SUCCESFUL MANAGEMENT OF DYSTOCIA DUE TO PEROSOMUS ELUMBIS IN A HOLSTEIN FRIESIAN COW – A CASE REPORT

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Submitted : 09-10-2021 Accepted : 18-10-2021

ABSTRACT

A five-year-old female cow was presented to the Dharmapuri district veterinary clinic, Tamil Nādu with severe straining and ruptured first water bag. Per vaginal examination revealed incompletely dilated cervix, and foetal parts were not palpable. The treatment included induction therapy for further dilatation of cervix. The abnormality of the foetal parts may lead to certain congenital anomaly. After thorough lubrication of the birth canal mild traction was applied to deliver the impacted fetus. The morphological appearance of the stillborn calf revealed that the condition was perosomus elumbis. The cow had an uneventful recovery.

Keywords: Cow, dystocia, perosomus elumbis, congenital anomaly

INTRODUCTION

Perosomus elumbis is a rarely occurring congenital condition characterized with partial or complete agenesis of lumbar, sacral and coccygeal vertebrae and ankylosis of hind limbs (Son, 2008) or monster with congenital anomalies mainly in trunk region and it include arthrogryposis of hindlimbs characterised by ankylosis of joints with associated muscular deformation (Gentele and Testoni., 2006). Developmental anomalies happen when the threshold of genetic (defects originate from the mother, father or both) and environmental disturbances (deficient or excess nutrition, chemicals, drugs, biotoxins, pesticides etc) overcome the compensatory mechanisms of the foetus (Prakash *et al*., 2018).

CASE HISTORY AND OBSERVATION

A five-year-old female cow was presented to the Dharmapuri District Veterinary Hospital, Tamil Nadu with sudden distension of the abdomen and ruptured first water bag last night with severe straining. Physiological parameters like respiration and heart rate were elevated from the normal level and temperature was less than 1°F than normal. On per vaginal examination the cervix was incompletely dilated and the foetal parts were not palpable.

TREATMENT

The induction therapy followed for further complete cervix dilatation included medicines like prostaglandin (synthetic) – 2 ml i/m, estrogen – 1 ml i/m, dexamethasone - 20 ml i/m, valeramide bromide - 15ml i/m and followed by cervical massaging with carboxyl methyl cellulose diluted with slightly warm water for 10 minutes. The cervix was completely dilated after massaging the cervix after 5-6 hours after induction therapy. On per vaginal examination the fetus was in breech presentation (posterior longitudinal) in birth canal and the caudal portion of the vertebrae and thigh muscles felt underdeveloped with no foetal movements giving rise to suspicion of certain congenital anomaly like monster foetus. Mostly–monster is either treated by caesarean section or foetotomy depending on veterinary clinician however, in the case was managed per vaginally because of-complete-dilatation of cervix after induction therapy.

Fig 1. Perosomus elumbis

Following cervical dilatation, the animal was restrained into left lateral recumbency under epidural anaethesia. Before starting obstetrical prcedures the animal was rehydtated by isotonic solution through intravenous route. After thorough lubrication of the birth canal with carboxy methyl cellulose sodium solution the fetus was gently tracted out from the birth canal using

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obstetrical rope. The morphological appearance of the still born calf showed improper development caudal to the thoracic region, atrophied thigh muscles with ankylosed hind limbs, suggesting perosomus elumbis with 18 kg body weight.

Post-operatively the cow was treated with antibiotic, analgesic, B-complex vitamins and fluids for seven days. The animal had an uneventful recovery after ten days.

DISCUSSION

The common cause of dystocia in cattle and buffalo include fetal monstrosities and malformation of foetuses (Shukla *et al*., 2007). Perosomus elumbis is an inherited defect (Leipold *et al.,* 1993) and lethal congenital condition (Agerholm *et al.,* 2014). with an incidence rate of 2 to 3.5% (Aiello, 2000). Malformation or improper migration of the neural tube in the tail bud stage accompanied by partial agenesis of the caudal spinal cord is some of the reasons for this abnormality. Another aetiology of occurrence of this condition put forward by Hiraga and Abe (1987), is non-closure of the neural tube near the middle portion.

In perosomus elumbis congenital abnormality of the skeletal system, developed lumbar and sacral vertebrae deformed pelvis and arthrogryposis of limbs and hypoplasia of spinal cord (Kulasekar *et al*., 1996). It was reported by Niyas *et al.,* (2019) in Stallion and Piegari *et al*. (2021) in pigs.

Similar to this case, Yadav *et al.,* (2018) reported successful per-vaginal delivery of perosomus elumbis foetus with arthrogryposis in a she buffaloes. In most of the cases caesarean was the final choice of the clinicians for the correction of the condition (Testoni *et al.,* 2005). In the case report of Mehmood *et al.,* (2014) the dystocia due to perosomus elumbis in a buffalo is relieved through the partial fetotomy through the vagina. Vaginal delivery of a fetus with multiple congenital deformities can only be relieved through the fetotomy procedure (Ghuman*et al.,* 2016). Patil et al., (2017) successfully took out the small perosomus elumbis fetus per vaginally after enormous lubrication with carboxy methyl cellulose.

CONCLUSION

Dystocia should be considered as an emergency condition in ruminants that requires immediate intervention. The stage of the clinical presentation and condition of the animal is important in deciding the prognosis. Since the condition has multifactorial aetiology *i.e*., nutritional, physiological, and genetic factors, the treatment should be directed to resolve all these factors. Furthermore, the dystocia in cattle due to congenital anomalies like Perosomus elumbis has potential complication for the dam. Therefore, a thorough knowledge about the pathogenesis and intervention of the condition is required for efficient handling of the case.

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