FETAL MONSTER ASSOCIATED WITH UTERINE DROPSY IN A BUFFALO: A CASE REPORT

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ABSTRACT

A rare case of fetal monster having both genetic and non-genetic or congenital anomalies such as catlin mark, palatoschisis, cheiloschisis, micropthalmia and cervical kyphosis, delivered per-vaginally through forced extraction after successful management of simultaneous hydrallantois and hydramnios conditions in a buffalo with prolonged gestation period.

Keywords: *Bubalus bubalis*, buffalo, hydrallantois, hydramnios, palatoschisis, cheiloschisis, catlin mark, fetus

INTRODUCTION

hydrallantois is present in 85 to 90% of the dropsical conditions of fetal sac in pregnant animal developing rapidly within 10 to 20 days due to structural and functional changes in the allantochorion (diseased) including its vessels with transudation and abnormal accumulation of fluid in allantoic cavity (Roberts, 1971a). Hydramnios is the condition characterized by gradual filling of amniotic cavity over weeks or months with viscid, syrupy fluid associated with a genetic or congenitally defective fetus with impaired swallowing reflex (Harper *et al*., 1998). These conditions are mostly reported in cattle but, have also been seen in buffaloes (Sathya *et al*., 2006; Honparkhe *et al*., 2010) with the incidence of hydramnios being 9 to 15 times less than hydrallantois (Drost, 2007). These both conditions leads to fluid accumulation that may reach 20 to 50 gallons producing distended, tensed abdomen (hydrallantois) or pear shaped, less tensed abdomen (hydramnios).

Palatoschisis (cleft palate) and cheiloschisis (cleft lip), also known as orofacial clefts, are congenital clefts or fissures occur either single or both conditions together. A cleft lip opening may extend into the nose either on one side or both sides whereas cleft palate is said to occur when the roof of the mouth cavity has an opening into the nasal cavity. These conditions have been reported in jerseys, shorthorns and other breeds as genetic defects (Wheat, 1960; Shupe *et al*., 1967) but sporadic cases as non genetic defects due to failure of structures to fuse normally have also been described (Roberts, 1971b). Catlin mark or cerebral hernia is a genetic anomaly characterized by an abnormal opening in frontal or parietal bones of skull associated with severe nervous system defects, prolonged gestation and dystocia in cattle,

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swine (Gilman, 1956) and buffalo (Honparkhe *et al*., 2010).

HISTORY AND CLINICAL EXAMINATION

A buffalo in its 2nd parity was presented to the Veterinary Gynaecology and Obstetrics section of the Referral Veterinary Polyclinic (Indian Veterinary Research Institute, Izatnagar) with the history of prolonged gestation, inappetance and abdominal distension for the last one month with no evidence of straining. Animal was distressed as open mouth breathing was observed. Per-rectal examination revealed distended fluid filled uterus and no fetal parts were accessible. Intact cervical seal was present on per-vaginal palpation without any advancement of fetal parts into the pelvic inlet.

TREATMENT AND DISCUSSION

As suspected for hydroallantois which was later confirmed by USG, fluid therapy was instituted to avoid the risk of death due to hypovolemic shock. Normal saline (NS) - 6 L, dextrose normal saline (DNS)- 4 L, ringer lactate (RL)- 7 L through intravenous (IV) drip and cervical dilatation therapy comprising of mainly 4 drugs i.e. Inj. Epidosin (TTK Healthcare Ltd)- 80 mg IM; Inj. Dexona (Sarabhai Zydus Animal Health Limited)- 40 mg IM; Inj. Vetmate (Vetcare)- 500 µg IM and Inj. Progynon Depot (Zydus)- 20 mg IM were administered. Cervix was fully dilated after 24 to 30 h of dilatation therapy. Thereafter, trans-cervical allantocentesis was performed to remove large quantity of allantoic fluid slowly, with simultaneous infusion of intravenous fluids and large volume of allantoic fluid mixed with amniotic fluid came out over a period of 2 h (Figure 1). Then, a dead male fetus was extracted out per-vaginally through forced extraction (Figure 3). Fluid therapy was continued either orally or through IV drip for 3 to 4 days until animal condition was revived along with Enrofloxacin (Fortivir, Virbac, India) 30 mL IM once (single dose) followed by Ceftriaxone inj. (Intacef Tazo - Intas, India) - 3375 mg IM *sid* for 3 days; Melaxicam (Melonex, Intas Pharmaceuticals Ltd, India) 10 mL IM *sid* for 5 days and Vitamin B complex (Tribivet, Intas Pharmaceuticals Ltd)- 5 mL IM *sid* for 6 days. Fetal membranes were removed manually marked by diseased and necrotic changes, intrauterine cleanser Cleanex (Merial, India) 4 boli OD for 5 days and herbal preparation (Liq. Exapar, Ayurvet limited, India) 100 ml P.O. *bid* followed by 50 ml *bid* for 3 to 5 day were prescribed.

Gross examination of fetus revealed fetal monstrosity with palatoschisis (Figure 5), cheiloschisis (Figure 4), micropthalmia (ill developed eyes), catlin mark (Figure 6) and dorsal bulging of cervical vertebrae (cervical kyphosis) (Figure 6) without hair and skin on the dorsum of the neck which later confirmed presence of both hydrallantois and hydramnios conditions in the buffalo. The body coat or hairs were relatively dense and longer in size suggestive of prolonged gestation that might be due to ill developed brain especially pituitary gland. Interestingly, on post-mortem examination, there was no brain tissue after opening of cranial cavity and it was connected with oral cavity. All the visceral and thoracic organs were normal with some degree of congestion, necrosis and autolytic changes (Figure 7).

