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FETAL SKELETAL DEFECTS-A CAUSE OF DYSTOCIA IN A CROSSBRED COW

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Abstract: Present case report deals with a rare case of dystocia due to fetal scoliosis (lateral curvature of lumbar region of vertebral column), torticollis (lateral curvature of neck) and arthrogryposis (deformed joints of limbs) and its successful management through per-vaginum.

Keywords: Dystocia, crossbred cow, arthrogryposis, torticollis and scoliosis.

Introduction

Congenital anomalies and less frequently, multiple congenital anomalies, are reported to be encountered in domestic animals that are present at birth, which in turn may cause obstetrical problems (Arthur *et al*., 2001). These Congenital abnormalities of fetus with structure and function are present at birth is relatively less frequent in bovines (Rahman *et al.,* 2006) and are believed to occur due to adverse factors affecting the fetus in early stages of development. The fetal anomalies occur due to various genetic and environmental variables or due to their interaction (Rousseaux and Ribble, 1988). Anomalies occurring due to congenital defects often lead to dystocia. Limb joint deformities like arthrogryposis is caused by an autosomal recessive gene with complete penetration in the homozygous state (Goonewardene and Berg, 1976). Arthrogryposis is a rare congenital musculoskeletal anomaly and is seen in all breeds of cattle, with greater incidence in Angus and Charolais breeds (Abbot *et al.*, 1986; Windsor, 2011). The affected calves exhibit joints fixed in abnormal positions and frequently have scoliosis and kyphosis (Keeler, 1974). The musculoskeletal defects of the fetus like rigid and fixed limbs in abnormal posture often lead to dystocia (Aiello, 2000; Katiyar *et al.,* 2015). Scoliosis is a condition characterized by abnormal dorso-lateral curvature of a spine (Vegad and Swamy, 2010). The incidence of congenital defects in calves ranges from 2-3.5% (Aiello, 2000) of which, musculoskeletal defects account for 24% (Leipold *et al.*, 1983).

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Case History and Clinical Observations

A primiparous crossbred cow with the history of over gestation of 22 days was presented in the teaching veterinary clinical complex of the college. Per-vaginal examination revealed close cervix with intact cervical seal. Animal was induced with Inj. Dexamethasone 40 mg by intravenous route and inj. Cloprostenol sodium 500 µg by intramuscular route. Animal showed straining after 48 hours but normal parturition failed to proceed. The water bag had ruptured and the animal was suffering from dystocia. On per-vaginal examination, cervix was fully dilated and foetus was in anterior longitudinal presentation, dorso-sacral position with hoofs presented on vulvar lips. The neck of fetus was strongly twisted to one side due to which fetus was unable to come out. The pelvic ligaments were relaxed and lubrication was sufficient. Foetus was manipulated and a female live calf was removed by applying traction after snearing of limbs and head. Animal was treated with Inj. Oxytocin 100 I.U. and Inj. Enrofloxacin @ 7.5 mg/Kg body weight for 5 days by intramuscular route. Placenta got expelled within an hour, normally.

Treatment and Discussion

A female live calf with foetal scoliosis (lateral curvature of lumbar region of vertebral column), torticollis (lateral curvature of neck) or wry neck and arthrogryposis (deformed joints of limbs) (Fig 1) was removed manually. However, the degree of arthrogryposis was very low. The x-ray examination showed laterally deviated cervical vertebrae towards left side with incomplete development of neck muscles (Fig. 2).

Fig 1. Calf with Congenital anomalies

Fig 2. X-ray view of affected Calf

Similarly physical examination of new born was revealing left side wry neck with inability to straighten its neck. Cranial forearm muscles were dystrophied and sensory reflexes were

present but motor reflexes were absent in neck and forelimb muscles. Generally defects of vertebral column such as Kyphosis and scoliosis are observed in ruminants (Rahman *et al.*, 2006) and are responsible for dystocia in these animals (Katiyar et. al, 2015) as observed in our case. However other skeletal defects of extremities for example torticollis and arthrogryposis can also cause dystocia in animals as affected fetuses occupy more space in pelvic cavity and are difficult to manage (Mahajan *et al*., 2006; Singh *et al*., 2008).

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