ANKYLOSED SCOLIOTIC FETUS IN A CROSSBRED HEIFER

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ABSTRACT

Successful vaginal delivery of a fetus with arthrogryposis and scoliosis by mutations without any post-operative complication was recorded in a crossbred cattle heifer.

Keywords: Ankylosis, Arthrogryposis, Crossbred, Dystocia, Scoliosis

INTRODUCTION

Fetal arthrogryposis is a congenital disorder characterized by limb curvature, multiple articular rigidity and muscular dysplasia in various livestock species (Jubb *et al.,* 1993). Fetal scoliosis is the lateral curvature of spine rather than a straight line resulting from the congenital disruption of normal vertebral development (Ghuman *et al.,* 2009). The case of a crossbred heifer suffering from dystocia due to multiple ankylosis of joints of fetus is discussed.

CASE HISTORY AND OBSERVATIONS

A full term crossbred HF heifer weighing about 250 kg was presented with the history of severe straining from the last 20 hour and the water bags had ruptured about 6-8 hour back. The vaginal examination revealed a fully dilated cervix with dry birth passage. The fetus was in posterior longitudinal presentation, lumbo-sacral position along with bilateral hock flexion. The absence of anal reflex and movement of tail confirmed the fetal death.

TREATMENT AND DISCUSSION

Following caudal epidural anesthesia (6 ml, 2% Lignocaine Hydrochloride), the birth passage was adequately lubricated using carboxy methylcellulose gel and the fetus was pushed into the uterus. The hock of a snared limb was pushed upward and forward with the hand and simultaneously traction was applied on the limb. The application of antagonistic forces lead to extension of flexed limb and same procedure was repeated on the other hind limb. Thereafter, a judicious amount of traction was applied on both the snared hind limbs and a dead fetus was extracted. The dam within 4 h shed the placenta and the uterus was lavaged using $KMnO_4$ (10 L, 1:1000) solution. The heifer was administered appropriate supportive therapy for 5 days.

The gross examination of calf revealed ankylosis of limbs and contracted neck and spinal cord. The lumbar vertebrae were underdeveloped and rest of the anatomical feature was normal (Figure 1). The deformed fetus was classified to be suffering from arthrogryposis and scoliosis syndrome (Ghuman *et al.,* 2009). Scoliosis usually accompanies arthrogryposis when CNS and spinal cord is malformed (Tsuda *et al.,* 2004). Ankylosed-scoliotic fetus is believed due to decreased fetal movements following maternal or fetal neurogenic and myopathic disorders caused by duplication of motor neuron gene, congenital muscular dystrophies, fever during pregnancy or foraging of pregnant animals on the plants containing toxic alkaloids (Iannuzzi *et al.,* 2003). Thus, the fixation of the joints in the present case could be due to lack of extensibility of muscles, ligaments or atrophy resulting from neuropathy.

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Figure 1: Ankylosed scoliotic cattle fetus

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