

Case Report



Clinical Management of Hydroallantois in a Murrah Buffalo: A Case Report

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Abstract | A full term pregnant Murrah buffalo in its third parity was presented to the clinic with the history of sudden increase in the size of abdomen in preceding 15 to 20 days. The animal was also showing reduced appetite and labored breathing. Per-vaginal examination revealed completely closed cervix. Based on history, trans-rectal ultrasonographic examination, case was diagnosed as hydroallantois. Subsequently, dilation therapy was given. A dead fetus in its posterior longitudinal presentation with ankylosis of fetlock joints was delivered. Animal recovered uneventfully.

Keywords | Buffalo, Hydroallantois, Induced parturition, Fetus, Ankylosis

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INTRODUCTION

Hydrallantois is usually considered as maternal abnormality, where the rapid and abnormal distension of abdomen occurs (Drivers and Peek, 2008) due to rapid accumulation of watery, amber color fluid inside the allantoic cavity over a period of 5 to 20 days in late gestation and is always giving suspicion for twin/triplet pregnancy (Morrow, 1986). It is commonly associated with either infectious disease or developmental defects of fetus (Kumar et al., 2019). The physiopathology of hydroallantois is related to the reduction of placental vascularization resulting in metabolic changes in the placental tissue and fetal membranes thereby accumulating fetal fluids (Kapadiya et al., 2018). The condition can be diagnosed by physical examination (vaginal/rectal) and ultrasonography in bovines (Sutaria et al., 2020). The management of these cases depends on the viability of the cow. If the animal is viable and near term, Caesarean surgery is advised, performed with care to enable the fluid to escape slowly and prevent hypovolaemic shock. (Noakes et al., 2019). The present case

describes the successful management of the hydroallantois in a Murrah buffalo.

CASE HISTORY AND OBSERVATION

A Murrah buffalo in its third parity was presented to the Veterinary Clinical Complex DUVASU, Mathura with complaint of sudden bilateral distention of abdomen preceding 15 to 20 days. According to the owner, the animal was 10 month pregnant, the feed intake was reduced and animal was previously treated by paravet for bloat with no relief. On physical examination, buffalo was dull and depressed. Animal was showing shallow labored breathing. On trans-rectal examination, fetus and placentomes were not palpable and only extended fluid filled uterus was felt. This finding indicated the excessive accumulation of fluid inside the uterus. Vaginal examination revealed that cervix was closed. Texture of the cervix was soft. Trans-rectal ultrasonographic examination revealed only anechoic images of excessively filled fetal fluid. Based on history and clinical observations, the case was diagnosed as hydroallantois therefore decided to go for dilation therapy to induce the

parturition.



Figure 1: Expulsion of allantoic fluid from allantoic sac in buffalo



Figure 2: Dead buffalo fetus with ankylosis of fetlock joint

TREATMENT

The buffalo was treated for cervical dilation using intramuscular injections (total dose) of cloprostinol sodium @ 500 µg, diethylstilbestrol @ 30 mg, betamethasone @ 40 mg and valethamid bromide @ 48 mg. Fluid therapy using 3 litres dextrose normal saline and 3 litre ringer's lactate was administered intravenously. After 18 hours vaginal examination revealed dilation of cervix and the allantoic bag was punctured by inserting the index finger. Intravenous fluid infusion using 4 litres dextrose normal saline, 3 litres ringer's lactate and 3 litres normal saline was done along with dexamethasone injection @ 40 mg was done to save the animal from hypovolaemic shock. On puncturing the allantois bag a large amount of non-sticky yellowish coloured fluid escaped out. Around 80-100 litre of total fluid drained out (Figure 1) and the size of abdomen reduced. Fetus was in posterior longitudinal presentation and no reflex was present. Both hind limbs were ankylosed at fetlock joint (Figure 2). A dead fetus was delivered per-vaginum

by manual pulling using Moore's obstetrical chain. Animal was also treated with intramuscular injections (total dose) of ceftriaxone @ 3 gm, meloxicam @ 125 mg, Oxytocin @ 75 IU, and intrauterine therapy with bolus oxytetracycline @ 3gm was also done. Inj. Calcium borogluconate 450 ml (250 ml slow i.v and 200 ml s.c) was administered. Animal recovered after follow up treatment of 5 days.

