Dystocia due to *Schistosoma reflexus* in a crossbred cattle: A case report

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Abstract

Monstrosity is a developmental anomaly of ovum, embryo or fetus that can cause great distortion of the individual e.g. *Schistosoma reflexus, Peromyscus elamsib* and multiple ankylosis etc. these conditions generally resulting in difficulty in parturition. Amongst monstrosities, *Schistosoma reflexus* is congenital defect characterized with marked ventral curvature of spine leading to exposed abdominal visceras. Fetotomy or caesarean section are the most common obstetrical procedures to relieve such type of monstrosity. Present case study report dystocia due to *Schistosoma reflexus* in a cattle and its successful management through fetotomy.

Keywords: Cattle, dystocia, *Schistosoma reflexus*, fetotomy, monstrosity, congenital, fetal monster

Introduction

Difficulty in giving birth or abnormal birth is referred to as Dystocia (Youngquist et al., 2007) and needs human intervention (Blood et al., 2011). Either fetal or maternal factors are responsible for dystocia. The fetal factors include oversized fetus, lamb malpresentation, malposition, postural defects and congenital abnormalities (Aitken, 2008) and the maternal factors include over feeding of dam during pregnancy, uterine inertia and small diameter of pelvic canal (Pugh et al., 2012). Any type of dystocia, irrespective of the cause, needs immediate intervention. Any delay may lead to necrotic metritis which may be fatal to dam (Mee, 2008; Christos et al., 2012). Dystocia cases can either be handled medically or surgically (Scott, 2006). Medical management is advised when the dam and the fetuses are stable and there is proper fetal position, presentation and posture with no obstruction (Noakes, 2009). Obstructive dystocia (those accompanied by shock or systemic illness, uterine inertia, prolonged active labor or failure in medical management) require cesarean section (Majeed et al., 1993). Fetal monstrosity may be due to developmental anomaly of ovum, embryo or fetus that can cause great distortion of the individual, generally resulting in dystocia (Vegad, 2007). *Schistosomas reflexus* is a rare fatal congenital abnormality in ruminants characterized by spinal inversion, limb ankylosis, exposed visceral organs (mainly abdominal or thoracic), and marked ventral curvature of the spinal column due to the inversion of spinal cord i.e. reflexus (Roberts, 1986). It is most commonly reported in cattle with prevalence ranging between 0.01-1.3% and is much lesser in ewes and doe (Roberts, 1986; Sloss and Johnston, 1967 and Knight 1996). In India, occurrence of *Schistosoma reflexus* in bovines was reported by Rao et al. (1993) and Jana and Ghosh (2001). Primarily the *Schistosomus reflexus* seems to be associated with a genetic aetiology (Laughton and Fisher, 2005) and may occur as early as the post-gastrulation embryo and involves the intermediate mesoderm. There are various reports of *Schistosoma reflexus* occurring in concordance with twin fetus with viable normal calf (Knight, 1996), twin fetus with freemartin (Cavalleri and Farin, 1999), but all are associated with dystocia.

Case history and Clinical signs

An adult 7.5yr old crossbred cattle was presented in the Teaching Veterinary Clinical Complex (TVCC), Veterinary College, Mathura with the history of full term gestation and labour for 14 hours with no progression of birth of fetus. Large portion of intestine of fetus (identified on the base of size) was hanging outside the vulva of the dam.
Clinical examination revealed that the cow had tachycardia and pale mucous membrane was evident. Per-vaginal examination revealed that the cervix was fully dilated with both fetal forelimbs present in the birth canal and the abdominal viscera of fetus hanging outside. Detailed examination revealed open ventral portion of the fetus with palpation of the thoracic cage, fetal head could also be palpated within the uterus (Fig.1). The case was diagnosed as fetal monster due to *Schistosoma reflexus*.

###Treatment and Discussion

The therapeutic plan for this case was to remove the dead fetus via fetotomy method. 3L of 5% Dextrose fluid was administered intravenously to prevent shock during fetal extraction and to correct the dehydration status. Flunixin meglumine dosed at 2.2 mg/kg b.wt. was first administered intramuscularly as analgesic and anti-inflammatory. Caudal epidural anesthesia was performed between first and second intercoccygeal space using 5 mL 2% Lignocaine hydrochloride. Subsequently liquid paraffin was pumped into the uterus to create a pseudo amniotic bag for easy manipulation of the fetus. Dystocia was corrected using the Thygesen’s fetotomy. Initially, The head of the fetus was amputated and fetus was bisected in the area of angulation from the trunk region. Then fetus was removed in two parts i.e. one having both fore limbs and anterior part of the trunk and another having both hind limb and posterior part of the trunk. Morphologically, there were ankylosed foetal limbs. The dam was treated with inj. Dextrose Normal Saline 3 liter followed by antibiotic, antihistaminic and anti-inflammatory drugs. Animal was discharged with advice of continuing the same treatment for three days along with intrauterine medication. The case recovered successfully.

Conclusively, *Schistosoma reflexus* is a most uncommon type of monster which rarely occurs in cattle. *Schistosoma reflexus* occurs as early as the post-gastrulation embryo and involves the intermediate mesoderm i.e. this condition has genetic aetiology. The Dystocia due to such monstrosities is generally relieved by fetotomy or caesarean section. In present case fetotomy is preferred according to the economical condition of animal owner as well as to avoid any major post-operative complication because of the caesarean section.

![Fig 1.](image-url)

###References