Hydramnios develops due to genetically abnormal fetus with impaired deglutition reflex

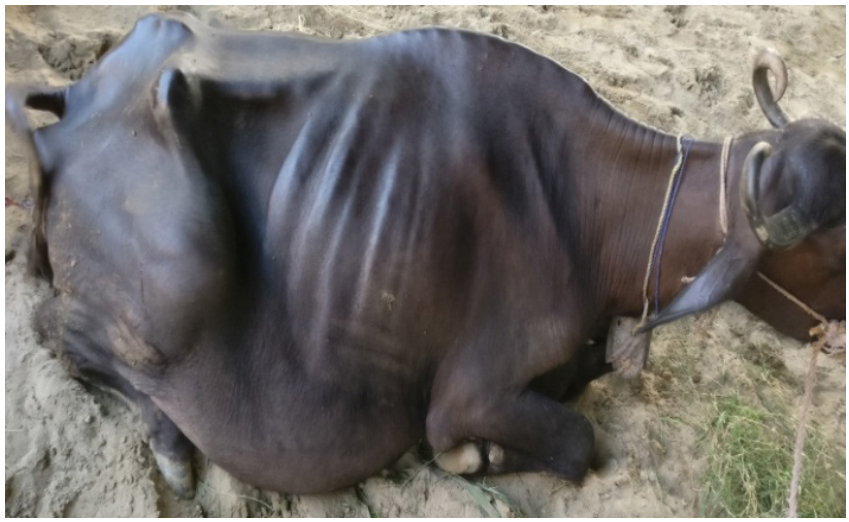

Figure 1. Animal after relieving dropsical.

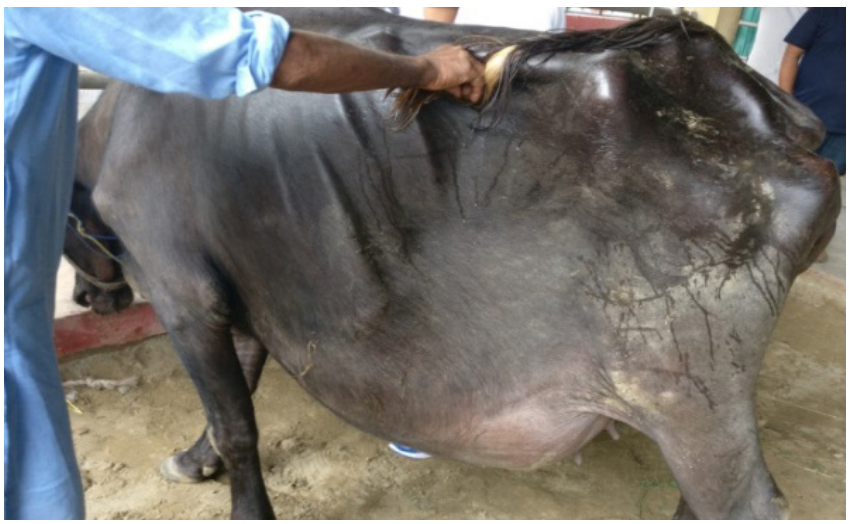

Figure 2. Recovery of the animal conditions.

Figure 3. Extracted dead fetal monster.

Figure 4. Cheiloschisis (harelip) present on both sides.

Figure 5. Palatoschisis (cleft palate).

Figure 6. Catlin mark and cervical kyphosis.

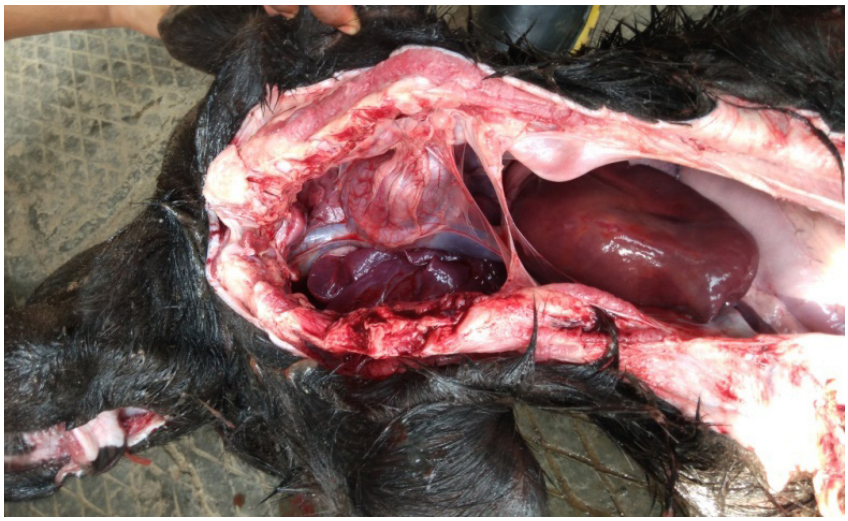

Figure 7. Exposed viscera of fetal monster.

(Harper *et al*., 1998) whereas hydrallantois usually develops due to diseased, necrotic and oedematous fetal membranes (Long, 2009). These dropsical conditions are life threatening and can occur concurrently in the same animal as seen in this case. Palatoschisis, cheiloschisis and catlin mark (opening on the frontal region of head due to defective ossification with lack of skin and subcutaneous tissue) conditions are genetic anomalies of fetus and dystocia due to prolonged gestation is often encountered because of impairment in signaling of the parturition pathway (Noakes *et al*., 2009). However, relieving the dystocia and continuous monitoring of the animal along with fluid therapy become essential for successful management of these conditions to atleast save the life of the animal. The animal was discharged upon uneventful recovery after 3 to 4 days (Figure 2).

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