

AN UNUSUAL CASE OF DYSTOCIA DUE TO HYDROCEPHALIC MONSTER IN A BUFFALO

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Abstract: A twelve year old non-descript buffalo in third parity and full term pregnancy with history of dystocia was presented to the clinics. During manual obstetrical examination, the cervix was found open with the foetus in anterior longitudinal presentation, dorso-sacral position and lateral deviation of the head. Marked enlargement of the cranium was felt. On the basis of clinical observations, the case was diagnosed as dystocia due to foetal hydrocephalus. Dead foetus was delivered through cesarean section. The head of the calf was extra-ordinarily large, football shaped due to fluid accumulation in to the cranial cavity. The peripheral diameter was 95 cm. Forehead was excessively stretched out. Cranial bones were found markedly thin. Epical cap of the bony skull was missing. The cerebrum was replaced with ventricle system filled with cerebrospinal fluid. The fluid in the cavity was watery measuring 5.2 litres. Microscopic examination of fluid revealed no cells or contents.

Keywords: Dystocia, buffalo, cesarean section, hydrocephalus.

Introduction

Hydrocephalus is one of the rare congenital conditions seen in buffaloes. Hydrocephalus involves dilation of ventricular system and subarachnoid space due to accumulation of fluid (Noakes, 2009). It may be caused due to genetic, nutritional and environmental factors (Kalman, 1989). Obstruction in free passage of cerebrospinal fluid in to the arachnoid space leads to excessive swelling of cranial cavity during foetal development (Salunke *et al.*, 2001). Occurrence of Dystocia due to foetal monster particularly hydrocephalus is rare in buffaloes (Kumaresan *et al.*, 2003) and mare (Singh *et al.*, 2013). It is more common in cattle (Jana and Ghosh, 2005; Purohit *et al.*, 2006; Yadav, 2008). The incidence of bovine hydrocephalus has been reported at 1.5 cases per 1000 calvings. Some affected foetuses are stillborn and many are born prematurely. Calves with pronounced cranial enlargement usually die within 48

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hours but less severely affected calves may survive for several weeks or longer (Leech *et al.*, 1978). Per-vaginal delivery in cases of foetal hydrocephaly is difficult except in few cases by giving stab incision on football shaped foetal mass and draining out the fluid to compress the head (Upasana *et al.*, 2012). The present article reports and discusses a case of dystocia due to foetal hydrocephalus in a buffalo.

Case history and clinical observations

A twelve year old non-descript buffalo in third parity and full term pregnancy with history of dystocia was referred by a veterinary hospital and presented at Teaching Veterinary Clinical Complex, Veterinary College, Navania, Udaipur. The allantochorion was already ruptured. The case was unsuccessfully handled by a quack and local veterinarian. The animal was straining since last 8 hours. During manual obstetrical examination, the cervix was found open with the foetus in anterior longitudinal presentation, dorso-sacral position and lateral deviation of the head. Marked enlargement of the cranium was felt. Palpation of the foetus revealed absence of reflexes suggestive of dead foetus. On the basis of clinical observations, the case was diagnosed as dystocia due to foetal hydrocephalus tentatively which could only confirmed after delivery of the foetus surgically.

Treatment and Discussion

Deliver the foetus by mutation and forced traction after proper lubrication was not possible. Hence it was decided to perform cesarean section under epidural (10 ml of 2% lignocaine Hcl) and local infiltration anaesthesia (15 ml of 2% lignocaine Hcl) through lower left flank approach. In majority of cases, foetal monstrosities result in dystocia warranting immediate laparo-hysterotomy to save the life of the dam (Sharma, 2006). A hydrocephalus dead male calf was delivered. The complete placenta was removed immediately. Surgical site was flushed with normal saline and an intra-uterine preparation containing levofloxacin-ornidazole- α tocopherol was poured in to the uterus. The uterine and laparotomy incisions were sutured as per standard technique. The animal patient was kept under post-operative care with appropriate antibiotic, anti-inflammatory and analgesic, fluid therapy and antiseptic dressing daily for five days. The sutures were removed on 10th post-operative day. The animal patient showed uneventful recovery.

The delivered dead calf was male with 36 kg body weight. The head of the calf was extraordinarily large, football shaped due to fluid accumulation in to the cranial cavity. The peripheral diameter was 95 cm. Forehead was excessively stretched out. Foetal trunk, limbs and other body parts were normal. On dissection, cranial bones were found markedly thin.

Epical cap of the bony skull was missing. The thinning of frontal, parietal and temporal skull bones was observed. The cerebrum was replaced with ventricle system filled with cerebrospinal fluid. The fluid in the cavity was watery measuring 5.2 litres. Microscopic examination of fluid revealed no cells or contents. Similar findings have also been reported by Patil *et al.*, 2008, Yadav *et al.*, 2008 and Upasana *et al.*, 2012.

Hydrocephalus may be caused due to genetic, nutritional and environmental factors (Kalman, 1989). In the presented case, there was no history of inbreeding. An autosomal recessive gene is considered responsible for many hereditary cases but intra-uterine infections and nutritional factors have not been fully evaluated except relationship of blue tongue virus to hydrocephaly (Upasana *et al.*, 2012).

Photographs



References

- [1] Jana, D. and Ghosh, M. (2005). Hydrocephalus in a calf. A case report. *The North East Veterinarian*, **14** (4):11.
- [2] Kalman, T.S. (1989). Congenital malformations in laboratory and farm animals. Academic Press. INC San Diego, California.
- [3] Kumaresan, A. *et al.* (2003). Hydrocephalus in a cow. *Indian J. Ani. Reprod.*, **24**:82.
- Leech, R.W. *et al.*, (1978). Hydrocephalus. *Amer. J. Pathol.*, **92**:567-570.
- [4] Noakes, D.E. (2009). Arthur's Veterinary Reproduction and Obstetrics. 8th Ed. W.B. Saunder's Comp., Philadelphia.
- [5] Patil, A.D., Yadav, G.U., Markandeya, N.M. and Moregaonkar, S.D. (2008). A rare case of acephalia with hydrocephalus in a cow calf. *Intas Polivet*, **9**(1):46-47.
- [6] Purohit, G.N. *et al.*, (2006). Hydrocephalus in a cow: a case report. *Indian J. Ani. Reprod.*, **27**:98-99.
- [7] Salunke, S.P., Amle, M.B. and Zambre, P.C. (2001). Dystocia due to hydrocephalus in Pantharpui buffalo. *Indian J. Ani. Reprod.*, **22**:96.
- [8] Sharma, A. (2006). Dicephalic monster in a graded murreh buffalo. *Intas Polivet*, **12**(1):30-31.
- [9] Singh, G., Pandey, A.K. and Bugalia, N.S. (2013). Dystocia due to hydrocephalic foal in a mare: a case report. *Veterinary Practitioner*, **14**(2): 362.
- [10] Upasana, R., Bhar, G.R., Varughese, E.E., Ghuman, S.P.S. and Honparkhe, M. (2012). Per-vaginal delivery of a murreh buffalo calf with congenital high grade hydrocephalus internus. *Veterinary Practitioner*, **13**(2):310-311.
- [11] Yadav, R.S. (2008). Hydrocephalus in a crossbred cow: A case report. *Veterinary Practitioner*, **9**(2):118.