TRANSVERSAL TETRA-HEMIMELIA WITH MULTIPLE CRANIOFACIAL ANOMALIES IN A BUFFALO CALF

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ABSTRACT

This report depicts about a rare case of transversal tetra-hemimelic buffalo calf with multiple craniofacial defects and its successful vaginal delivery through fetotomy.

Keywords: Craniofacial defects, fetotomy, monster, transversal tetra-hemimelia.

INTRODUCTION

Transversal hemimelia or congenital amputation is a genetic abnormality characterized by lack of distal structures of limb and proximally the malformed limb is normally developed (Palmer, 1993). Various limb malformations are documented in livestock (Lapointe *et al.,* 2000; Corbera *et al.,* 2003 and Szczerbal *et al.,* 2006), however, per vaginal delivery of transversal tetra-hemimelic (absence of distal parts of all four limbs) calf through partial fetotomy is reported for the first time in buffalo.

CASE HISTORY AND OBSERVATIONS

A full term pregnant buffalo in first parity was presented to teaching veterinary hospital with the history of severe straining since last 12 h. The case was already handled by a local practitioner but failed to deliver the fetus. The clinical examination revealed swollen vulva with hanging fetal viscera from the vulvar lips (Figure). The per-vaginal examination revealed completely dilated cervix with dry and edematous birth passage. Further exploration revealed anterior longitudinal presentation of a small size fetus along with defective fetal extremities (limbs and head).

TREATMENT AND DISCUSSION

Following administration of epidural anesthesia (5 ml, 2% lignocaine hydrochloride) and dexamethasone (10 ml, i.m.), the ample lubrication of birth passage was done using carboxy methyl sodium cellulose gel. Attempts to deliver the fetus with mutational operations were not successful as proper traction points were not available. Thus, it was decided to divide the fetus using thygeson's fetotome. Thereafter, the anterior part was removed out, the remaining part was pushed back and hind limbs were pulled to convert into posterior presentation. A mild traction was applied to deliver the remaining hind part of fetus. The buffalo was treated with antibiotics and supportive therapy for 5 days followed by uneventful recovery.

The gross examination of fetus revealed completely lacking radius, ulna, carpal, metacarpal and phalangeal bones in both the forelimbs whereas the hindlimbs were lacking distal bones such as tibia, fibula, tarsal, metatarsals, and phalangeal bones (Figure). Thus, the condition was characterized as transversal tetra-hemimelia along with multiple craniofacial defects. These defects involved complete absence of both the eyes (anophthalmia) and ears (anotia). The muzzle, nostrils and typical nose were absent (arhinia) and the skin over the face was open, thus, exposing the musculature mass, which suggested that nose and mouth failed to develop. Also, there was over lengthening of upper maxilla

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Figure: Fetal viscera hanging from birth passage. Middle panel showing fetus with tetra-hemimelia and right panel showing fetal head with multiple craniofacial abnormalities

(brachygnathism) compared to lower maxilla (Figure). A small area was also identified on ventral abdominal area of the fetus where skin and muscles were absent and from where viscera were exposed and hanged out from the vulva. The suggested etiologies like increased sister chromatid exchange (Peretti *et al*., 2008) and chromosome instability (Albarella *et al*., 2009) for such conditions was documented in Italian buffalo, however, etiology for the present case could not be ascertained.

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