

ATYPICAL CYCLOPIA ASSOCIATED WITH ARHINIA IN BUFFALO CALF AND ITS MANAGEMENT THROUGH FETOTOMY

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ABSTRACT

A case of dystocia associated with malpresentation of atypical cyclopic monster with arhinic condition was delivered per-vaginally through fetotomy in a buffalo.

Keywords: *Bubalus bubalis*, buffalo, cyclopia, arhinia, fetotomy, monster

INTRODUCTION

Cyclopia or cebocephalus is a rare congenital disorder characterized by a single orbit in which global tissue is absent or rudimentary or in which the eyeballs vary from a single apparently normal eye through all degrees of doubling to one consisting of two complete but small adjacent globes (Robert, 1971). Cyclopia most commonly seen in pig and sheep (Roberts, 1971) but also reported in goat (Kanthraj, 2010; Sivasudharsan *et al.*, 2010) and cows (Gupta and Anand, 2002; Ozcan *et al.*, 2006). However, this anomaly has been rarely reported in buffaloes (Thippeswamy *et al.*, 1996; Singh *et al.*, 2013). The present paper

documents a rare case of atypical cyclopia with arhinia in buffalo calf.

CASE HISTORY AND OBSERVATION

An eight years old, apparently healthy multiparus non-descript she-buffalo at full term presented with a history of straining for the last seven hours and ruptured water bags, was presented to Teaching Veterinary Clinical Complex, Veterinary University, Mathura (Reg. No. 941/25.10.12). Clinical examination revealed an increase in respiration and pulse rate with normal rectal temperature. Obstetrical examination revealed dead fetus in anterior longitudinal presentation and dorso-sacral position with both the forelimb extended in birth canal, and palpation of base of the neck at the level of pelvic inlet suggestive of extreme deviation of neck (right side), found to be major cause of the dystocia.

TREATMENT AND DISCUSSION

The animal was restrained in lateral

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recumbency, effort were made to correct the deviated neck through obstetrical manoeuvres but unsuccessful, then it was decided to amputate the neck at its base. In this course, the deviated neck of fetus was amputated at its base (Figure 1, b) after creating some space by amputating right fore-limb of fetus at scapular level (Figure 1, a) with double barrel Thygeson's fetotome. For this, fetotome was partially threaded on one side, and a sand snare introducer was applied at end of the wire. The wire was then carried into the birth canal with loose loops to pass over the deviated neck and retrieved from other side; the fetotome was then completely threaded outside, and the loop was positioned near the base of the neck. Now, the head of fetotome was carried into the birth canal and positioned at the base of the neck ventrally. Finally, sawing was done, initially with short strokes followed by a continuous full hand strokes till the neck was amputated. The amputated neck along with head was extracted by applying Krey-Schottler double jointed eye hook. After thorough lubrication of the birth canal, forced traction was applied on extended left forelimb & rib cage, remaining dead male fetus was extracted out. Thereafter, buffalo was administered with Inj. Dextrose normal saline 5% (2 Litre, I/V), Inj. Calcium borogluconate (450 ml, I/V), Inj. Intamox (4 gm, I/M), Inj. Meloxicam (100 mg, I/M) and Inj. Dexamethasone (30 mg, I/M) and placenta was expelled out at same night without any assistance. The morphological examination fetal head revealed that there was absence of typical upper and lower jaw leading to flat face, bearing single orbit with fused two eye balls and two separate corneas at fore head made the face of calf just like monkey face (Figure 2, a, b and c). Both upper and lower eyelids rudimentary with scanty eyelashes and absence of eye bro. Muzzle, nostrils and typical nose (arhinia). There

was two tubular appendages were placed above the orbit and below the rudimentary oral opening (Figure 3, a and b). In true cyclopia orbital region is grossly deformed, resulting in the formation of a central cavity 'pseudo-orbit', bearing single eye with absence of nasal cavity and presence of a rudimentary proboscis above the pseudo-orbit (Garzozy and Barkay, 1985). If two globes are found in a different degree of fusion in the pseudo-orbit, the condition is called synophthalmos (Garzozy and Barkay, 1985). The present monster bearing fused eye ball (Synophthalmos) with proboscis which was modification of the nose and lower tubular appendages probably modification of chin as hair pattern was similar to chin.

Both ears were normal and hairs were present all over the body. There was rudimentary visible fused eyes which was also reported in non-descript cow (Gupta and Anand, 2002). Ozcan *et al.* (2006) reported an atypical cyclopia in a Brown Swiss cross calf with most significant malformation such as the presence of a median orbita-like opening that did not contain an eyeball and other defects included prosencephalic aplasia, brachygnathia superior and arhinia. Arhinia and cyclopia in a German Fleckvieh calf was also reported by (Schulze and Distl, 2006). Khasatiya (2010) also reported a cebocephalus (cyclopia) monster in a cross-bred cow and noted that epitheliogenesis imperfecta over the forehead and body, having rudimentary and separate eye balls and atypical deformed ears and jaw.

Thus the present report describes relieving dystocia due to severe deviation of neck and head associated with atypical cyclopia along with arhinia in a buffalo calf. Though it is proved that congenital abnormality generally manifestation of genetic abnormalities or extreme environmental adverse effect during the organogenesis of the fetus. These



Figure 1. Extracted dead fetus after amputation of right fore-limb (a) and neck (b).

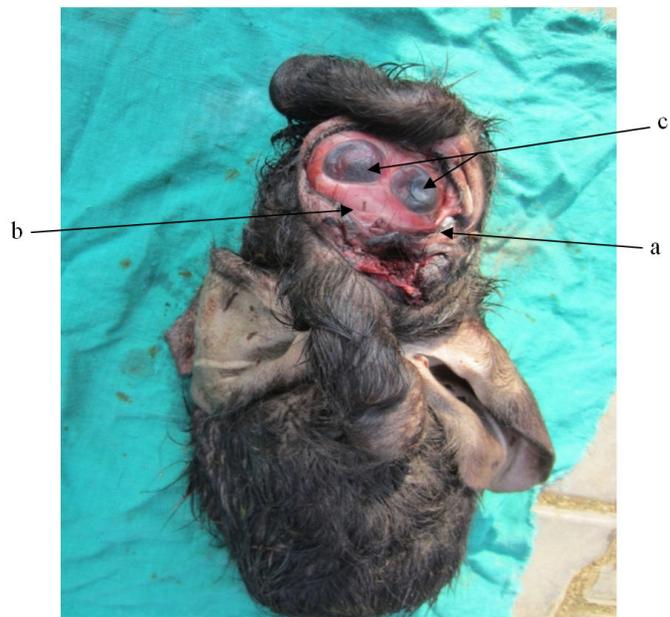


Figure 2. Single eye orbit (a) with fused two eye balls (b) with two separate corneas (c).



Figure 3. Two appendages placed above and below (a) and centrally located eye (b).

factors were ionising radiation, some of drugs like contraceptives, viraemia plus corticosteroids and salicylates, rubella vaccine, antibiotics, and amidopyrine (aminopyrine) as reported in human (Benawra *et al.*, 1980; Mollica *et al.*, 1981). In one study (Binns *et al.*, 1963) found that cyclopic malformation in newborn lambs in a flock of sheep and stated that this anomaly arises due to ingestion of *Veratrum californicum* in pregnant ewes. In the present case, identification of specific cause will aid in ensuring the preventive measures. This could be achieved by genetic analysis of the dam and sire of a defective fetus and detail account of antenatal exposure of dam to various drugs or other teratological agents to which dam might have been exposed during the early gestation leading to the cyclopic condition in the calf.

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