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DYSTOCIA DUE TO FAULTY DISPOSITION CAUSED BY A MONOCEPHALUS DIPROSOPUS MONAUCHENOS MONSTER FETUS IN A BUFFALO

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ABSTRACT

A 5 years old buffalo in her second lactation was presented with the history of complete gestation at village Bajuri situated in district Hamirpur of Himachal Pradesh, India. Per vaginal examination showed fetus in posterior longitudinal presentation with dorso-sacral position and bilateral hip flexion. Per vaginal traction of fetus was tried by mutations and was removed manually. Fetus was congenitally defected with the presence of two heads. It was a rare case of 'monocephalus diprosopus monauchenos' with two pairs of nostrils, four eyes (tetraophthalmus), two mouths, each with a tongue and two ears. The two faces were fused caudally by a single parietal bone. Both faces were joined ventrally by the medial rhami of the mandible.

Keywords: *Bubalus bubalis*, buffaloes, congenital defects, diprosus, dystocia, monauchenos, Monocephalus, monsters

INTRODUCTION

Congenital defects observed at birth are abnormalities caused due to changes in structure and function. They may affect an organ, system part, or an entire system (Noden and De Lahunta, 1985). Dystocia in animals may occur because of congenital fetal anomalies, caused by many factors associated with heritable, toxic, nutritional, and infectious agents (Sharma *et al*., 2010; Gupta *et al*., 2011). An incidence of 7.9% was recorded for dystocia due to monsterites in river buffaloes (Phogat *et al*., 1992). Dicephalus monsters were reported in buffaloes (Srivastava *et al*., 2008; Kumar *et al*., 2014) and cows (Chandrahasan *et al*., 2003; Kumar *et al*., 2016). Sometimes a single head may divide into two faces with two ears, four eyes and two nostrils developed on it. Such a type of monster is known as monocephalus diprosopus (Robert, 2004). This type of monster is a congenital defect that affects facial and cranial structures and has been reported rarely in animal species.

CASE HISTORY AND CLINICAL OBSERVATION

A five-year-old buffalo with the history of complete gestation was reported in village Bajuri of district Hamirpur of Himachal Pradesh, India. Buffalo was straining for the last 2 h after

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rupture of water bags. After epidural anesthesia and lubrication with heavy liquid paraffin, per vaginal examination was done. It revealed a fetus in posterior presentation with dorso-sacral position having both the hips engaged in pelvic brim.

TREATMENT AND DISCUSSION

As the fetus was present in breech presentation, the individual leg was manipulated and corrected from first higher flexion to lower flexion i.e., from hip flexion to hock flexion and then hock flexion to normal posture by protecting extremities of hind limb with palm of the hand. After that vaginal delivery of fetus was attempted by mutations and was removed manually with correction of double head. Forceful traction was attempted on both extended hind limbs by obstetrical snares fixed on rear part of the abdomen after proper lubrication with heavy liquid paraffin. The forced extraction and adjustment of the broader part of head resulted in delivery of dead monster fetus. After the delivery of dead fetus, the buffalo was treated with inj. Dexamethasone 10 ml (i/v), inj. 20% Dextrose fluid 2 liters (i/v), inj. Vitamin B-complex 10 ml (i/m). Afterward an injection of Calcium borogluconate 450 ml (slow i/v), inj. Oxytocin 100 IU (slow i/v) and antibiotic injection of Ceftriaxone and tazobactum 4.5 gm (i/m) was given. Complete and thorough examination of fetus (Figure 1) showed that fetus had two fully developed faces i.e., duplicate facial structures (diprosopus) on single head (monocephalus) and single neck (monauchenos), four eyes, two ear pinnae, with two fore and two hind limbs. The rest of the parts like neck, thorax, abdomen, and limbs were found normal.

