

Dystocia In A Cow Due To Hydrocephalic Fetus: A Case Report

A. Tripathi*, J.S. Mehta, G.N. Purohit, S. Sharma, K. Saini, S.K. Pathak

Department of Animal Reproduction, Gynaecology and Obstetrics, College of Veterinary and Animal Science, RAJUVAS, Bikaner-334001 INDIA.

*Corresponding author: drtripathi8@gmail.com

Ph: 7791894764

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ABSTRACT

A case of dystocia in non-descript cow due to hydrocephalus condition in fetus is reported. Dead fetus was delivered per-vagina after puncturing the fetal head with the help of trocar and cannula and evacuation of fluid.

Key words: Cow, dystocia, fetal hydrocephalus.

INTRODUCTION

Dropsical conditions of fetus resulting in dystocia include hydrocephalus, ascites, hydrothorax and anasarca (Purohit et al., 2006; Purohit et al., 2012). Hydrocephalus is accumulation of excessive fluid in Dura matter or ventricles of brain (Purohit et al., 2012). There are two types reported: (1) Internal hydrocephalus, a collection of fluid in the cerebral ventricles, and (2) External hydrocephalus, a collection of fluid outside the brain substance (Cole and Moore, 1942). This report puts on record of a case of dystocia in non-descript cow, caused by hydrocephalic fetus that was delivered per vagina by excision of fetal head, followed by traction.

CASE HISTORY AND MANAGEMENT

An indigenous, nondescript cow (about 7 yrs. of age) in second parity was presented to clinical services of veterinary college hospital, RAJUVAS, Bikaner with the complaint that animal was straining since 5-6 hrs. and forelegs of the fetus were protruding through vulva but on application of traction by the owner fetus could not be extracted out. The animal was in second stage of labour. The water bag had ruptured. On examination, the fetus was found to be in anterior longitudinal presentation with both forelimbs present at the vulva. Cow was dull, depressed, anxious and exhausted. Vaginal examination revealed 'hydrocephalus' condition in fetus, having excessive swelling over the head. To evacuate fluid, dropsical part of fetal head was punctured with a trocar. The Inner surface of birth canal was much inflamed and lacerated due to excessive manipulations so to have smooth delivery, subcutaneous fetotomy of forelimbs was performed. The fetus was then delivered by the application of hook in the inner canthus of eye along with the judicious traction on the leftover skin of the forelimbs. Enlargement over the head of fetus was located at the frontal region in the fetus (Fig.1). Fetus was dead at the time of delivery. Placenta was not separated. The animal was administered calcium borogluconate (Inj Calmex 450 ml IV), Oxytocin (Inj Zygon 45 IU IM), dexamethasone (Dexona 40 mg IM), and fluid replacement therapy. Parental and intrauterine antibiotics were also administered simultaneously to combat any possible infection. Subsequent to fetal delivery animal stopped straining and was in good condition. The animal recovered uneventfully within 2 days. The delivered fetus was male and confirmed the description of 'hydrocephalus' mentioned previously (Purohit et al., 2006; Purohit et al., 2012).

GROSS EXAMINATION OF FETUS

Enlargement of head due to accumulation of bacteriologically sterile fluid over the frontal region of the fetal head. Hind limbs were ankylosed (Fig.1).

HISTOPATHOLOGICAL EXAMINATION

Exploration of head revealed accumulation of fluid in the subdural space, general atrophy of brain and widening of the sulci between the convolutions (Sastry, 1971) confirming description of external hydrocephalus.



