

DYSTOCIA DUE TO EXTERNAL HYDROCEPHALUS IN A PRIMIPAROUS BUFFALO HEIFER

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ABSTRACT

A primiparous non-descript buffalo heifer in ninth month of gestation was presented for showing the signs of abortion, i.e., vaginal discharges and rupture of water bag (choreo-allantois). Obstetrical examination revealed an open cervix. The foetus was in anterior longitudinal presentation, dorso-sacral position and was locked in pelvic cavity. A round structure was observed in the pelvic cavity. Based on history and clinical observations, it was diagnosed as late gestational threatened abortion. It was decided to deliver the calf by manual traction, if not possible, by cesarean section. Manual traction on the foetus using snares was applied and a dead foetus with hydrocephalus was delivered per vagina.

Keywords: *Bubalus bubalis*, buffaloes, dystocia, external hydrocephalus

INTRODUCTION

Hydrocephalus is a congenital anomaly rarely seen in buffaloes. It is accumulation of excessive fluid in duramatter or ventricles of

brain (Purohit *et al.*, 2012). Collection of fluid in the cerebral ventricles is known as internal hydrocephalus, whereas collection outside brain is known as external hydrocephalus. Internal hydrocephalus is due to obstruction of ventricular system. Death of fetus occurs due to pressure on vital centers of brain (Purohit *et al.*, 2012). Congenital hydrocephalus has been described in various species of animals *viz.*, cattle (Thripati *et al.*, 2014; Hari Krishna, 2018), buffalo (Bugalia *et al.*, 1990; Sharma *et al.*, 2015), mare (Singh *et al.*, 2013), ewe (Yusuf *et al.*, 2013) and camel (Abubakr *et al.*, 1998).

The etiology for foetal hydrocephaly includes genetic, nutritional and environmental factors (Kalman, 1989). Obstruction in normal flow of cerebrospinal fluid into the arachnoid space results in hydrocephalus (Salunke *et al.*, 2001).

HISTORY AND OBSERVATIONS

A primiparous buffalo heifer in its ninth month of gestation was presented for showing the signs of abortion, vaginal discharges, and straining, for 10 h. The water bag has ruptured, and two limbs were protruded out from the vulva, but calf



Figure 1. Photograph showing buffalo calf with external hydrocephalus.

was not delivered. Manual traction by the owner was not fruitful. Obstetrical examination revealed an open cervix with calf in anterior longitudinal presentation, dorso-sacral position. Foetus was locked in the pelvic cavity. As the cervix was open, it was decided to assist the dam in delivering the calf. Snares were applied to both the fore limbs and the foetus was pushed back into the abdomen as it was locked in the pelvis, and a snare was applied around head. The birth canal was lubricated well with liquid paraffin. Traction was applied by holding all the three snares together. A dead foetus was delivered with marked swelling over the head region, frontal to the occipital region. Clinical examination of the calf revealed that the calf was hydrocephalic (Figure 1).

RESULTS AND DISCUSSIONS

The delivered dead calf was male weighing 23 kg. The cranium of the calf was extraordinarily

big with a large sac filled with fluid. My forehead was excessively stretched out. Roberts (1986) reported that hydrocephalus monster is characterized by enlargement of the cranium due to accumulation of fluid in the ventricular system (internal hydrocephalus) or between duramater and brain (external hydrocephalus) of which former is most common. Usually, congenital anomalies are multiple occurring in association with other abnormalities. Hydrocephalus may occur alone or associated with other abnormalities such as brachygnathism, prognathism, retinal atrophy, hydramnios or ankylosis of limbs. In the present study, no such findings were recorded. The cranial bones were markedly thin. Epical cap of the bony skull was missing. Thinning of the skull bones viz., frontal, parietal and temporal bones was observed. The hydrocephalus was external type. The cerebrum was hypoplastic. Sastry (2001) stated that external hydrocephalus was produced by excess formation of fluid or hindrance to the drainage of the fluid. Microscopic examination of

fluid revealed no cellularity as observed by Patil *et al.*, 2008; Yadav *et al.*, 2008; Upasana *et al.*, 2012. Hydrocephalus might be due to genetic, nutritional, and environmental factors. It might be due to BVD-MD or blue tongue viruses infecting the bovine foetus (Kalman, 1989). Congenital anomaly of foetus thought to be one of the contributing factors for abortion in present case and the foetus could be delivered per-vagina applying forced traction.

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