# VAGINAL DELIVERY OF CONGENITAL HYDROCEPHALIC CALF IN A MURRAH BUFFALO WITH PARTIAL FETOTOMY

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## ABSTRACT

A case of successful pervaginal delivery of hydrocephalic calf through partial fetotomy has been reported.

**Keywords**: buffaloes, *Bubalus bubalis*, fetotomy, hydrocephalus

## INTRODUCTION

Hydrocephaly can be defined as dropsical condition of the brain owing to abnormal accumulation of cerebrospinal fluid (CSF) in the cranial cavity and has been encountered as an infrequent congenital anomaly in mammals causing fetal dystocia (McEntee, 1990). Dystocia due to congenital hydrocephalus has been well documented in cattle (Purohit *et al*., 2006) and buffalo (Kumaresan *et al*., 2003). The presenr case report puts on record a rare case of dystocia due to hydrocephalic calf and its successful per-vaginal delivery through partial fetotomy.

## CASE HISTORY AND OBSERVATION

A buffalo at full term in its fourth parity after completion of first stage of labour was presented to veterinary clinics of the teaching hospital, Guru Angad Dev Veterinary and Animal Sciences University (GADVASU), Ludhiana. About 5 to 6 h had passed after the rupture of water bags. Earlier attempts by the local veterinarians for the delivery of fetus were not successful. The clinical parameters viz. rectal temperature, heart rate and respiratory rate were within normal range. Pervaginal examination revealed right lateral deviation of head with enlarged sac and poor development of frontal bone. Both the fore limbs were present in the birth canal. Absence of suckling reflex indicated that fetus was dead.

## TREATMENT AND DISCUSSION

Following epidural anaesthesia (6 ml, 2% Lignocaine HCl) and after doing ample lubrication of the birth passage with sodium carboxy methy cellulose gel (Carmellose-Na 1%, WDT, Garbsen, Germany) an attempt was made to correct the head postural deviation but due to enlarged size of the cyst all exercise went futile. Thereafter, decision was taken to perform fetotomy using Thygeson's fetotome loaded with wire saw (Bovivet, Denmark). Thygeson's fetotome was partially threaded with wire saw on one side and other end of the wire

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was fixed in the calving rope carrier. The wire was then carried in the birth canal with the loose loop to pass over the deviated head and retrieved from ventral side. The fetotome was then completely threaded outside and loop was positioned around the neck caudal to ears. Finally sawing was done, initially with short strides followed by a continous full hand strokes till the head was amputated. The amputated head was removed by application of eyehooks and properly guided inside the passage during application of traction. The rest of the fetus was delivered by simultaneous traction of both extended forelimbs with the help of obstetrical chins ensuring minimum damage to birth canal. The placenta was also completely removed soon after. The buffalo was discharged after three hours with the routine prescription of antibiotics and supportive therapy.

The careful examination of the fetus revealed domed skull with fluid filled sac and protruding outside from the head (Figure 1). The careful dissection of this sac revealed thinning of frontal and parietal bones with involvement of ventricular system and sub-arachnoid spaces, hence declared external hydrocephalus condition (Thomson, 1989). The size of the fetus was smaller compared to the normal. The hydrocephalus arise due to disturbances in normal circulation of CSF because of altered production or absorption (Fride, 1971). The accumulation of CSF may occur either in ventricular system alone i,e internal/non-communicating type or in ventricular systemas well as subarachnoid space i,e external/communicating type (Sharma, 1996). Jubb and Kennedy (1970) stated that congenital hydrocephalus is known to be inherited in cattle and exacerbated in its manifestation by a coexisting hypovitaminosis A. A simple autosomal recessive gene (Roberts, 1986) and autosomal gene with incomplete penetrance have been reported to be linked with hydrocephalus in cattle.

External hydrocephalus results from either too much fluid formed and not rapidly drained by arachnoid villi or due to hindrance to the drainage of normally produced fluid (Shastry, 1971). Congenital external hydrocephalus in the form of water sac over the forehead is quite rare in animals (Jubb and Kennedy, 1970), the condition appears as a fluid sac covered with skin and contains clear serous fluid. The enlarged head can not easily pass through the birth canal and results in dystocia as was seen in present reported case.

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Figure 1. Hydrocephalic calf having enlarged sac on head after partial fetotomy.