



E-ISSN: 2320-7078

P-ISSN: 2349-6800

JEZS 2019; 7(3): 531-532

© 2019 JEZS

Received: 25-03-2019

Accepted: 28-04-2019

M Honparkhe

Gynaecologist, Department of Veterinary Gynaecology and Obstetrics, College of Veterinary Science, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana, Punjab, India

Ajeet Kumar

Associate Professor, Department of Veterinary Gynaecology and Obstetrics, College of Veterinary Science, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana Punjab, India

Ankit Kumar Ahuja

Assistant Professor, Department of Veterinary Gynaecology and Obstetrics, College of Veterinary Science, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana Punjab, India

SS Dhindsa

Assistant Animal Scientist, Department of Veterinary Gynaecology and Obstetrics, College of Veterinary Science, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana Punjab, India

Correspondence

Ankit Kumar Ahuja

Assistant Professor, Department of Veterinary Gynaecology and Obstetrics, College of Veterinary Science, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana Punjab, India

Management of dystocia due to chondrodystrophic ascitic buffalo fetus

M Honparkhe, Ajeet Kumar, Ankit Kumar Ahuja and SS Dhindsa

Abstract

A pluriparous buffalo in its 3rd gestation was brought to the University Clinical Complex with history of full term gestation and excessive straining since last 12 hours. Per vaginam examination revealed presence of a misshapen, flabby and musculocutaneous fetal structure. Following epidural administration, ample lubrication and suitable obstetrical maneuvering, a dead miniature ascitic calf with subnormal skeletal growth was delivered. This case describes about the efficacious management for vaginal delivery of chondrodystrophic ascitic buffalo fetus.

Keywords: Chondrodystrophic, bulldog, ascitic, buffalo

Introduction

During the earlier era of domestication of animals, morphology of animal was often modified according to use. Size reduction was a common feature of domestication. Due to undesirable effect of certain mutagenic factors or variations in genes responsible for pituitary gland and thyroid gland hormone production, metabolism, cartilage development and bone growth plate development have co-occurred. Chondrodystrophy is the most common forms of genetic hyaline disorders. Hyaline cartilage covers the long bone and spinal vertebrae. Due to undesirable effect of certain mutagenic factors or variations in genes responsible for pituitary and thyroid hormone production, metabolism, cartilage development and bone growth plate development such structural deformities may occur. Chondrodysplasia is one of these defects affecting cartilage and thereby bone growth^[1]. Bony skeletal formation follows the principles of endo-chondral ossification. Therefore, reduction in bone growth is often related to a diminished longitudinal growth. Various types of dwarfism have been reported which lead to abortion and death of animals^[2, 3]. This case depicts the successful management for per vaginal delivery of chondrodystrophic ascitic buffalo fetus.

Case history and observations

A pluriparous buffalo weighing 500 kg in 3rd gestation was brought to the university Clinical Complex with history of full term gestation and excessive straining since last 12 hours. Per vaginam examination revealed dry and completely dilated birth passage along with a misshapen flabby and musculo-cutaneous fetal palpation in uterine lumen. Physiological parameters were in normal range i.e. heart rate- 76 beats per minute, rectal temperature- 102°F, respiration rate- 16 per minute, reflecting animal's hemodynamics to be fit. Following epidural anesthesia (2 ml/100 kg body weight, 2% lignocaine HCl) and sufficient lubrication of the birth canal with 2% sodium carboxymethyl cellulose gel (Carmellose Na, WDT, Garbsen, Germany) traction was applied on the limbs which led to partial progression of dead calf towards birth canal. On critical examination, excessive accumulation of fluid in fetal abdomen was suggestive of ascites. Hence, a small stab incision was given at the level of umbilicus (Fig 1) and all the excessive fluid in abdomen was evacuated by putting pressure through palm and fingers. Following fluid evacuation, a mild traction was applied to deliver the fetus.

On gross examination of the fetus, it was a miniature calf with subnormal skeletal growth suggestive of chondrodystrophic or dwarfism or bull dog calf. The delivered fetus was malformed and was having bilateral anophthalmia (absence of eye balls) and anotia (absence of ears) and defective lower and upper jaw (Fig 2).

