



Research Article

DYSTOCIA DUE TO DICEPHALIC FETUS IN A CROSS BRED JERSEY COW

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Abstract: A five-year-old pregnant cross bred Jersey cow at nine months of pregnancy in second parity with dystocia due to dicephalic fetal anomaly was presented to the Veterinary Clinical Complex and the fetus was delivered by caesarean section. The fetus was dicephalic with bicardia and dam recovered without any post-partum complication.

Keywords: Cow, Caesarean Section, Dicephalic, Fetal Anomaly

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Introduction

Congenital malformations (due to genetic causes) represent a hidden danger for animal production; above all when genetic selection is undertaken for production improvements [1]. In most herds, inherited congenital anomalies are probably present in all breeds of cattle. In some herds, the occurrence of inherited anomalies has become frequent and economically important [2]. Congenital defects are structural or functional abnormalities and can effect on isolated portion of a body system, entire system or parts of several systems and may cause obstetrical problems [3]. Double headed calf represent a case of absolute fetal oversize with subsequent provoke of dystocia in animals. 'Dicephalic' is described as an abnormality of incomplete separation of heads resulting from twinning in animals and such conditions could be resolved through fetotomy or caesarean section [4]. The present case study reports a case of dystocia due to dicephalic fetus in a Jersey cross bred cow.

Case history and Observations

A five-year-old cross bred Jersey cow (OPD No. E-821, dated 03.03.2019) at nine months of pregnancy in second parity was brought to Veterinary Clinical Complex, LUVAS, Hisar. The animal was straining for last eight hours with unsuccessful attempts to deliver the foetus. The water bags had already ruptured and traction was applied by local veterinarian. The case was diagnosed as dystocia due to fetal anomaly and referred to our clinics. On per-vaginum examination, it was observed that the cervix was completely dilated but fetal fluid was scanty and uterus was contracted around the fetus. Both fore limbs and two heads were present in the birth canal. Keeping the general condition of the dam into consideration, caesarean section was planned.

Treatment and Discussion

The animal was casted on right lateral recumbency and paramedian site was prepared for surgery and caesarean section was performed as described by [5]. A dead female fetus with anomaly of head was delivered. Gross examination of fetus revealed presence of two heads and necks fused at lower cervical region. All the four limbs were normal [Fig-1]. Post mortem examination of fetus revealed enlarged liver, two hearts and a pair of kidney surrounded by fatty tissue [Fig- 2].

The animal was treated with Inj. Evatocin® 10 ml (Oxytocin; Neon laboratories) in 1 liters of normal saline IV; Inj. Dexona® (Dexamethsone; Zydus AHL) 10 ml IM, Inj. Dextrose Normal Saline (Dextrose 5%; Fresenius Kabi) 4 litres IV, Inj. Mifex® (Calcium-magnesium-boro-gluconate; Novartis India Limited) 450 ml IV, Inj. Cefwell forte® (Cefoperazone plus sulbactam ; Macwell pharma) 4.5 g IM, Inj. Avil® (Chlorpheniramine maleate; MSD Animal Health) 10 ml IM, Inj. Megludyne® (Flunixin meglumine; Virbac Animal Health India Pvt Ltd.) 15 ml IM, Inj. Tcee® (Ascorbic acid; Titanic Pharmaceuticals Pvt. Ltd) 30 ml IM and Inj. Metrogyl® (JB Chemicals; Metronidazole 5000mg/1000 ml) IV. Excluding Inj. Mifex® and Inj. Dexona®, rest of the treatment was advised for 5 days and sutures were removed on day 12 post caesarean section. The animal recovered without any post-partum complication. Fetal anomalies and monstrosities are common cause of dystocia in bovines [6]. Among domestic species, cattle have the highest incidence of congenital duplication anomalies [7]. The causes of many congenital anomalies are essentially unknown; however, the important known causes are prenatal infection with a virus, teratogens ingested by mother, vitamin deficiency (Vit-A and folic acid), genetic factors and/or combination of these factors [8]. The zygote (<14 days) is susceptible to genetic mutations and chromosomal aberrations. During the period of embryonic development (day 14 to 42 days), the embryo is highly susceptible to teratogens, and the effect decreases gradually as embryo matures to foetus [9]. It is thought that these factors are responsible for the failure of twins to separate after the 13th day of fertilization [3]. The animals undergone caesarean section are reported to have lower survival rate (45.1%) as compared to those with/without partial fetotomy [10]. Conception rate in dams with caesarean deliveries and mutations with/without partial fetotomy have been found 36 and 23%, respectively [11]. Similar cases of dystocia due to dicephalic fetus have also been reported in buffaloes [12] and [13].

Application of research: This case report will be helping the veterinarians or paraveterinarian staff for taking timely corrective measures in obstetrical cases of fetal anomalies.

Research Category: Veterinary Gynaecology & Obstetrics.



Fig-1 Dicephalic fetus with normal limbs



Fig-2 Pair of kidneys, two hearts and enlarged liver

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Study area / Sample Collection: Veterinary Clinical Complex, LUVAS, Hisar, 125004.

Breed name: Cross Bred Jersey Cow

Conflict of Interest: None declared

Ethical approval: Ethical approval taken from College of Veterinary Sciences, Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar, Haryana, 125004, India.

Ethical Committee Approval Number: The case was referred case for treatment

References

- [1] Albarella S., Ciotola F., DANza E., Ciotola A., Zicarelli L. and Peretti V. (2017) *Animals*, 7,9.
- [2] Singh S., Pandey A.K., Dutt R., Sunder S., Kumar S. and Chander S. (2013a) *Buffalo Bulletin*, 32 (4), 242-244.
- [3] Srivastava S., Kumar A., Maurya S.K., Singh A. and Singh V.K. (2008) *Buffalo Bulletin*, 27 (3), 231-232.
- [4] Long S. (2009) *Abnormal development of conceptus and its consequences*, In: *Veterinary Reproduction and Obstetrics*, Noakes, D.E., T.J. Parkinson and G.C.W. England (Eds.), Saunder's Ltd, London, pp119-142.
- [5] Singh G., Arjun V., Hariom, Kumar A. and Dutt R. (2019) *Veterinary Research International*, 7(1), 41-43.
- [6] Shukla S.P., Garg U.K., Pandey A., Dwivedi D.P. and Nema S.P. (2007) *Indian Veterinary Journal*, 84, 630- 631.
- [7] Leipold H.W., Dennis S.M. and Huston K. (1972) *Cornell Veterinarian*, 62, 572-580.
- [8] Jones T.C. and Hunt R.D. (1983) *Veterinary Pathology*, 5th Edn.. Lea

and Febiger, Philadelphia, USA, 115.

- [9] Morrow D.A. (1986) *Congenital defects affecting bovine reproduction*, In: *Current Therapy in Theriogenology*, 2nd Edn. W.B. Saunders Co., Philadelphia, USA, pp177-199.
- [10] Singh G., Pandey A.K., Agnihotri D., Chander S., Chandolia R.K. and Dutt R. (2013) *Indian Journal of Animal Sciences*, 83, 251-253.
- [11] Frazer G., Perkins N. and Blanchard T. (1997) *Equine Veterinary Journal*, 29, 111-116.
- [12] Singh G., Dutt R., Yadav V. and Patil S. (2018) *International Journal of Science and Nature*, 9 (2), 258-259.
- [13] Dutt R., Singh G., Gahalot S.C., Patil S., Kumar G. and Chandolia R.K., (2018) *Theriogenology Insight*, 8(2), 01-04.