



# Hydroamnion Associated with Fetal Deformity and Prolonged Gestation in a Crossbreed Jersey Cow

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## ABSTRACT

A primiparous crossbreed Jersey cow with history of prolonged gestation and abdominal distension was presented. Parturition was induced with cloprostenol sodium and dexamethasone. After 48hrs the cervix was fully dilated and the water bag was ruptured with a bp blade approximately 40-50 liters of fluid gushed out. Based on the appearance of fluid the case was diagnosed as Hidramnion. Partial fetotomy was done and then a stab incision on ventral abdomen of fetus to remove accumulated fluid. Forced traction was applied to deliver deformed fetus.

**Keywords:** Prolonged Gestation, Hidramnion, Partial Fetotomy, Fetal Deformity.

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## INTRODUCTION

Excessive quantities of fluid accumulation in the amnion or allantois, is referred to as hydramnios or hydroallantois, respectively. Hydrallantois appears more common than hydramnios (Naokes, 2019) and later is usually associated with fetal abnormality like cleft palate, pituitary hypoplasia and bulldog calves (Jackson, 2004). Hydramnios results from fetal abnormalities that prevent swallowing or intestinal transport of amniotic fluids. During late gestation, the volume of normal amniotic fluid reaches between 3.8 and 7.6L; however, in hydramnios, the volume will increase to 19 to 114L (Robert, 1997). The present paper puts on record a typical case of Hydramnios with deformed fetus and its successful management by induced parturition.

## CASE HISTORY AND OBSERVATIONS

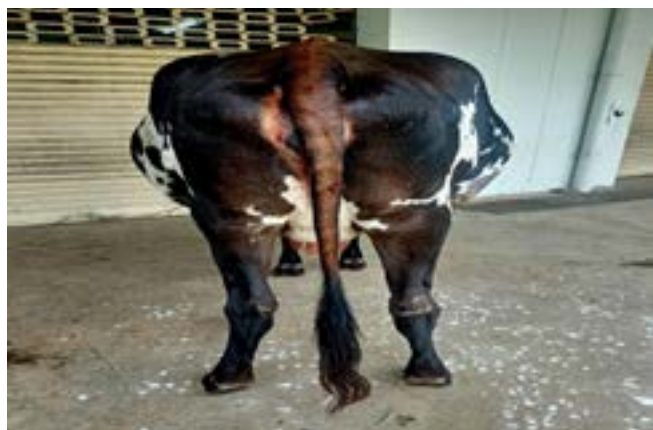
A crossbreed Jersey cow with history of prolonged gestation (310 days from day of artificial insemination) and gradual bilateral abdominal distension was presented to Teaching Veterinary Clinical Complex, College of Veterinary Science, Tirupati. Clinical examination revealed bilateral distension of abdomen (Fig.1), normal temperature, respiration rate and pale mucous membranes. Per vaginal examination revealed no dilatation of cervix. On per rectal examination large fluid filled uterus was observed with no palpable fetal parts. Ultrasonographic examination revealed that the uterus distended with fluid accumulation (anechoic) and placentomes were placed apart (Fig. 2). Based on history and gynaecological examination the case was diagnosed as dropsy of fetal membranes.

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**Fig.1:** Bilateral enlargement of abdomen



**Fig. 2:** Ultrasonographic picture showing gravid uterus with fetal fluids

## TREATMENT AND DISCUSSION

Parturition was induced with inj. Cloprostenol sodium 500 ug I/M and inj. dexamethasone sodium phosphate 30mg I/M and kept under observation. After 24 hrs the cervix was partially relaxed with single finger dilatation. After 48 hrs the cervix was completely dilated with the presence of a water bag in vagina. The water bag was ruptured with a bp blade after administration of Inj. RL 2lit I/V and inj. DNS 2lit I/V. About 40-50 lit of syrupy viscous fluid gushed out. The fetus was in anterior longitudinal presentation with complete lateral deviation of head and unable to locate. On careful examination it was observed that the neck was continued as loose skin with no palpable bony structures and was unable to correct it. Hence, partial fetotomy was done at the neck to remove the head portion as reported

by (Honparkhe *et al.*, 2010). Traction attempted on forelimbs but fluid filled abdomen prevented the delivery. An embryotomy knife was used to make a stab incision on the fetal abdomen to drain the fluid. A deformed fetus was then delivered by forced traction. The calf had gross deformity of head and hind limbs. The fetus lacks all facial features except for two orifices resembling nostrils and well-formed ears (Fig. 3). Placenta was expelled along with the fetus. Immediate medical management of the cow was done with Inj. dexamethasone -50mg I/M, Inj RL- 2 lit I/V, Inj DNS- 5 lit I/V and Inj. Intalyte- 2 lit I/V to prevent hypovolemic shock along with Inj. Mifex 250 ml I/V, Inj. Amoxicirum forte-3gm and Inj. oxytocin 40 IU I/M. Follow up treatment was done by giving Inj. Amoxicillin and sulbactam-3gm I/M, Inj. Flunixin meglumine 300 mg I/M, Inj. Neurocare-10ml I/M and Inj. chlorpheniramine maleate (Avilin) 150 mg I/M along with fluid therapy for three consecutive days. The cow had an uneventful recovery and was discharged on the 4th day. There are three dropsical conditions in veterinary obstetrics: placental oedema, dropsy of the fetal sacs and dropsy of the fetus of which Hydrallantois and Hydramnios represent dropsy of fetal sacs. Fetal abnormalities are more likely to be associated with hydramnios (Naokes, 2019). In the present case, it is emphasized that cranial deformity might have led to impaired swallowing, which would have resulted in gradual accumulation of fluid in the amniotic cavity and due to absence of pituitary adrenocorticotrophic hormone and cortisol release prolonged gestation might have occurred which was supported by (Jeong *et al.*, 2022). Radiograph of skull has revealed that there is no formation of skull bones (Fig. 4). The prognosis for the further breeding life of the dam is guarded in the present case.



**Fig. 3:** Fetal head deformity



**Fig. 4:** Lateral radiograph of skull of Fetus

## CONCLUSION

The present case report concludes the occurrence of prolonged gestation associated with hydramnios. The prolonged gestation may be related to fetal congenital deformities, especially absence of pituitary gland, by which adrenocorticotrophic hormone and cortisol were not secreted from the fetus.

## ACKNOWLEDGEMENT

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## CONFLICT OF INTEREST

Authors do not have any conflict of interests to declare.

## REFERENCES

- Honparkhe, M., Ghuman, S.P.S., and Kumar, A. (2010). Prolonged Gestation in a Buffalo with Hydramnios associated with fetal monster: A case report. *Indian J. Anim. Reprod.*, **31**(1): 89-90.
- Jackson, P.G.G. (2004). Handbook of Veterinary Obstetrics. W.B. Saunders company, Philadelphia, USA.
- Jeong, J.K., Kim, S., Kim, U.H., Chang, D. and Kim, S. (2022). Hydramnios related to fetal deformity in a Hanwoo cow: a case report. *Korean J Vet Res.*, **62**(4) : e32.
- Noakes, D.E., Parkinson, T.J. and England, G.C.W. (2019). Veterinary Reproduction and Obstetrics, 10th edition, W B Saunders Company, Philadelphia, 191-192.
- Robert S.Y. (1997) Dropsical conditions affecting pregnancy. In: Current Therapy in Large Animal Theriogenology. 2nd ed., W.B. Saunders, Philadelphia, 428-431.