Following delivery, dam was provided with supportive therapy comprising of 5 liters of normal Saline (Nirlife Healthcare Co., Gujarat, India) intravenously and Inj. Derilan (Cefquinome, 1 gm; Wellcon Animal Health Pvt Ltd, Uttar Pradesh, India) and Inj. Megludyne (Flunixin Meglumine, 1.1 mg/kg body weight; Virbac Animal Health Pvt Ltd, Mumbai, India) intramuscularly.

This treatment regimen was followed for five days along with single shot of Inj. Oxytocin (10 ml: 50 I.U.; Pfizer Ltd, Mumbai, India) intramuscularly. An uneventful recovery was noticed during follow up of case.

Discussion

Malformation during antenatal period can be caused by teratological development or arrest in development of ovum which may result in the death^[3]. There are many reports of fetal anomalies and monstrosities of various types in cows^[3] but their reports in buffaloes are rare. Here in this case the fetal anomaly was characterized as *Chondrodystrophia foetalis* with anophthalmia and anotia in bull dog buffalo calf (Fig 1). Fetus was fully developed and weighed around 32 kg with its total length measure around 57 cm and body girth around 49 cm. It has broad mishapen head, bulging forehead, malocclusions of the jaw, devoid of eyes (anophthalmia) and ears (anotia).

Chondrodystrophy and achondroplasia which may be manifested by disproportion in limbs (i.e. rhizomelia), changes in cranial development (flat and broad head), altered endochondral ossification, excessive amount of soft tissue due to its unaffected growing^[4, 5]. Application of radiography technique, SNP array genotyping and Sanger sequencing helps detecting this deletion^[6, 7]. Successful management of such type of fetus delivery with congenital abnormality or deformity has been described in many reports previously^[8]. Such types of congenital anomalies or monsters are generally considered to be due to an autosomal recessive defects^[4].



Fig 1: Incisional stab for ascetic fluid drainage.



Fig 2: Defective jaw with anophthalmia anotia

Conclusion

Such kind of cases are very unique however prompt diagnosis followed by correct handling technique has led to successful delivery of the present case.

References

1. Cavanagh JA, Tammen I, Windsor PA, Bateman JF, Savarirayan R, Nicholas FW *et al.* Bulldog dwarfism in Dexter cattle is caused by mutations in ACAN. *Mamm Genome.* 2007; 18:808-814
2. Sartelet A, Druet T, Michaux C, Fasquelle C, Géron S, Tamma N *et al.* Charlier C A splice site variant in the bovine RNF11 gene compromises growth and regulation of the inflammatory response. *PLoS Genet.* 2012a; 8:e1002581.
3. Whitlock BK, Kaiser L, Maxwell HS. Heritable bovine fetal abnormalities. *Theriogenology.* 2008; 70:535-549.
4. Roberts SJ. *Veterinary Obstetrics and genital diseases.* 2nd ed. CBS publishers and distributors, Delhi, 1971, 70-73.
5. Latter M, Latter B, Wilkins J, Windsor P. Inheritance of proportionate dwarfism in Angus cattle. *Aust Vet J.* 2006; 84:122-128.
6. Murgiano L, Jagannathan V, Benazzi C, Bolcato M, Brunetti B, Muscatello LV *et al.* Deletion in the EVC2 gene causes chondrodysplastic dwarfism in Tyrolean Grey cattle. *PloS One.* 2014; 9:948-61
7. Muscatello L, Benazzi C, Dittmer K, Thompson K, Murgiano L, Drögemüller C *et al.* Ellis–van Creveld Syndrome in Grey Alpine Cattle Morphologic, Immunophenotypic, and Molecular Characterization. *Vet Pathol,* 2015. doi:10.1177/0300985815588610
8. Ahuja AK, Singh H, Honparkhe M, Singhal S. Congenital Arthrogyrosis and Bilateral Shoulder Flexion in Murrah Buffalo Calf: A Case Report *Int. J. Curr. Microbiol. App. Sci.* 2017; 6(7):1510-1512.