DISCUSSION

Hydrallantois is one of the gestational disorders, that results due to increased production of a fluid closely resembling blood plasma within the allantoic sac (Kapadiya et al., 2018). The present communication reports successful management of a case of hydroallantois in Murrah buffalo. In the present case, cervix was closed and further the parturition was induced. In hydroallantois, accumulation of allantoic fluid is rapid due to placental abnormalities and possible interference with sodium metabolism at the cell level (Jackson, 1980). Hydroallantois could usually be associated with a diseased uterus in which most of the caruncles in one horn were not functional and atrophied and rest of the placentomes were enlarged, edematous and possibly diseased which led to formation of adventitious placenta (Drost, 2007). Excessive fluid accumulation in hydrallantois condition results abdominal distension due to accumulation of fluid in the allantoic sac which can cause pressure on lungs with resultant respiratory distress, difficulty in getting due to extra weight and sometimes recumbency with consequences of fatality to dam (Noakes et al., 2009). Hydrallantois is usually treated by terminating the pregnancy using prostaglandin F_{2α} and corticosteroids (Manokaran et al., 2011) but the sudden removal of allantoic fluid leads to hypovolemic shock and collapse of the animal (Peiro et al., 2007). Cases of hydrallantois frequently retain the placenta and are at risk of metritis, with protracted convalescence and delayed conception (Noakes et al., 2019).

CONCLUSION

Parturition was induced in a Murrah buffalo affected with hydroallantois condition and it was successfully managed by administering a sufficient amount of fluid intravenously. A dead fetus with ankylosed hindlimbs was delivered in posterior longitudinal presentation by forced traction.

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Authors have no conflict of interest.

AUTHORS CONTRIBUTION

Avaneesh Kumar Singh and Jitendra Agrawal: Treatment and manuscript writing. Vikas Sachan: Manuscript writing & correction. Anuj Kumar: Case Diagnosis and manuscript correction. Atul Saxena: Case Diagnosis, Correction, Editing.

REFERENCES

- Drivers TJ, Peek S (2008). *Rebhun's diseases of dairy cattle*. 2nd Edn., Saunders Elsevier, St. Louis, Missouri. p. 395.
- Drost M (2007). Complications during gestation in the cow. *Theriogenology*. 68:487. <https://doi.org/10.1016/j.theriogenology.2007.04.023>
- Jackson PGG (1980). *Handbook of Veterinary Obstetrics*. W.B. Saunders Company Limited, London. p. 221

- Kapadiya PS, Parikh SS, Chauhan PM, Sutaria TV, Nakhshi HC (2018). Management of hydroallantois in a Jaffrabadi buffalo: A case report. *Journal of Pharmacognosy and Phytochemistry SP1*: 1534-1536
- Kumar A, Singh G, Arjun V, Hariom, Jain VK and Chandolia RK (2019). Dystocia Due to Hydroallantois and Congenital Foetal Ascites in a Murrah Buffalo - A Case Report. *Veterinary Research International*. 7 (4): 204-206 <https://doi.org/10.20546/ijcmas.2019.811.100>
- Manokaran S, Ravikumar K, Ezakial NR, Palanisamy M, Selvaraju M (2011). Hydrallantois in a non-descript buffalo: A case report. *The Indian Journal of Field Veterinarians*, 7: 69
- Morrow DA (1986). *Current Therapy in Theriogenology*. 2nd Edn, W.B. Saunders Co., Philadelphia, USA, pp. 207-208
- Noakes DE, Parkinson TJ, England GCW (2019). *Veterinary Reproduction and Obstetrics*. 10th Eds., Saunders Elsevier, China, 191-192
- Peiro JR, Borges AS, Yanaka R, Koivisto MB, Mendes LCN, Feitosa FLF, Abujamra JO, Rodrigues CA (2007). Hydrallantois in an ewe (Case report). *ARS Veterinaria*, 23(2): 116-119
- Sutaria TV, Sutaria PT, Nakhshi HC, Suthar BN, Sharma VK (2020). Management Of Hydroallantois In Mehsana Buffaloes - Two Cases. *Buffalo Bull*. 39(1): 93-97