Fig. 1. Hydrocephalus (external) condition in calf

DISCUSSION

Hydrocephalus is assumed to arise from disturbances in normal circulation of cerebrospinal fluid resulting from its altered production or absorption (Fride, 1975). A simple autosomal recessive gene (Roberts, 1986) has been reported to be linked with hydrocephalus in cattle. Jubb and Kennedy (1970) stated that congenital hydrocephalus is known to be inherited in cattle and exacerbated in its manifestation by a coexisting hypovitaminosis. Compression of the brain occurs in calves with hypovitaminosis A due to failure of growth and sculpturing of the cranial vault to accommodate the growing brain. Sastry (1971) suggested that external hydrocephalus resulted from either too much fluid formed and not rapidly drained by the arachnoid villi or due to hindrance to the drainage of normally produced fluid. Congenital external hydrocephalus in the form of water sac over the forehead and face is quite rare in animals (Jubb and Kennedy, 1970). The condition appears as a flaccid liquid filled sac covered with skin and contains clear serous fluid as was seen in the present cases. The enlarged head cannot easily pass through the birth canal and results in dystocia as was seen in the presently reported case, although sometimes the fetus may be delivered normally and presented later for therapy of the calf (Mouli, 1987). In the present case the fetus could be delivered by gentle manipulation if previous handling would not have been done, however in absence of proper dilation of birth canal and previous handling laparo-hysterotomy might be advocated. Death of fetus occurs due to pressure on vital centers of brain (Purohit et al., 2012). Congenital hydrocephalus has been described in various animal species including cattle (Mouli, 1987; Balasubramanian *et al.*, 1997; Sharda and Ingole, 2002), buffalo (Bhandari *et al.*, 1978; Bugalia *et al.*, 1990), mare (Sharma, 1996) and camel (Abubakr *et al.*, 1998). The condition results in dystocia and the fetuses are delivered by either excision of the head followed by traction (Bhandari *et al.*, 1978) or caesarean section (Balasubramanian *et al.*, 1997; Bugalia *et al.*, 1990)

Reference

- 1) Abubakr, M.I., Ahmed, A.A., Nayel, N.M. and Fadlalla, M.E., 1988. Hydrocephalus in a new born male camel calf. *J. Camel Pract. Res.* **5**(2): 309.
- 2) Balasubramanian, S., Ashokan, S.A., Seshagiri, V.N. and Pattabisaman, S.R., 1997. Congenital internal hydrocephalus in a calf. *Indian Vet. J.* **74**(5): 446-447.
- 3) Bhandari, R.M., Kadu, M.S., Belorkar, P.M. and Murudwar, S.S., 1978. Obstetrical management of hydrocephalic fetus in buffaloes- A report of two cases. *Indian Vet. J.* **55**(12): 1001-1002.
- 4) Bugalia, N.S. Chander, S. Chandolia, R.K., Verma, S.K., Singh, P. and Sharma, O.K., 1990. Monstrosities in cows and buffaloes. *Indian Vet. J.* **67**(11): 1042-1043.
- 5) Cole C.L. and Moore L.A. 1942. Hydrocephalus, a lethal in cattle. *J. Agric. Res.* **65**: 483-491.
- 6) Fride, R.L., 1975. *Developmental Neuropathology*. Springer Verlag, New York.
- 7) Jubb, K.V.F. and Kennedy, P.C., 1970. *Pathology of domestic animals*. Academic Press, NYC Vol. I. **2nd** Ed.
- 8) Mouli, S.P. 1987. Surgical correction of congenital external hydrocephalus in an Ongole bull calf. *Indian Vet. J.* **64**(8): 696-698.
- 9) Purohit G.N., Gaur M, Sharma A, 2006. Dystocia in Rathi cows due to congenital hydrocephalus. *Indian J Anim Reprod* **27**(1): 98-99.
- 10) Purohit G.N., Kumar P., Solanki K., Shekhar C., and Yadav S. P. 2012. Perspectives of fetal dystocia in cattle and buffalo; *Vet. Sci. Dev.* **2**: 8
- 11) Roberts, S.J. 1986. Diagnosis and treatment of Dystocia, veterinary obstetrics and genital diseases. Indian Edition, CBS Publishers New Delhi. Pg-283.
- 12) Sastry, G.A. 1971. *Veterinary Pathology*. CBS Publishers New Delhi, **3rd** Ed. Tirupati.
- 13) Sharda, R. and Ingole, S.P. 2002. Congenital bilateral hydrocephalus in a Jersey cow calf. A case report. *Indian Vet. J.* **79**(10): 965-66.
- 14) Sharma, A. 1996. Dystocia due to hydrocephalic fetus with downward deviation of head in mare. *Indian Vet. J.* **73**(3): 337-38