# HYDROALLANTOIS IN A BUFFALO WITH FETAL ANASARCA

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## ABSTRACT

A rare case of dystocia due to hydroallantois in a Murrah buffalo with fetal anasarca and its successful management is described. Slow withdrawal of allantoic fluid using a Rusch catheter coupled with continuous intravenous fluid replacement prevented the development of hypovolaemic shock.

**Keywords:** Anasarca, buffalo, dystocia, hydroallantois

## INTRODUCTION

Hydroallantois is the sudden accumulation of fluid in the allantoic cavity of pregnant animals observed sporadically in dairy and beef cattle (Drost, 2007). The abnormality is probably caused due to structural or functional changes in the allantois chorion and transudation of fluid (Purohit and Gaur, 2011). Many reports on the occurrence of the condition in buffaloes have appeared recently (Manokaran *et al*., 2011; *Kumar et al*., 2012; Selvaraju *et al*., 2012; Hiralal *et al*., 2013; Dhami and Dhami, 2014). In the present case we report hydroallantois along with fetal anasarca in a Murrah buffalo.

## CASE HISTORY AND CLINICAL OBSERVATIONS

A 9 months pregnant Murrah buffalo aged 5 years in its second parity was admitted to the department of Veterinary Gynaecology and Obstetrics, CVAS, Bikaner with a history of sudden bilateral distension of abdomen for the last 10 days, anorexia and constipation progressing since 7 days. Per vaginal examination revealed a closed cervix with a dome shaped appearance due to extensive fluid in the uterus. The abdomen was enlarged and the udder was not developed and rather shrinked (Figure 1). On trans-rectal examination, no fetal parts were palpable and uterus was filled with huge quantity of placental fluid which was presenting a tense fluid filled feel within the pelvis. Ultrasonography revealed echogenic placentomes, umbilical cord and anechoic fetal fluids. However fetal parts could not be visualized. The condition was diagnosed as hydroallantois.

## TREATMENT AND DISCUSSION

The animal was restrained in lateral recumbency. To avoid shock due to sudden release of allantoic fluid a Rusch catheter (18 guaze) was introduced into the allantoic cavity through the

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Figure 1. A buffalo with hydroallantois. The abdomen is severely distended and the udder is undeveloped and shrinked.

Figure 2. An anasarcous buffalo fetus delivered from a Murrah buffalo with hydroallantois.

cervix after dilating the cervical canal with a stainless steel cervical dilator. About 50 liters of allantoic fluid was slowly drained through the catheter in a period of 24 h. Around 15 liters of fluid (5 liters DNS, 5 Liter RL, 5 Liter NS) was administered intravenously. Pregnancy was terminated by IM administration of 500 µg Inj. Cloprostenol and 24 mg dexamethasone. After 24 h 60 liter allantoic fluid was slowly drained out from the uterus slowly and 20 liters of fluid was infused IV. After removal of allantoic fluid, a dead anasarcous fetus (Figure 2) was delivered by simple traction on both fore limbs. Eight Furea bolus (Nitrofurazone 60 mg, Urea 6 gm, Pfizer) were placed intra-uteruine. After 3 days of care employing IV infusion of 4 liter Ringer lactate and 2 liters of NSS and IM injection of oxytetracycline (2000 mg), Meloxicam 100 mg and chloropheniramine maleate 100 mg were administered. The buffalo recovered uneventfully.

Hydroallantois is commonly associated with either infectious diseases or developmental defects of fetus. Rarely mild hydrops of the amnion and/or allantois and edema of the placenta may result in fetal anasarca (Arthur *et al*., 2001). Accumulation of allantoic fluid is rapid due to placental abnormalities and possible interference with sodium metabolism at cellular level (Jackson, 1980). Similar to the present report hydroallantois was seen mostly during 8 to 9 months of gestation (Roberts, 1971) and its treatment always recommends administration of fluid intravenously and termination of pregnancy (Noakes, 2009). If large volume of allantoic fluid escapes rapidly from uterus the animal may develop circulatory hypovolemic shock (Peiro *et al*., 2007). In the present case, Rusch catheter was used to drain out allantoic fluid slowly and similar process was reported by Napolean *et al*. (2012) in a cow. Pregnancy in buffaloes affected with hydroallantois was terminated successfully using dexamethasone (Chandolia *et al*., 1988 and Prabhakar *et al*., 1991), prostaglandin analogues (Chandolia *et al*., 1989) and combination of prostaglandin and corticosteroid (Luthra *et al*., 2001).

