

CROOKED CALF DISEASE AS A RARE CAUSE OF DYSTOCIA IN A MURRAH BUFFALO

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ABSTRACT

Present communication reports a case of dystocia due to multiple congenital defects (crooked calf disease) and its removal through caesarean section in a Murrah buffalo.

Keywords: arthrogryposis, buffalo, crooked calf, dystocia, Murrah buffalo

INTRODUCTION

Crooked calf is tetragonic defects occur due to consumption of lupines that contain high concentrations of alkaloids between critical period 40th to 70th day of pregnancy (Shupe *et al.*, 1967). Crooked calf disease is characterized by the presence of arthrogryposis of the limbs generally forelimbs and by the variable presence of torticollis (wryneck, twisting of the neck), scoliosis (lateral curvature of the spinal column), kyphosis (dorsal curvature of the spinal column) and cleft palate (Shupe *et al.*, 1968). Due to these defects normal per vaginal delivery of fetus become very difficult that result into dystocia. Athrogryposis condition leading to dystocia has been reported so many times in buffaloes; however, dystocia due to multiple congenital defects in a fetus of Murrah buffalo is

rarely reported.

CASE HISTORY AND CLINICAL EXAMINATION

A Murrah buffalo of fourth parity with complete gestation period was brought to the Teaching Veterinary Clinical Complex, LUVAS, Hisar with the history of straining since the last 14 h. The clinical parameters (temperature, pulse, heartbeat) were within the normal range. At field level local veterinarian tried but failed to deliver the fetus. Per-vaginum examination revealed dilated cervix with dry and edematous birth canal and a fetus in anterior longitudinal presentation, head in the birth canal and both fore limbs flexed beneath the body. Further, deep exploration revealed ankylosed limbs and swelling in the head region. No fetal movements and reflexes were present. As per findings of clinical examination, it was decided to perform caesarean section.

TREATMENT AND DISCUSSION

The condition of animal was stabilized by administration of intravenous fluid, dexamethasone and antibiotics before caesarean section. The

caesarean section was performed in right lateral recumbency under local analgesia (2% lignocaine hydrochloride solution) with local infiltration along the site of incision (parallel and lateral to milk vein) following all aseptic precautions. After extraction of the dead male fetus, the uterus was flushed with saline solution. Surgical wound was closed as per standard procedure. Post operatively, animal was kept under antibiotic, NSAID, multivitamin and fluid therapy for one week. Dam showed uneventful recovery.

Description of fetus

The dead male fetus had rigid articulation of all limbs, dorsal curvature of spinal cord (scoliosis; X-Ray also revealed curvature of the spinal column) and hydrocephalus (Figure 1). There was permanent connection between oral and nasal cavity so it was called cleft palate (Roberts, 1986). There was lateral deviation of one forelimb below elbow joint. On postmortem examination

thoracic and abdominal organs were seen normal.

Dystocia due to arthrogryposis in buffalo have been reported by Saini *et al.* (2010). Moreover, the present case also records the arthrogryposis with several congenital defects lead to dystocia in a Murrah buffalo. It has been studied that Lupine derived alkaloids cause reduction in fetal movement during critical stage of gestation (Panter *et al.*, 1990). These alkaloids cause interference in closure of palates and fusion by the tongue due to reduction in fetal movement (Panter and Keeler, 1992). Generally, Arthrogryposis of forelimbs is found; Elbow joints are often immobile because of malpositioning and inadequate alignment of the ulna with the articular surfaces of the distal extremity of the humerus. Fore limbs distal to the elbow joint often rotate laterally (Shupe *et al.*, 1968; Keeler *et al.*, 1977). Such type of calf can be delivered by Fetotomy or caesarean section only (Roberts, 1986).



Figure 1. Buffalo fetus with multiple congenital defects (Crooked calf).

REFERENCES

- Keeler, R.F., L.F. James and J.L. Shupe. 1977. Lupine-induced crooked calf disease and a management method to reduce incidence. *J. Range Manage.*, **30**: 97-102.
- Panter, K.E. and R.F. Keeler. 1992. Induction of cleft palate in goats by *Nicotiana glauca* during a narrow gestational period and the relation to reduction in fetal movement. *J. Nat. Toxins*, **1**: 25-32.
- Panter, K.E., T.D. Bunch, R.F. Keeler, D.V. Sisson and R.J. Callan. 1990. Multiple congenital contractures (MCC) and cleft palate induced in goats by ingestion of piperidine alkaloid-containing plants: Reduction in fetal movement as the probable cause. *Clin. Toxicol.*, **28**: 69-83.
- Roberts, S.J. 1986. *Veterinary Obstetrics and Genital Diseases*, 3rd ed. Edward Brothers, Michigan, USA.
- Saini, G.S., A.K. Pandey, R.N. Chaudhary, A. Kumar and S. Sharma. 2010. Arthrogyposis in a murreh buffalo calf: A case report. *Buffalo Bull.*, **29**: 318-320.
- Shupe, J.L., W. Binns, L.F. James and R.F. Keeler. 1968. A congenital deformity in calves induced by the maternal consumption of lupin. *Aust. J. Agr. Res.*, **19**: 335-340.
- Shupe, J.L., W. Binns, L.F. James and R.F. Keeler. 1967. Lupine, a cause of crooked calf disease. *J. Am. Vet. Med. Assoc.*, **151**: 198-203.