Short Communication

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Dystocia due to hydrocephalus fetus in Murrah Buffalo and its Obstetrical Management

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ABSTRACT

A hydrocephalic calf was delivered per-vaginum after drainage of excessive cerebrospinal fluid (CSF) fluid by giving a stab incision at the cranium of the fetus in a Murrah buffalo. The dam recovered uneventfully.
Key words: Buffalo, Cranium, Dystocia, Hydrocephalus.

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INTRODUCTION

Hydrocephalus is a dropsical condition with the accumulation of fluid as a result of an imbalance between the formation and drainage of cerebrospinal fluid (CSF) either in the ventricular system or subarachnoid space characterized by marked enlargement of the cranium (Noakes *et al.*, 2009). Hydrocephalous have been reported in many species including cattle (Murugan *et al.,* 2014), buffalo (Bugalia *et al.,* 1990), horses (Ferris *et al.,*2011) and pigs (Arthur, 1975). But occurrence of Dystocia due to the fetal monster particularly hydrocephalus is rare in buffaloes (Kumaresan *et al.,* 2003). Without surgical intervention delivery of congenital hydrocephalus is very difficult (Upasana *et al.,* 2012). This report puts on a record case of dystocia in Murrah buffalo, caused by a hydrocephalic fetus which was delivered per vagina.

CASE HISTORY AND OBSERVATIONS

A six-year-old Murrah buffalo in second parity and full-term pregnancy with a history of dystocia presented to Veterinary Clinical Complex, Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar with the complaint that the animal was straining since the last 10 hours with no progression in parturition after rupturing the first water bag. Upon general clinical examination, all the vital signs were within the normal range. Obstetrical examination revealed a fully dilated cervix, and the fetus was present in anterior longitudinal presentation with both forelimbs extended in the birth canal with lateral deviation of the head. On further examination marked swelling was palpated in the skull of the fetus and absence of fetal

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reflexes was suggestive of a dead fetus. On the basis of clinical observations, the case was diagnosed as dystocia due to fetal hydrocephalus tentatively.

TREATMENT AND DISCUSSION

Following epidural anaesthesia (5ml, 2% Lignocaine HCl), the birth canal was properly lubricated using liquid paraffin. Then the skin of the fetal cranium was stabbed with a guarded knife and fluid started to ooze out of the enlarged cranial cavity. After the evacuation of fluid, the size of the head got reduced and with slight manipulation, the position of the head of the fetus was corrected. The fetus was then delivered by the application of a hook in the inner canthus of the eye and securing both forelimbs with a chain along with mild traction. Except for enlarged head, the rest of the fetus was normal (Fig. 1). Post-obstetrical treatment involved parenteral administration of antibiotics, anti-inflammatory and analgesics along with intra-venous fluid. The animal had an uneventful recovery after 3 days.

Fig 1: Hydrocephalus fetus delivered by traction

Congenital hydrocephalus is present at birth and may be caused by either environmental influence during fetal development or genetic predisposition. In bovine congenital hydrocephalus may be caused by simple autosomal recessive gene with incomplete penetrance (Purohit *et al.,* 2012). Hydrocephalus can be acquired, e.g. due to infection or trauma (Selvaraju *et al.,* 2020). The incidence of bovine hydrocephalus has been reported at 1.5 cases per 1000 calvings. The internal hydrocephalus due to collection of fluid in the cerebral ventricles, and the external hydrocephalus are due to collection of fluid in the sub arachnoid spaces (Noakes *et al*., 2009) as in the present case. Obstruction in the free passage of cerebrospinal fluid into the arachnoid space leads to excessive swelling of the cranial cavity during fetal development (Salunke *et al.,* 2001). The enlarged head cannot easily pass through the birth canal (Yadav *et al.,* 2021) and results in dystocia as was seen in the presently reported case.

CONCLUSIONS

It was concluded that per-vaginal delivery in cases of fetal hydrocephaly is difficult except in a few cases by giving stab incision on enlarged cranium of fetus and draining out the fluid to reduce the size of the head. The present article reports and discusses a case of dystocia due to fetal hydrocephalus in a buffalo.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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