However, the sudden expulsion of allantoic fluid invariably results in hypovolaemic shock (Purohit and Gaur, 2011). In the present case, combination of dexamethasone and prostaglandin analogue was used for cervical dilation. Following cervical dilation the fetus was removed with manual traction. A slow withdrawal of fluid along with continuous fluid replacement prevented the development of shock. Fetal dropsical conditions such as ascites have been previously reported in buffalo with hydroallantois (Srinivas and Sreenu, 2006) however fetal anasarca has not been recorded.

## REFERENCES

Arthur, G.H., D.E. Noakes, T.J. Parkinson and G.C.W. England. 2001. *Veterinary Reproduction and Obstetrics*, 8th ed. W.B. Saunders, London.

Chandolia, R.K., S.K. Verma, S. Chander, N. Singh and I.S. Chandana. 1989. Response of two buffaloes with hydroamnios and hydroallantois to treatment with dinoprost-a case report. *Indian. Vet. J.*, **66**: 861-864.

Chandolia, R.K., S.K. Khar, S. Chander and S.K. Verma. 1988. Induction of parturition with dexamethasone in buffalo with hydroallantois. *Indian. Vet. J*., **65**: 156-158.

Dhami, M.A. and A.J. Dhami. 2011. Hydroallantois in a Jafarabadi buffalo: A case report. *Indian J. Field Vet*., **7**(1): 69.

Drost, M. 2007. Complications during gestation in the cow. *Theriogenology*, **8**: 487-491.

Hiralal, S.J., B.G. Ravindra, B. Prashant, V. Kasaralikar, R.J. Bijurkar and M.K. Tandle. 2013. A rare case of dystocia due to hydroallantois in anterior presentation and its successful per-vaginal delivery in a non-descript buffalo. *Acta Biologica Indica*., **2**(2): 479-480.

Jackson, P.G.G. 1980. *Handbook of Veterinary Obstretics*. W.B. Saunders CompanyLimited, London. 221p.

Kumar, S., U. Sharma, A.K. Pandey, S. Agrawal, R.B. Kushwaha and A.K. Tripathi. 2012. Hydroallantois in buffalo: A case report. *Buffalo Bull*., **31**(2): 67-69.

Luthra, R.A., S.K. Khar and T. Nanda. 2001. Therapeutic management of hydroallantois in buffaloes. *Intas Polivet*, **2**: 24-26.

Manokaran, S., K. Ravikumar, R.E. Napolean, M. Palanisamy and M. Selvaraju. 2011. Hydroallantois in a non-descript buffalo: a case report. *Indian J. Field Vets*., **7**(1): 69.

Napolean, R.E., M. Palanisamy, M. Selvaraju and S. Manokaran. 2012. Successful management of hydroallantois in a Jersey crossbred cow. *Int. J. Livest. Res*., **2**: 213-216.

Noakes, D.E., T.J. Parkinson and G.C.W. England. 2009. *Veterinary Reproduction and Obstetrics*, 9th ed. WB Saunders Publication, p. 141-156.

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. *ARS Veterinaria, Jaboticabal*, **23**: 116-119.

Prabhakar, S., G.S. Dhaliwal and R.D. Sharma. 1991. Effect of dexamethasone in the treatment of hydroallantois in buffaloes. *Indian. Vet. J*., **68**: 1090-1091.

Purohit, G.N. and M. Gaur. 2011. Etiology, antenatal diagnosis and therapy of fetal complications of gestation in large and small domestic ruminants. *Theriogenology Insight*, **2**: 45-63.

Roberts, J.S. 1971. *Veterinary Obstetrics and Genital Diseases (Theiogenology)*, CBS Publishers and Distributors. 776p.

Selvaraju, M., S. Manokaran, M. Palanisamy, R.E. Napolean and K. Ravikumar. 2012. Hydroallantois in a she buffalo. *Indian J. Anim. Reprod*., **33**(1): 92-93.

Srinivas, M. and M. Sreenu. 2006. Hydroallantois with foetal ascites in a buffalo. *Indian Vet. J*., **83**(12): 1342-1343.