Incomplete fusion of Mullerian ducts during embryogenesis results in congenital abnormalities (Jainudeen and Hafez, 2000). Congenital defects are might due to either inheritance or some environmental teratogens (Dennis and Leipold, 1979). Inherited anomalies of fetal development occur because of single autosomal recessive gene. However, it has been established that the causes of

Figure 1. Monocephalus Diprosopus Monauchenos fetus.

many congenital anomalies are prenatal infection with a virus, vitamin A and folic acid deficiency, genetic factors, or combination of these factors (Jones and Hunt, 1983). The zygote less than 14 days is susceptible to chromosomal aberrations and genetic mutations. During the period of embryonic development i.e., between 14 to 42 days, the embryo is highly susceptible to teratogens, and the effect decreases slowly as embryo matures to fetus (Morrow, 1986). Inbreeding between parents with history of congenital anomalies will express defect in progeny (Salami *et al*., 2011). Such fetal monsters result in dystocia at the time of parturition. Most seen congenital head defects are diprosopus, dicephalus and schisoprosopia (Hiraga and Dennis, 1993). The present case report describes dystocia relieving due to dicephalic monster in buffalo. The fetus was removed by manual correction (mutation) and forced traction by applying obstetrical rope and other preventive measures. In the present case, the thoracic and visceral organs as well as limbs were not affected.

REFERENCES

Chandrahasan, K.K., M. Kumar, P.N. Selvaraju, J. Richard and S.R. Kumar. 2003. Dystocia due to Dicephalus Monostomus Monster in a crossbred cow. *Indian Journal of Animal Reproduction*, **24**(2): 175.

Dennis, S.M. and H.W. Leipold. 1979. Ovine congenital defects. *Veterinary Bulletin*, **49**(4): 233-239.

Gupta, V.K., P. Sharma and S.N. Shukla. 2011. Dicephalus monster in a Murrah buffalo. *Indian Vet. J*., **88**(12): 72-73.

Hiraga, T. and S.M. Dennis. 1993. Congenital duplication, p. 145-161. *In* Dennis, S.M. (edn.) *The Veterinary Clinics of North America, Food Animal Practice. Congenital Abnormalities*. Saundewrs, Philadelphia, USA.

Jainudeen, M.R. and E.S.E Hafez. 2000. *Reproduction Failures in Females in Hafez BD and Hafez ESE. Reproduction in Farm Animals*, 7th ed. Lippincott Williams and Wilkins, Baltimore, Maryland USA. p. 261-265.

Jones, T.C. and R.D. Hunt. 1983. *Veterinary Pathology*, 5th ed. Lea and Febiger, Philadelphia, USA. p. 115.

Kumar, P., A. Sharma, M.M. Singh and A. Sharma. 2016. A rare case of dystocia due to monocephalus diprosopus monster in a cow. *Himachal Journal of Agricultural Research*, **42**(2): 195-196.

Kumar, P., A. Sharma, M.M. Singh, P. Sood and P. Barman. 2014. Dystocia due to dicephalus monster fetus in a buffalo. *Buffalo Bull*., **33**(1): 13-15. Available on: https://kukrdb.lib.ku.ac.th/journal/BuffaloBulletin/search_detail/result/286448

Morrow, D.A. 1986. *Congenital Defects affecting Bovine Reproduction, in Current Therapy in Theriogenology*, 2nd ed. WB Saunders Co., Philadelphia, USA. p. 177-199.

Noden, D.M. and A. Lahuta. 1985. The embryology of domestic animals: Developmental mechanisms and malformations. *Williams and Wilkins, Baltimore*, Philadelphia, New York, USA. p. 109-152.

Phogat, J.B., N.S. Bugalia and S.L. Gupta. 1992. Incidence and treatment of various forms of dystocia in buffaloes. *Indian Journal of Animal Reproduction*, **13**: 69-70.

Robert, S.J. 2004. *Veterinary Obstetrics and Genital Diseases*, 2nd ed. CBS Publishers

and Distributors, Delhi, India. p. 73-74.

Salami, O.S., S.O. Okaiyeto, S. Danbirni, C. Ibe, L. Allam and A.C. Kudi. 2011. A case of diprosopus monauchenos in a day old calf (white Fulani X Friesian cross) in an integrated dairy farm. *International Journal of Plant Production*, **2**(5): 55-58.

Sharma, A., S. Sharma and N.K. Vasistha. 2010. A diprosopus buffalo neonate: A case report. *Buffalo Bull*., **29**(1): 62-64. Available on: https://kukrdb.lib.ku.ac.th/journal/BuffaloBulletin/search_detail/result/286261

Srivastava, S., A. Kumar, S.K. Maurya, A. Singh and V.K. Singh. 2008. A dicephalus monster in Murrah buffalo. *Buffalo Bull*., **27**(3): 231-232. Available on: https://kukrdb.lib.ku.ac.th/journal/BuffaloBulletin/search_detail/result/286185