

HYDRALLANTOIS IN BUFFALO: A RETROSPECTIVE CASE STUDY

Hitesh¹, Ritu Yadav¹, Pradeep Saini¹, Gyan Singh^{2,*}, Harpreet Singh³,
Sandeep Kumar¹, Ravi Dutt¹ and Anand Kumar Pandey¹

Received: 03 October 2022

Accepted: 02 April 2026

ABSTRACT

The study was conducted on the cases presented in the Veterinary Clinical Complex, LUVAS (Hisar). Animals were divided in two groups with respect to approach in treatment process. Group 1 received the protocol for the induction of parturition with estradiol benzoate, dexamethasone, PGF2 α analogue cloprostenol, valedhamate bromide and intravenous calcium supplementation. The same protocol was also administered in the Group 2 with the addition of manual rupture of chorioallantoic membrane and controlled escape of allantoic fluid. Both the groups received the fluid therapy with the crystalloid solutions. The animals in the Group 1 exhibited the development of a shock-like condition in 80% of cases at the time of escape of allantoic fluid which was not observed in the Group 2. This study concludes that controlled escape of allantoic fluid along with fluid therapy is a safer approach for the treatment of Hydrallantois condition.

Keywords: *Bubalus bubalis*, buffalo, Hydrallantois, controlled escape, retrospective

INTRODUCTION

Hydrallantois is the rapid accumulation of clear, amber-coloured watery fluid in the allantoic cavity and rapid distension of abdomen (Drivers and Peek, 2008). It is usually considered as maternal abnormality or placental defect where the accumulation of fluid occurs over a period of 5 to 20 days in late gestation (Morrow, 1986). This condition is more frequently observed in pleuriparous animals than the heifer cows. The underlying pathophysiology is related to reduction in placental vascularisation further leading to metabolic changes in fetal membranes and placental tissues. Additionally, fetal hepatic or renal disorders and umbilical cord torsion can also lead to hydrallantois development (Kapadiya *et al.*, 2018). It is usually treated by medical termination of pregnancy using corticosteroid and PGF2 α analogue (Manokaran *et al.*, 2011) but there is sudden removal of allantoic fluid once the cervix dilates sufficiently, which leads to development of hypovolemic shock, come or death (Peiro *et al.*, 2007). The slow and continuous removal of allantoic fluid may be an alternative method to

¹Department of Veterinary Gynaecology and Obstetrics, College of Veterinary Sciences, Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar, India

²Haryana Pashu Vigyan Kendra, Lala Lajpat Rai University of Veterinary and Animal Sciences, Karnal, India, *E-mail: vetgyansaini@gmail.com

³Veterinary Clinical Complex, Hisar, India

Table 1. Treatment protocol.

Group 1 (n=5)		Group 2 (n=5)	
Drug	Dose and route	Drug	Dose and route
Cloprostenol	500 µg i/m once	Cloprostenol	500 µg i/m once
Dexamethasone	40 mg i/m once	Dexamethasone	40 mg i/m once
Valethamate bromide	80 mg i/m once	Valethamate bromide	80 mg i/m once
Esradiol benzoate	2 mg i/m once	Esradiol benzoate	2 mg i/m once
Ca+2 supplement (Mifex)	450 ml slow i/v once	Ca+2 supplement (Mifex)	450 ml slow i/v once
Fluid therapy- crystalloids (NSS, DNS)	6 litres i/v bid	Fluid therapy- crystalloids (NSS, DNS)	6 litres i/v per batch
Additional 6 to 10 litres on rupture of chorioallantois along with corticosteroids (dexamethasone-40 mg i/v) in animals exhibiting shock-like condition		Additional 6 to 8 litres on rupture of chorioallantois The animals were frequently monitored and when the internal-os became sufficiently dilated, the chorioallantois was ruptured manually and the allantoic fluid was discharged into batches of 10-15 litres with subsequent fluid therapy	



Figure 1. Bloated bull-frog appearance of an affected buffalo.



Figure 2, Ill-developed calf delivered by the hydrallantois affected buffalo.

avoid shock to the animal (Noakes *et al.*, 2009; Manokaran *et al.*, 2016). This case study explained the successful clinical management of buffaloes diagnosed with hydrallantois adopting controlled vaginal release of allantoic fluid.

