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Clinical Article

DELIVERY OF CYCLOPIC AND ARHINIA MONSTER FROM A GRADED MURRAH BUFFALO BY INDUCTION OF PARTURITION

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SUMMARY

A six year old Graded Murrah buffalo was presented at clinic with a history of prolonged gestation of around 13 months with no signs of impending parturition. A dead fetus was delivered successfully after induction of parturition with dexamethasone and cloprostenol sodium. The calf had a dome shaped head, centrally located orbit on the ventral portion of head. External nasal structures and nasal passage were absent with presence of ascites.

Keywords: Arhinia fetus, Cyclopia, Monster, Prolonged gestation.

Congenital fetal defects are the abnormalities of function and structure which may affect a single structure or function of entire system or part of several systems (Morrow, 1980). Cyclopia is a rare form of holoprosencephaly and a congenital disorder characterized by the failure of the embryonic prosencephalon to properly divide the orbits of the eye into two cavities. It is most commonly encountered in pig and sheep (Roberts, 1971) but rarely reported in caprine (Kantharaj, 2010) and bovine (Ozcan *et al.*, 2006 and Honparkhe *et al.*, 2009). Similarly, congenital arhinia is an extremely rare anomaly consisting of an absence of external nasal structures and nasal passages. The present case places on record successful termination of prolonged gestation attributable to a fetal monster with cyclopia and arhinia having a typical dome shaped head in a Graded Murrah buffalo.

A six year old Graded Murrah buffalo was presented at clinic with a history of prolonged gestation of around 13 months. Upon routine examination, it was found that the clinical parameters like temperature, pulse and respiratory rate were within the normal range. Per-rectal examination revealed the presence of a fetus in anterior presentation. Per vaginal examination revealed no signs of impending parturition. Hence, induction of parturition was done with administration of Inj. Cloprostenol sodium 500 mcg by I.M. route and Inj. Dexamethasone 40 mg by I.V. route. The buffalo was examined after 48 hrs and revealed slight progress in parturition and dilatation of cervix. The cervix dilated 58 hours after the treatment. Thereafter, the buffalo was given Inj. Streptopenicillin 5.0 gm I.M. for 5 days, Inj. Calcium Borogluconate 300 ml by slow I.V. route and 150 ml S.C. The antibiotic was continued for 4 more days and follow up of case showed prompt recovery. Careful examination of the delivered dead male fetus revealed that no facial structures were present and the calf had a single eye ball located on the ventral portion of head near muzzle. Muzzle and nostrils were absent (arhinia) but ears were present with ascites (Fig. 1). All the physical characteristics of the deformed fetus are suggestive of a fetal monster with cyclopia and arhinia (Roberts, 1971).

An unusual case of cyclopia and arhinia monster was also reported in Mehsana buffalo (Sutaria *et al.*, 2012). The causes of such fetal monstrosities are not well understood but many factors have been incriminated in their occurrence. In sheep, the condition has been reported due to ingestion of *Veratrum californicum* (Binns *et al.*, 1963). Predominantly certain alkaloids including cyclopamine, 2-deoxyjervine and cyclopasine found in some plants especially Veratrum spp. are known to cause cyclopia among other birth defects when consumed during early pregnancy. Usually the calves born with cyclopia are unable to stand due to ankylosed limbs (Malik *et. al.*,

Fig. 1. Fetal monster showing cyclopia and arhinia

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2013). Moreover, in the fetal monster under report, the head was not fully developed which might have led to defective development of fetal hypophyseal-adrenal axis that resulted in prolonged gestation (Noakes *et al.*, 2009). However, the possible causes of fetal monster in the present report could not be ascertained as the condition was sporadic.

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