

## DYSTOCIA DUE TO FETAL HYDROCEPHALUS IN A MURRAH BUFFALO: A CASE REPORT

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### ABSTRACT

A hydrocephalic calf delivered per-vaginal through three point traction involving both fore limbs and head.

**Keywords:** *Bubalus bubalis*, buffaloes, hydrocephalus, three point traction

by infectious etiology, nutritional and numerous environmental factors besides the genetic regions (Kalman, 1989). Hydrocephalus well documented from India in cattle (Balasubramaniam *et al.*, 1997; Nandkumar *et al.*, 1999; Sobti *et al.*, 2004; Purohit *et al.*, 2006) but rarely in buffaloes (Salunke *et al.*, 2001; Kumaresan *et al.*, 2003). The present case is the dystocia due to hydrocephalous calf in buffalo and it's successful per vaginal delivery.

### INTRODUCTION

Congenital hydrocephalus (“dummy” or “bawler” calf) is characterized by swelling of cranium due to abnormal accumulation of cerebrospinal fluid (CSF) in cranial cavity and has been reported as an infrequent congenital developmental anomaly in mammals causing fetal dystocia (McEntee, 1990). Hydrocephalus due to genetic regions owing to autosomal dominant genes with incomplete penetrance (Green *et al.*, 1973) and some time it accompanied with variety of malformation including disorder of mouth, eye or even vertebral column. It may also be caused

### CASE HISTORY AND CLINICAL OBSERVATIONS

A six year old Murrah buffalo presented to teaching veterinary clinical complex DUVASU Mathura by local practitioner. The animal was straining since last 15 h and its water bag had ruptured, both fore limbs hanging from vulva. Per vaginal examination revealed that marked swelling and tenderness of the skull and slightly left lateral deviated head get obstructed at the level of pelvic brim leading to dystocia. Suckling and palpebral reflexes were negative.

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## TREATMENT AND DISCUSSION

Following caudal epidural anesthesia (5 ml; 2% lignocaine hydrochloride), animal was restrained in lateral recumbency and a small stab incision was given on the soft fluctuating portion of skull for evacuating the fluid and thereby reducing size of the head. Then birth canal was thoroughly lubricated with sodium carboxy methyl cellulose slurry (Carmellose-Na 1%, WDT Garbsen Germany). The head was positioned correctly also subsequent traction was applied which proved it an unsuccessful attempt. Then it was decided to push back both fore limbs behind the brim and simultaneous three point tractions on both eyes and neck with a lindhorst eye hook and

obstetrical chain, respectively until the fetus head come out of vulva. After that both fore limbs were extended with a sand snare. Then again,

three point tractions were applied on both fore limbs and head leading to delivery of the fetus (Fig. 1). After relieving the fetus, the dam was examined per vagina for injury checking if any, due to handling. The dam was normal, however, she was administered 2 litres of dextrose saline by I/V route, three days treatment with antibiotic (enrofloxacin, 2 g, bid), anti-inflammatory (meloxicam, 200 mg, daily) by I/M route and oxytetracycline bolus (4 each I/U). It was a hydrocephalous dead, male fetus weight about 25 kg, collapsed fetal head frontal, temporal and parital bones were thin perforated and deformed. The ventricles of head were distended with accumulation of straw colored excessive cerebrospinal fluid amounting to about one liter.

Normally, there is a delicate balance between the rate of formation and absorption of the CSF. An increasing in the CSF production,



Figure 1. Hydrocephalic buffalo calf.

an obstruction of the CSF circulation, or an obstruction of the venous outflow system may cause hydrocephalus (Fride, 1975). The accumulation of the CSF may occur either in ventricular system alone (i.e. internal/non-communicating type) or in ventricular system as well as sub-arachnoid space (i.e. external/communicating type) (Sharma, 1996). In case of the severe hydrocephalus combination with the complete bone development could be leading to dystocia and cannot be relieved by mutation, force traction or even by incising the hydrocephalic portion in such cases it require craniotomy (Roberts, 1971). However, the fetus in this case was relieved by incising the soft portion of hydrocephalic head there by reducing the size of head.

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