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Popular Article

Per-Vaginal Delivery of a Congenital Arthrogyrosis Foetus in A Graded Murrah Buffalo- A Case Report

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Introduction

Arthrogyrosis is a congenital musculoskeletal defect characterized by the ankylosis of limbs, often accompanied by other growth deformities such as a cleft palate. When calves are born with arthrogyrosis, their joints are fixed in abnormal positions, and they may also exhibit scoliosis, kyphosis, and other deformities. This condition is more commonly observed in the forelimbs than the hind limbs, and the hind limbs are typically unaffected unless the forelimbs are also involved. When arthrogyrosis is accompanied by additional deformities like kyphosis, scoliosis, torticollis, or a cleft palate, it is often referred to as Crooked Calf Disease. Affected calves usually have difficulty standing and nursing, and muscle atrophy can also be observed. Arthrogyrosis is a relatively rare condition and is more commonly seen in sheep, buffalo, and cattle. It has been reported in various cattle breeds, including Hereford, Angus, Charolais, Shorthorn, Holstein-Friesian, Guernsey, Jersey, Ayrshire, Brown Swiss, and mixed breeds. The overall incidence of congenital defects in calves is estimated to range from 2 to 3.5%, with musculoskeletal defects accounting for about 24% of these cases. The causes of arthrogyrosis are multifactorial and include various genetic and environmental factors. In Charolais cattle, for instance, the syndrome is linked to an autosomal recessive gene with complete penetrance in the homozygous state. Teratogens, which are substances that can cause birth defects, have also been identified as contributors to arthrogyrosis. In some cases, the ingestion of plants like lupines, with anagryne as the toxic agent, by pregnant cows between gestational days 40 and 70 can lead to arthrogyrosis. Additionally, prenatal viral infections with viruses such as Akabane or bluetongue can result in this condition. Congenital defects like arthrogyrosis often lead to dystocia, which is a difficult or obstructed labor during the birthing process. This article discusses a specific case of arthrogyrosis in a Murrah



buffalo calf delivered vaginally, with the use of mutation and traction.

Case history and Clinical findings

An 8-year-old Graded Murrah buffalo in its third parity was presented to mobile ambulatory veterinary clinic, Tuni with the history of full-term gestation. The animal was straining since last 12 h and its water bag had ruptured with both fore limbs hanging from vulva. Per-vaginal examination revealed a male dead fetus in anterior longitudinal presentation and dorso-sacral position with the both fore limbs flexed at elbow, knee, fetlock and slight downward deviation of head is noticed.

Treatment

Following caudal epidural anesthesia (5 ml; 2% lignocaine hydrochloride), the birth canal was thoroughly lubricated with sodium carboxy methyl cellulose slurry. After correcting the position of head and fetal extremities three-point tractions were applied on both fore limbs and head leading to delivery of the fetus. A dead male fetus was born with the condition called arthrogyrosis. Gross examination of the dead male fetus revealed ankylosis of both fore limbs and hind limbs. A close examination of one elbow joint in a calf showed that the positioning of the ulna against the articular surface of the distal humerus was incorrect. Post obstetrically the dam was administered with Inj. DNS-2lit, RL-2 lit, Mifex-250ml intravenously, Inj. Melonex-0.5 mg/kg b.wt, Inj.Intamox-4.5gm intra muscularly. The antibiotics and NSAIDS were continued for 3 more days. The dam showed appreciable recovery.



Figure 1: Congenital Arthrogyrosis Fetus

Conclusion

Arthrogyrosis is a relatively common congenital condition seen in cattle, primarily affecting the limbs due to joint fibrosis, which results in joint fixation. In this clinical case report,



we present a unique and successful approach to managing dystocia in a buffalo calf that exhibited a slight head deviation associated with arthrogyrosis. Our method involved a carefully planned strategy for delivering a small-sized fetus per-vaginally through controlled traction. This approach stands out as a valuable alternative to opting for a cesarean section or fetotomy. Notably, this method offers several advantages. It minimizes the risk of causing trauma to the dam, which is essential for ensuring the overall well-being of the animal. Moreover, it proves to be cost-effective for the farmer, making it a practical choice for managing dystocia related to arthrogyrosis. By avoiding the use of excessive force and excessive traction, we prioritize the health and safety of both the dam and the calf, contributing to a successful and humane outcome.