201-4211.
- Bicalho, R.C., Galvao, K.N., Cheong, S.H., Gilbert, R.O., Warnick, L.D. and Guard, C.L. 2007. Effect of still births on dam survival and reproduction performance in Holstein dairy cows. *Journal of Dairy Science*, **90**(6): 2797-2803.
- Dutt, R., Arjun, V., Kumar, G., Yadav, V. and Dalal, J. 2021. Dystocia due to fetal monstrosity in a riverine buffalo - A case report. *Buffalo Bulletin*, **40**(1): 185-187.
- Fernando, A. 1993. *Practical Guide to High Risk Pregnancy and Delivery* (2nd edn.). Mosby Year Book. Baltimore, USA.
- Roberts, S.J. 2004. *Veterinary Obstetrics and Genital Diseases* (2nd edn.). CBS Publishers, New Delhi, India.
- Sahu, S.B. and Pandit R.K. 1999. Dicephalus thoracosternopagus Siamese monster in a buffalo – A case report. *Indian Veterinary Journal*, **76**: 745-746.
- Singh, G., Pandey, A.K., Dutt, R., Sunder, S., Kumar, S. and Chander, S. 2013. Delivery of a dicephalus sternopagus tetrabrachius tetrapus dicaudatus monster in a Murrah buffalo by caesarean section. *Buffalo Bulletin*, **32**(4): 242-244.
- Sunder, S., Kumar, S., Singh, G., Dutt, R. and Pandey, A.K. 2011. Delivery of a dicephalus-thoraco-sternopagus tetrabrachius dicaudatus monster in buffalo. *Indian Journal of Animal Reproduction*, **32**(1): 70-71.
- Singla, V.K. and Sharma, R.D. 1992. Analysis of 188 cases of dystocia in buffalos. *Indian Veterinary Journal*, **69**(6): 563-564.
- Singh, G., Pandey, A.K., Dutt, R., Sunder, S., Kumar, S. and Chander, S. 2013. Delivery of a dicephalus sternopagus tetrabrachius tetrapus dicaudatus monster in a Murrah buffalo by caesarean section. *Indian Journal of Animal Reproduction*, **32**(4): 242-244.
- Whitlock, B.K., Kaiser, L. and Maxwell, H.S. 2008. Heritable bovine fetal anomalies. *Theriogenology*, **70**(3): 535-549.