

THERAPEUTIC MANAGEMENT OF HYDROALLANTOIS -  
A CASE REPORT OF 6 BUFFALOES

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## ABSTRACT

Total six buffaloes of hydroallantois were reported during February to November 2019. All cases were examined thoroughly and decided to go for pregnancy termination. All cases were treated with synthetic prostaglandin, dexamethasone, and fluid therapy. Allantoic fluid was evacuated by passing metal mare uterine catheter per vaginally, however in one buffalo allantoic sac was punctured by the index finger resulted in gushing of amber coloured allantoic fluid. Removal of fluid was coupled with intravenous fluid therapy in order to prevent hypovolaemic shock. All six buffaloes were successfully terminated within 24 to 48 h of treatment with assisted delivery.

**Keywords:** *Bubalus bubalis*, buffaloes, hydroallantois, pregnancy termination

## INTRODUCTION

Buffalo is the prime dairy animal of India reared by most of the organized dairy farms and also by poor marginal farmers. Buffalo contributes more than 50% of the total milk production of the country and also plays significant role as drought

and meat animal. From a purely business point of view any type of disease or accident during pregnancy or at the time of parturition threatens the calf crop and many a times life of the dam leading to economic losses to the dairy farmers. One such gestational disorder, though sporadic in nature observed at irregular intervals in time is Hydro allantois characterized by sudden increase in allantoic fluid due to pathology of foetal membrane leading to bilateral enlargement of abdomen during late gestation (Roberts, 1971). Hydro allantois or hydrops of the allantois is the single factor present in 85 to 90% of the dropsical conditions affecting the bovine fetus and its membrane (Peek, 1997). The condition is associated with a diseased uterus and is probably caused due to structural or functional changes in the allantois chorion and transudation of fluid (Purohit and Gaur, 2011).

CASE HISTORY AND CLINICAL  
OBSERVATIONS

A total of six buffaloes were presented to the Obstetrical Ward, Veterinary Clinical Complex, College of Veterinary and Animal Sciences, Udgir, Maharashtra, India with the history of sudden bilateral abdominal distension

within 8 to 15 days. All buffaloes were in last trimester. General parameters were noted as normal body temperature, restlessness, slow gate, slightly elevated respiratory and pulse rate, loss of appetite, suspended rumination, dull, emaciated sunken and congested eye mucus membrane and a varying degree of dehydration. These cases were first treated for severe tympany but on Gynaeco-clinical (GC) examination it was diagnosed as hydroallantois. Thereafter these cases were referred to gynaecology and obstetrical ward.

Gynaeco-clinical examination in all the cases revealed fully distended fluid filled uterus which occupied most of the pelvic and abdominal cavities, difficulties in palpation of placentomes, fetus, tensed gravid uterus and absence of thrill of middle uterine arteries from both sides, closed cervix, absence of vaginal discharge and narrow vaginal passage.

Based on history of sudden bilateral abdominal distension, and gynaeco-clinical examination, all the cases were confirmed and diagnosed as hydroallantois. It was decided to terminate the pregnancies with medical management.

## TREATMENTS

All six buffaloes were treated for termination of pregnancies by using synthetic prostaglandin *i.e.*, Cloprostenol sodium 500 µg IM, Inj. Dexamethasone 15 ml, Inj. D 5% 2 liters, Inj. Calcium borogluconate 250 ml, Inj. Valethamate bromide 10 ml by intravenous and Inj. Cholorphenaramine maleate 10 ml, Inj. Enrofloxacin 2.5 mg/kg body weight, Inj. Flunixin meglumine 2.2 mg/kg body weight intramuscular route. (Manokaran, 2005; Manokaran *et al.*, 2011).

Gynaeco-clinical examination 6 to 10 h post treatment revealed 3 to 4 finger cervical dilatation was found in all cases. With the help of metal mare uterine catheter, excessive placental fluid was evacuated per vaginally. To avoid hypovolemic shock during treatment, uterine fluid was evacuated 20 to 30 liters by at an interval of 2 to 4 h (Figure 1A, 1B and 2). In one buffalo allantoic sac was punctured by the index finger, resulted in gushing of amber coloured allantoic fluid (Figure 3). Precaution was taken by injecting D 5% 2 liters and Dexamethasone 15 ml IV every 6 to 8 h interval. After successful termination of pregnancies, all the buffaloes were treated with fluid therapy around 5 to 6 liters, antibiotics, antihistaminics, Flunixin meglumine 2.2 mg/kg body weight, Dexamethasone, Calcium borogluconate 250 ml IV, inj. Esenium 5 ml SC, Positive energy boosters were advised, IU boluses, herbal ecboic uterine cleanser were used along with antibiotic cover for 5 days. Uneventful recovery and estrous cyclicity was noted in all animals.

## DISCUSSION

All the six buffaloes suffering from hydroallantois, presented in this article were in standing position, active, alert and non-recumbent. History in all cases revealed that the accumulation of fluid within last 8 to 15 days and progressive bilateral abdominal distension was noted by farmers. This rapid excessive accumulation of allantoic fluid is due to placental abnormalities and possibly due to interference with sodium metabolism at cellular level (Jackson, 1980). In all the six cases it was observed that caruncles in one horn were atrophied and there number was inadequate, however rest of the placentomes were



Figure 1. Removal of allantoic fluid from affected buffalo (A and B).



Figure 2. Evacuation of allantoic fluid 20 to 30 L at an interval of 2 to 4 h.



Figure 3. Buffalo affected with hydroallantois, excessive allantoic fluid gushing out of uterus.

enlarged and edematous. Drost (2007) reported that placental dysfunction is evident by occurrence of adventitious placenta and reduced number of placentomes and development of more primitive villous placentation. In three buffaloes respiratory distress was noted which might be possibly due to escalation in the intrauterine fluid which caused tsunami of pressure over diaphragm resulting in respiratory distress. Gynaeco-clinical examination 6 to 10 h post treatment revealed 3 to 4 finger cervical dilatation was found in all cases. Complete cervical dilatation and initiation of parturition in all six buffaloes started between 24 to 36 h after initiation of treatment for termination of pregnancy. Kumar *et al.* (2019) recorded completely dilated cervix after 20 h whereas Prabhakaran, (2020) reported that the time required for complete dilatation to be 60 h after initiation of treatment for termination which might be due to the months of gestation and uterine fluid pressure on cervix.

Around 180 to 200-liter watery amber colored allantoic fluid was slowly evacuated

from each buffalo. All fetuses were delivered per vaginally using obstetrical operations. Out of six treated cases, two fetal monsters, two dead fetus and two live fetuses were delivered but these two live fetuses died within 5 to 8 h after birth. The present report is in close agreement with the findings of Prabhakaran (2020) who reported that fetus delivered from hydroallantois cases appeared to be underdeveloped, edematous with hydronephrosis of fetal kidney which could result in polyurea and attributed to the excessive accumulation of allantoic fluid inside the allantoic cavity (Palanisamy *et al.*, 2014).

## CONCLUSION

It is concluded that early diagnosis and medical termination of pregnancy is most important to save the life of dam. Accumulated allantoic fluid must be removed slowly by giving an interval of 2 to 4 h after every removal of 10 to 20 liters of fluid

coupled with intravenous fluid therapy in order to prevent hypovolaemic shock.

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