General history and clinical observation

The gestation of the animals ranged between sixth and eighth month. As per the owner records, the abdominal distension occurred within a month period with the body becoming barrel-like in shape (Figure 1). The symptoms varied from inappetance to anorexia, dyspnoea, colicky signs, etc. general clinical observation included open-mouth breathing, tachycardia, normal body temperature, normal size of superficial lymph nodes and normal to congested appearance of mucus membranes. Some owners reported slight mucus-like vaginal discharge and hence, examined per-vaginally with observations being a balloon-like distension in the birth canal, ventrally displaced cervix, one-finger open external-os and tightly closed internal os. Per-rectally, no structure was palpable due to the uterus occupying all the space. On sonographic examination, an ill-developed foetus was evident suspended in a large anechoic cavity.

Treatment

Treatment protocol followed in the study is shown in Table 1. The common treatment in both the groups included inj. cloprostenol, Dexamethasone, Valethamate bromide, estradiol benzoate, calcium magnesium borogluconate, and fluid therapy. In Group 1, additional 6 to 10 litres on rupture of chorioallantois along with corticosteroids (dexamethasone-40 mg i/v) in animals exhibiting shock-like condition was administered. While in Group 2, animals were frequently monitored and when the internal-os became sufficiently dilated,

the chorioallantois was ruptured manually and the allantoic fluid was discharged into batches of 10 to 15 litres with subsequent fluid therapy was given.

RESULT AND DISCUSSION

Group 1 animal exhibited discharge of large amounts of allantoic fluid in a gush and delivered an ill-developed calf (Figure 2). Four of the five animals (80%) collapsed on ground and underwent shock conditions with one animal (20%) collapsing later. This study provided results in coordination with the previous studies (Peiro *et al.*, 2007). Along with induction of parturition, large amounts of crystalloid solutions should be administered along with corticosteroids to prevent the development of hypovolemic shock due to rapid drainage of allantoic fluid (Resum *et al.*, 2016).

None of the Group 2 animals exhibited the development of shock and the process of termination of pregnancy underwent smoothly. Immediate respiratory relief was evident on the discharge of first batch of allantoic fluid. The slow and continuous removal of allantoic fluid is a better method to avoid shock to the animal as observed in previous studies (Noakes *et al.*, 2009; Manokaran *et al.*, 2016).

REFERENCES

- Drivers, T.J. and S. Peek. 2008. *Rebhun's Diseases of Dairy Cattle*, 2nd ed. Saunders Elsevier, St. Louis, Missouri, USA. p. 395.
- Kapadiya, P.S., S.S. Parikh, P.M. Chauhan, T.V. Sutaria and H.C. Nakhasi. 2018. Management of hydroallantois in a Jafrabadi buffalo. *J. Pharmacogn. Phytochem.*, **SP1**:

1534-1536.

- Manokaran S., K. Ravikumar, R.E. Napoleon, M. Palanisamy and M. Selvaraju. 2011. Hydrallantois in a non-descript buffalo: A case report. *The Indian Journal of Field Veterinarians*, **7**: 69.
- Manokaran, S., R.E. Napoleon, M. Palanisamy, M. Selvaraju and S. Prakash. 2016. Clinical management of hydrallantois in a cow using Transcervical Allantocentesis method: A case report. *Int. J. Sci. Environ. Technol.*, **5**(4): 1888-1892.
- Morrow, A.D. 1986. *Current Therapy in Theriogenology*, WB Saunders Company, Philadelphia, USA. p. 207-208.
- Noakes, D.E., T.J. Parkinson and G.C.W. England. 2009. *Veterinary Reproduction and Obstetrics*, 9th ed. Saunders Elsevier, China. p. 141-142.
- Peiro, J.R., A.S. Borges, R. Yanaka, M.B. Koivisto, L.C.N. Mendes, F.L.F. Feitosa, J.O. Abujamra and C.A. Rodrigues. 2007. Hydrallantois in an ewe (Case report). *Ars. Vet.*, **23**(2): 116-119.
- Resum, N.S., Bhavna, A. Khajuria and P. Kour. 2016. Hydrallantois in a cross bred heifer - A case report. *Indian J. Anim. Health*, **55**(1): 91-94. Available on: http://ijah.in/upload/snippet/110_50.pdf