

*Case Report*

**SCHISTOSOMUS REFLEXUS WITH EUTOCIA IN CROSSBRED  
COW: A RARE CASE REPORT**

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**Abstract:** A case of fetal monster with typical characteristics of Schistosomus reflexus was delivered by a crossbred cow in the Cattle and Buffalo farm of institute. In majority of cases, the delivery of a monster fetus is always associated with dystocia owing to the various abnormalities of fetus that interfere with normal birth process. The same goes for Schistosomus reflexus and delivery of said fetus without artificial assistance is a case of rarest of rare incidence in literature. However, in this case, the birth of monster was a case of absolute normal delivery without any kind of assistance. Furthermore, the cow did not show any post parturient complications. To the author's best knowledge the report of schistosomus reflexus associated with eutocia is meager in literature.

**Keywords:** Fetal monster, Schistosomus reflexus, Dystocia, Crossbred cow.

### **Introduction**

Schistosomus reflexus is a rare fetal monster which commonly observed in cattle (Knight, 1996) with comparatively less occurrence in ewe and Doe (Roberts, 1971). This fatal congenital malformation is characterized by the Schistosomus, that is presence of exposed abdominal and sometimes thoracic viscera and reflexus, which means marked spinal inversion producing a distinctive ventral convex curvature (Roberts, 1986). This congenital abnormality belongs to the battery of defects involving incomplete closure of the ventral body wall that makes it inside-out calf, malformed skeleton and inversion of spinal canal. Human thoracoabdominal syndrome (TAS) displays striking similarities with Schistosomus reflexus (Pivnick et al., 1998). Prevalence of Schistosomus reflexus is highest in cattle (Roberts, 1986) with range 0.01-1.3% (Sloss and Johnston, 1967; Knight, 1996) of bovine dystocia. Such occurrences are costly to the cattle industry and farmer because of dead offspring, loss of milk production and cost of fetal extraction (Morrow, 1986). Throughout the literature several reports are there for Schistosomus reflexus with variable findings such as single monster, twin fetus with viable normal calf (Knight, 1996), twin fetus with freemartin Cavalieri and Farin, 1999), but all are associated with dystocia.

With best of our knowledge report of *Schistosomus reflexus* with normal delivery is sporadic in literature.

### **Case history and clinical observations**

A seven years old crossbred cow (cattle id:V-559) in her fifth parity with history of complete gestation was reported at Cattle and Buffalo farm, Indian Veterinary Research Institute, Izatnagar, Bareilly. The cow has been delivered a fetal monster without any assistance. All the vital signs like temperature, pulse and respiration were in normal range. The Cow was apparently healthy and did not show any signs of dystocia. Subsequently, normal delivery (Eutocia) of a fetal monster was reported in the early morning at dairy shed. It was a full term fetus (body wt. 24.8 kg) with very typical characteristics of *Schistosomus reflexus* viz. acute angulation of vertebral column such that head and hind region were closed together, ankylosed joints, rigid limbs and incomplete closer of body wall with exposed abdominal as well as thoracic visceral organs and anomalous liver (Fig 1). Sex of calf was female with appreciable vulvar structure.

### **Treatment and discussion**

As the animal delivered the monster calf through Eutocia there was no requirement for post partal therapy. However, keeping in mind the nature of monster i.e. as the viscera of the fetus was exposed, the animal was administered a dose of antibiotic enrofloxacin (Fortivir 30 ml intramuscular, Virbac<sup>®</sup>) and antihistaminic chlorpheniramine maleate (Anistain 10 ml intramuscular, Intas Pharmaceuticals Ltd.<sup>®</sup>) and six intrauterine nitrofurazone-urea boli (Furex, Vetsfarma Ltd.<sup>®</sup>) for 3 days for prophylactic measure.

*Schistosomus reflexus* is an embryonic genetic defect and earlier studies suggested that it occurs due to inheritance of autosomal recessive gene with incomplete penetrance (Laughton et al., 2005). The malformed fetus is not likely to be pulled by conventional methods, and must be removed from the uterus by fetotomy or cesarean section, however; the complicated and irregular anatomy may require C-section to safely remove the fetus (Newman, 2008). Although; small size monster (*Schistosomus reflexus*) can be delivered through judicial obstetrical procedure such as application of traction with plentiful lubrication (Jana and Jana, 2013). Among 6901 cases of bovine dystocia, 90 (1.3%) were caused by *Schistosomus reflexus*. About 56.7% cases were treated by embryotomy, 25.6% by caesarean section, 3.3% by simple traction and none of the case reported with normal delivery (Knight, 1996). It appears that fetus might have remained in visceral presentation which made possible natural birth of monster (Noakes, 2009). If *Schistosomus reflexus* presents by its extremities with

ankylosis of joints than it creates excessive fetal diameter and prevent normal delivery (Noakes, 2009). So, this is an unusual report of Schistosomus reflexus in crossbred cattle with eutocia.

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**Fig 1:** Schistosomus reflexus with acute angulation of vertebral column, ankylosed joints, rigid limbs and incomplete closer of body wall with exposed abdominal as well as thoracic visceral organs.