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Successful management of dystocia due to *Schistosoma reflexes* in a Gir cow: A case report

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Abstract

A pluriparus Gir cow in its 5th parity with completed gestation and a history of straining for the last 10-12 hours without advancement in calving as well as fails to make any progress towards calving. The condition was diagnosed as dystocia due to *Schistosoma reflexes* fetus in a Gir cow by gynaeco-clinical examination. The *Schistosoma reflexes* fetus was extracted successfully through cesarean operation at the left flank approach by using the standard operating procedure under local and low caudal epidural anesthesia. The case was successfully managed through a caesarian section.

Keywords: Dystocia, *Schistosoma reflexes*, caesarian section, Gir cow

Introduction

Dystocia refers to trouble in calving or an abnormal birth process. It requires human intervention to finish the process (Blood *et al.*, 2011) [3]. The factors responsible for difficulty in delivery may be both maternal and fetal. The fetal factors include oversized fetus, malpresentation, malposition, postural defects, and congenital abnormalities (Aitken, 2008) [1] and the maternal factors consist of overfeeding of the dam in the course of pregnancy, uterine inertia, and small diameter of the pelvic brim (Pugh *et al.*, 2012) [10]. The dystocia is taken into considered an emergency circumstance and it requires immediate intervention otherwise it will result in the death of the fetus with various consequences like emphysematous of the fetus, and septicemia of the dam. It can be dealt with medically, with various mutation operations, fetotomy, or surgically.

The numerous medical controls and mutations are counseled when a dam is strong and properly dilated beginning canal to allow our hand to control the fetus (Noakes 2009) [9]. Obstructive dystocia due to systemic illness, uterine inertia, prolonged active hard work, or failure in medicinal control requires a cesarean segment (Majeed *et al.* 1993) [8] or fetotomy.

The fetal monstrosity because of dystocia can be due to progressive anomalies of the ovum, embryo, or fetus that can cause brilliant distortion of the animal, commonly resulting in dystocia (Vegad, 2007) [18]. *Schistosoma Reflexus* (SR) is a delivery disorder due to the malformation of the fetus. This fetal congenital syndrome is characterized by the presence of exposed abdominal and sometimes thoracic viscera (*Schistosomes*) and marked spinal inversion producing a unique ventral convex curvature (Roberts, 1998) [15]. It's far visible most typically in farm animals as abnormalities of the trunk of the fetus convert dystocia in livestock (Roberts, 1971) [13]. It typically includes the intermediate mesoderm and occurs in the early gastrulation embryo but, the exposed viscera and inversion of the backbone are taken into consideration as genuine *schistosomus reflexus* (Laughton, 2005) [7].

Various medical management and mutations are advised when a dam is stable and properly dilated birth canal to allow our hand to manipulate the fetus (Noakes, 2009) [9]. Obstructive dystocia due to systemic illness, fatigue in the uterus, prolonged straining, or failure in medicinal treatment requires a cesarean section (Majeed *et al.*, 1993) [8] or fetotomy.

The fetal monstrosity caused by dystocia may be due to developmental anomalies of the ovum, embryo, or fetus that can cause great distortion of the individual, generally resulting in

dystocia (Vegad, 2007) [18]. Schistosoma Reflexus (SR) is a birth defect resulting in the malformation of the entire body. This fetal congenital syndrome is characterized by the presence of exposed abdominal and sometimes thoracic viscera (Schistosomes) and marked spinal inversion producing a distinctive ventral convex curvature (Roberts, 1998) [15]. It is seen most commonly in cattle as anomalies of the trunk of the fetus causing dystocia in cattle (Roberts, 1971) [13]. It generally involves the intermediate mesoderm and occurs in the early post-gastrulation embryo. However, the exposed viscera and inversion of the spine are considered true schistosomus reflexus (Laughton, 2005) [7].

The various environmental pollutions surrounding the animal's habitat have become a major cause of failure in conception and adversely affect prenatal development. The hereditary factors may be responsible for prenatal development defects in the embryo and fetus. The internetwork of multiple genes is a frequent and most important genetic mechanism for the occurrence of such extensive defects (Jana and Ghosh, 2001) [5]. The combination of multiple abnormal genes is responsible for such a condition.

The viable normal twin calves were reported in the Schistosoma reflexus (Knight, 1996) [6]. The twin fetuses with freemartin (Cavalieri and Farin, 1999) [4], were also associated with dystocia. The incidence of SR is between 0.01% (Sloss and Johnston, 1967) [16] to 1.3% (Knight, 1996) [6] with the highest incidence seen in cattle (Roberts, 1986) [14]. The fetus with this condition was not delivered normally but it requires a caesarian operation or fetotomy.

Its typical characteristics involve spinal inversion, exposure of the abdominal viscera because of a fissure of the ventral abdominal wall, limb ankylosis, positioning of the limbs adjacent to the skull, and, lung and diaphragm hypoplasia.

Case history and Clinical findings

A Gir cow in its 5th parity with completed gestation was brought to the Veterinary Clinical Complex, Junagadh, Gujarat with severe straining for the last 10-12 hours and no any progress towards delivery. The gynaeco-clinical examination revealed an open birth canal, ventral curvature of the vertebral column, and the head, both hind limbs and tail were in the birth canal. The outside visceral organs were palpable through an incompletely closed ventral body wall. So, it was diagnosed as a case of Schistosoma reflexus. The successful delivery of the Schistosoma reflexus fetus (Figure 1) was carried out through the left flank by following appropriate procedures under local low caudal epidural anesthesia.



Fig 1: *Schistosomus reflexus* fetus of Gir Cow

Conclusions

The monstrosity of Schistosoma reflexus is generally seen in cattle (Srivastava *et al.*, 1998) [11]. The etiology of such type dystocia is still not clear but teratogenic and genetic abnormalities cannot be ignored. The occurrence of such abnormalities is mostly due to a combination of abnormal multiple genes and their genetic mechanism (Jana and Ghosh, 2001) [5]. The dystocia due to such a condition can be resolved by using obstetrical mutation, fetotomy, or cesarean. In the present case, mutation and fetotomy were very difficult to perform to relieve dystocia because the development of severe edema and inflammation leads to constriction of the birth canal. The literature consulted also suggests delivery of Schistosoma reflexus through either obstetrical mutation (Selvaraju *et al.*, 2013) [12] or cesarean operation (Azawi *et al.*, 2012) [2]. The per vaginally normal calving of such a fetus is very difficult using forced traction because a prominent bone of the fetus may lead to a rupture of the uterus and tearing/injury of the birth canal which may further cause postpartum calving related problems therefore, in the present case emergency caesarian section was performed to deliver fetus successfully.

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