

## Case Report

# Hydrocephalus, Ankylosis and Brachygnathism in an Non-descript Indigenous Calf: A Case Report

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## ABSTRACT

The present finding of a case reports revealed successful management of per-vaginal delivery of an indigenous male calf with multiple congenital anomalies like hydrocephalus, ankylosis and brachygnathism.

**Keywords:** Ankylosis, Brachygnathism, Calf, Dystocia, Hydrocephalus.

The congenital anomaly can occur as a result of aberration in a complex transition from the embryonic to fetal phase of development has been reported rarely in bovine and may result in dystocia (Arthur *et al.* 2001). Hydrocephalus is a congenital malformation characterized by an accumulation of abnormal amounts of cerebrospinal fluid in the cranial cavity (Neogy *et al.* 2014). This abnormal development of the brain may be caused by hereditary, infectious or nutritional factors (Leipold *et al.* 1987). Hereditary forms were described in Holstein, Guernsey, Shorthorn and Jersey cattle (Queiroz *et al.* 2013). The congenital anomalies like hydrocephalus mainly occur due to excessive cerebrospinal fluid (CSF) production, poor CSF absorption, and obstructions to CSF flow Vahora *et al.* (2021). Increased intracranial brain pressure, gradual head enlargement, convulsions, mental impairment, and even death are all potential effects of hydrocephalus (Mausumi *et al.*, 2014). Ankylosis, hydrops, death and mummification of fetus are occurred in last month of gestation was reported in red Danish cattle (Stormont, 1958), and due to a pair of single autosomal recessive genes (Thomson *et al.* 1964).

Brachygnathism has been reported in nearly all breeds of cattle included shorthorn jersey, and Herefords. Inheritance is more than just a simple recessive, but it is not complex (Smith *et al.* 1961). Hence, the present communication reports a case of multiple congenital anomalies like hydrocephalus, ankylosis and brachygnathism an indigenous male calf.

## History and Treatments

An eight-years-old pluriparous indigenous non-descript cow was presented to the Veterinary Clinical Complex, Ranchi Veterinary Complex, Birsa Agriculture University, Kanke, Ranchi, with history of full term pregnancy and inability to parturate inspite of severe straining, hanging of fore limb and anorexia. The cow was naturally mated with local bull. Per-vaginal examinations revealed the fetus in normal presentation, position, posture with presence of enlarged head. The animal was given epidural anaesthesia Lignocaine HCl 2% @

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5ml. Per-vaginal examination with full arm sleeved and used proper lubricant (liquid paraffin) and diagnosed cervix relaxed in an indigenous cow. A male calf was delivered by controlled traction using cotton rope and blunt eye hook. A male calf was suffered from multiple congenital anomalies like hydrocephalus, arthrogryposis and proganthism Fig. (1) and (2). The animal was given treatment with Inj. D 25% @ 500ml, I/V, (Fresenius Kabi), Inj. Oxytetracycline-LA @ 25ml I/M, (Zydus AHL), Inj. Melonex (Meloxicam) @ 10ml, I/M, (Intas), Inj. Anistamin (Chlorpheniramin maleate) @ 10ml, I/M, (Intas), Inj. Polybion @ 10 ml, I/V, (E-Merck), and Inj. Isoflud @ 10ml I/M, (Zydus AHL) for 3 consecutive days along with ruminotoric for 10 days.

The present finding of hydrocephalus confirmed the observation of Vahora *et al.* (2021) and Saini *et al.* (2019), who also recorded similar type congenital hydrocephalus in cattle calf. Although it is rather common in calves, congenital hydrocephalus is occasionally encountered in all large animal species and has been reported in cattle (Borkhatariya *et al.* 2020), buffalo and elephants (Sharma *et al.* 2015). The anomalies of CNS are often externally characterized by ankylosed joints, deformed fetlock and other defects including hydoramnions in some severely affected foetus (Roberts *et al.* 1971) and in present case similar finding was observed. Present finding of brachygnathism has been in calf also supported by Smith *et al.* (1961) and in Marino sheep (Shariflou *et al.* 2011). The present case revealed successful management of dystocia in an indigenous cow due to multiple congenital anomalies in a calf Fig. (1) and (2).

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