

A rare case of congenital dicephalic iniodymus defect in nondescript caprine neonate

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Journal of Livestock Science (ISSN online 2277-6214) 6:10-12
Received on 03/02/2015; Accepted on 18/3/2015

Abstract

Dicephalus or duplication of the head is a kind of conjoined twinning by which two animals have been partially separated in the cephalic region. This anomaly has been extremely rare in horses, occasionally found in dogs, cats but not uncommon in cattle, goats and sheep. This present communication deals with a dicephalic malformed male kid from a nondescript primiparous goat delivered with caesarian section. The kid had a single body with duplicated heads connected at the occipital regions.

Key words: Congenital Defects; Dicephalus iniodymus; Doe; Dystocia; Caesarian section

Introduction

Congenital defects are structural or functional abnormalities and can affect on isolated portion of a body system, entire system or parts of several systems and may cause obstetrical problems (Srivastava, 2008). An interesting anomaly unique to multiple pregnancies is conjoint twins. This is a rare disorder affecting 1:200 monozygotic twin pregnancies, 1:900 twin pregnancies and 1:25,000 to 100,000 births (Monfared *et al.*, 2013). It is thought that conjoined twins are more common in cattle than in other domestic animals. The incidences of these types of congenital defects are very exceptional and reported in sheep (Monfared *et al.*, 2013), goats (Mukaratirwa and Sayi, 2006), Cattle (Salami *et al.*, 2011) and buffalo (Shukla *et al.*, 2011).

Dicephalus is described as an abnormality of incomplete separation of heads resulting from twinning in animals. (Long, 2009). This present study depicts a rare case of dicephalic conjoined anomaly in a nondescript caprine neonate.

Case History and Clinical Examination

A non descript primiparous doe was presented to the Teaching Veterinary Clinical Complex, M.J.F. College of Veterinary and Animal Sciences, Jaipur (Raj.) with the history of dystocia for the last 10 hours. Anamnesis revealed despite acute labour pain, the animal had failed to deliver the kid. Per vaginal examination revealed presence of the abnormal fetus, with two palpable heads joined around at an angle of 45°, in the anterior longitudinal presentation, dorso-sacral position with both forelimbs in the birth canal. The fetus was dead as there was no suckling reflex and hence confirmed to be a dicephalic dead fetus. Animal had slightly pale mucus membrane and sunken eyes. Simple traction of the fetus was tried but failed to remove the dead fetus. Taking into account the size of double headed fetus and narrowed diameter of oedematous birth canal, clearly indicated no possibility for vaginal delivery. So it was decided to perform caesarian section to deliver the fetus.

Treatment

Antero-posterior ventro-oblique left lateral laparohystrectomy was performed under local analgesia after restraining the animal in right lateral recumbancy. The uterus was exteriorized to deliver a full term dicephalus dead fetus followed by closure of the uterus by double rows of lembert suture with 2/0 chromic cat gut (Ethicon® Johnson and Johnson) and routine closure of peritoneum, abdominal muscles and skin (Fig 2). A course of systemic antibiotic (500 mg Intamox-D®, Intas Pharmaceutical), non-steroidal anti-inflammatory drug (2ml Melonex®, Intas Pharmaceutical) and daily antiseptic dressing (Himax® ointment, Indian Herbs) for 5 days was given. Obligation of proper surgical techniques and maintenance of adequate postoperative measures rewarded with uneventful recovery of the doe.



Fig.1- iniodymus dicephalic dead kid



Fig.2- Doe and Fetus after ceaseren section

Result and Discussion

It is important to know various types of monsters in animals, which usually cause dystocia, cannot be removed easily and demand caesarean section most of the time (Monfared *et al.*, 2013). Duplication of the cranial portion of the fetus is more common than that of the caudal portion (Robert, 2004). The case presented was characterized by the fusion of two heads (dicephalic) on a single neck (monauchenos). Both the heads were nearly of same size and were joined from the occipital and temporal regions at an angle of 45°. According to terminologies reported by Camon *et al.* (1992) and Mehmood *et al.* (2014) present fetus was an iniodymus dicephalic kid. All conjoined twins are monozygotic in origin and represent incomplete division of one embryo into two components, usually at some time during the primitive streak stage. It is also possible to have duplication of one part of the future axial (and adjacent) structures. These usually arise during primitive streak elongation or regression (Monfared *et al.*, 2013).

Acknowledgement

The authors are thankful to the Dean, M.J.F. College of Veterinary and Animal Sciences, Rajasthan University of Veterinary and Animal Sciences, Rajasthan, India for his support and cooperation in carrying out the study.

Competing Interests

The authors declare that they have no competing interests.

References

- 1) Camon J, Sabate D, Verdu J, Rutilant J, and Lopez-Plana C. 1992. Morphology of a dicephalic cat. *Anatomy and Embryology*, 185: 45-55.
- 2) 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.
- 3) Mehmood, MU, Abbas W, Jabbar A, Khan J, Riaz A, Sattar A. 2014. An iniodymus dicephalic buffalo neonate. *The Journal of Animal & Plant Sciences*, 24(3): 973-975
- 4) Monfared AL, Sahar HN, Mohammad TS. 2013. Case Report of a Congenital Defect (Dicephalus) in a Lamb. *Global Veterinaria*, **10** (1): 90-92.
- 5) Mukaratirwa S, Sayi ST. 2006. Partial facial duplication (diprosopus) in a goat kid. *Journal of the South African Veterinary Association*, **77** (1): 42-44.
- 6) Robert, S.J. 2004. *Veterinary Obstetrics and Genital Diseases*, Indian Edition, CBS Publishers and distributors. Delhi. Pg-73-74 .
- 7) Salami, O.S., Okaiyeto, S.O., Danbirni, S., Ibe, C., Allam, L., and Kudi, A.C., 2011. A case of diprosopus onauchenos in a day old calf (White Fulani × Friesian cross) in an integrated dairy farm. *International Journal of Livestock Production* **2** (5), 55-58.
- 8) Shukla, S.P., Mudasir, Q., Nema, S.P., 2011. Dystocia due to a cojoined twin monster foetus in a female buffalo. *Buffalo Bulletin* **30** (1), 12-13.
- 9) Srivastava, S., Kumar, A., Maurya, S.K., Singh, A., Singh V. K., 2008. A dicephalus monster in murrha buffalo. *Buffalo Bulletin*. **27** (3), 231-232.