The Indian Journal of Veterinary Sciences & Biotechnology ***(2017) Volume 13, Issue 1, 91-93***
ISSN (Print) : 2394-0247 : ISSN (Print and online) : 2395-1176, abbreviated as IJVSBT
***http*://dx.doi.org/10.21887/ijvsbt.v13i01.8745**

Submitted : 14-01-2017 ***Accepted : 22-02-2017*** ***Published : 16-08-2017***

Dystocia due to Schistosoma Reflexus and its Management through Fetotomy: A Case Report

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Schistosomus reflexus (SR) is seen most commonly in cattle, but is rare in sheep, goat and swine (Roberts *et al.,* 1971). The highest prevalence of SR is believed to occur in cattle ranging from a low of 0.01% (Sloss and Johnston, 1967) to a high of 1.3% (Knight, 1996) of bovine dystocia. Such occurrences are costly to the cattle industry because of the reduction in the number of viable offspring, loss of milk production, infertility or prolonged inter-calving interval and expenses on management of dystocia. Schistosomus reflexus is a major congenital anomaly which occurs during embryonic development. The aetiology is unknown but it may be due to genetic factors, mutation, chromosomal anomalies, infectious agents and environmental factors or combination of all the factors (Ozsoy *et al.,* 2009). The main defect is acute angulations of the vertebral column such that the tail lies close to the head. This fatal congenital syndrome is characterized by the presence of exposed abdominal and sometimes thoracic viscera (Noakes *et al.,* 2002). The present case report describes dystocia due to schistosomus reflexus in a Hariana cow and its successful management through fetotomy.

Case History and Clinical Observations

A 10 year old 7th parity cow of Hariana breed was presented to TVCC, DUVASU, Mathura with history of labour pain since last four hours but no progression in parturition. Clinical observations revealed the water bag and visceral organs of foetus were protruding from vulva. Rectal temperature 103.5^{o}F, respiratory rate 80/minute and heart rate 72/minute was recorded at the time of presentation. Per-vaginal examination revealed that cervix was fully dilated and presence of two hind limbs, along with other visceral organs was palpated in the birth canal. It was further confirmed that visceral organs were from the fetus and realized that

obstetrical maneuver would be dangerous to the dam. Then it was decided to remove the fetus through fetotomy.

Treatment and Discussion

The cow was restrained in lateral recumbency and epidural anaesthesia was maintained with 5 ml of 2% lignocaine epidural, to reduce the straining. Following this, luke warm carboxy methyl cellulose gel was infused into the birth canal to lubricate it and reduce friction. Initially traction was applied on both hind limbs to deliver the fetus but failed. Hence a partial hind quarter was separated with the help of Thygeson's fetotome through partial threading. Visceral organs of the fetus were removed, so as to increase the space for manipulation. Again the passage was lubricated, traction was applied and fetus was extracted successfully. Immediately after extraction oxytocin 100 IU was injected intramuscularly followed by antibiotics and anti-inflammatory drugs systemically for five days.

The gross morphological observation of fetus revealed that, there were severe ankylosis of fetal limbs, curved lumbar region and abnormal 'S' curvature of thoracic region (Fig). Though the thorasic region was fully developed, the sacrum was underdeveloped, diaphragm was incomplete, lungs were atrophied and congested abdominal viscera viz. stomach, intestines, liver etc were protruding out of the abdominal cavity.

Based on the presentation schistosomus reflexus can be grouped into two category i.e., visceral presentation in which fetal viscera are lying in birth canal or protruding from vulva and in extremities presentation in which all four limbs or either of two limbs are present in birth canal. Most of the literatures concerning schistosomus reflexus in cattle revealed extremities presentation (Sharma Akshay *et al.,* 2017; Kalita *et al.,* 2004). However, in present case the visceral organs along with water bag were protruding from the vulva confirmed the visceral presentation. The exact cause of such teratological defects is still unclear but the preliminary analysis of associated cases suggests that SR has a genetic etiology. Murine gene mutations producing severe ventral body wall defects associated with anomalies of internal organs and other structures have been implicated in causing this condition (Laughton *et al*., 2005). The condition is common in cattle and buffaloes (Srivastava *et al.,* 1998) and can be corrected either by foetotomy or caesarean section, but taking into consideration the welfare of the dam and economy of the farmers, it is better to prefer fetotomy operation over caesarean section to deliver a schitosomus reflexus monster.

Acknowledge

Authors thank the Vice Chancellor Pt. Deen Dayal Upadhyaya Pashu Chikitsa Vigyan Vishwavidyalaya, Mathura, Dean College of Veterinary Science and Animal husbandry Mathura U.P. and Head, Department of Veterinary Gynaecology and Obstetrics for providing necessary facilities to carried out this case study.

Conflict of Interest: All authors declare no conflict of interest.

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