



Case Report

DYSTOCIA DUE TO *SCHISTOSOMA REFLEXUS* IN A MURRAH BUFFALO

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Abstract: Four years old primiparous Murrah buffalo at full term with the history of straining since last 12 hours was presented to Veterinary Clinical Complex. The case was diagnosed as dystocia due to *Schistosoma reflexus* based on clinical examination. A successful per-vaginal management of dystocia due to *Schistosomus reflexus* monster in a Murrah buffalo is reported here.

Keywords: Buffalo, Dystocia, Monster, *Schistosoma reflexus*

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Introduction

Schistosoma reflexus is a rare type of fetal monstrosity, primarily observed in cattle and occasionally in sheep, goat and other species [1] having incidence rate of 0.01- 1.3% [2, 3] out of total bovine dystocia occurring worldwide. It inevitably causes dystocia because of changes in the shape of the fetus characterized by presence of exposed abdominal and sometimes thoracic viscera (*Schistosomus*) and acute angulation of vertebral column (reflexus) such that tail lies close to the head [4]. These abnormalities suggest *Schistosomus reflexus* occurs as early as the post-gastrulation embryo and involves the intermediate mesoderm [5]. 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. However, only the cases that display both visceral exposure and spinal inversion are considered as true *Schistosomus reflexus* [6]. Human thoraco-abdominal syndrome (TAS) displays striking similarities with *Schistosomus reflexus* monster [7]. The exact etiology of this anomaly is unknown but it may be due to genetic factors, mutation, chromosomal anomalies, infectious agents and environmental factors or combination of all these factors [8].

Case History and Clinical Observations

A primiparous four years old Murrah buffalo at full term with the history of straining since last 12 hours was presented to Veterinary Clinical Complex. Clinically, the fetal abdominal viscera were protruding out of vulva. Per-vaginal examination revealed fully dilated cervix and ventro-transverse presentation of fetus. In addition, foetal intestine was felt by hand on per-vaginal examination and also exposed visceral organs were palpable through incompletely closed ventral body wall. Thus, the case was diagnosed as dystocia due to *Schistosoma reflexus*.

Treatment and Discussion

Before starting the manipulations, epidural anaesthesia (5ml, Lignocaine hydrochloride, 2%) and lubrication of birth passage was done with lukewarm liquid paraffin. Thereafter fetus was brought into posterior presentation using repulsion and traction intermittently to correct presentation of fetus.

After correcting presentation, fetus was delivered per-vaginally by traction. Subsequently after births were pulled out and four boluses of Furea (Furazolidone and urea) were placed in uterus. There was absence of any apparent injury to the genital tract. The removed fetus was malformed with marked ventral curvature of spine, lateral bending of fetal body and chest wall exposing abdominal viscera with deformed pelvis and ankylosis of joints [Fig-1] and was diagnosed to be a case of true *Schistosomus reflexus* monster. Parentally, animal was treated with antibiotic, analgesic, antihistaminic and fluid therapy.

Schistosomus reflexus is heritable genetic defect and various studies have suggested that *Schistosomus reflexus* occurs mainly due to transfer of autosomal recessive gene having incomplete penetrance to developing embryo [6]. This is most commonly seen in cattle and buffaloes [9, 10]. The defective fetus is not likely to be expelled usually by mutational methods, and must be removed from the uterus either by fetotomy or cesarean section.

Although, small size *Schistosomus reflexus* monster can be delivered by judicial obstetrical procedure such as application of traction with plentiful lubrication of birth canal with lubricants (Liquid paraffin, carboxy methyl cellulose etc.) [11]. However, complicated and irregular anatomy requires cesarean section in order to safely remove the fetus [12].

Among 6901 cases of bovine dystocia, 90 (1.3%) were caused by *Schistosomus reflexus* out of which 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 [2]. If *Schistosoma reflexus* presents by its extremities with ankylosis of joints than it creates excessive fetal diameter and prevent normal delivery [13]. This type of monstrosity can be corrected either by obstetrical mutation, fetotomy or caesarean section. Partial fetotomy of the fetal parts is suggested [14] if the spinal curvature is acute and thus preventing passage of the fetus through the birth canal. If fetotomy is not possible, a caesarean operation is the only choice to deliver this kind of monster fetus [15, 16]. Present case describes successful per-vaginal delivery of *Schistosomus reflexus* monster in a Murrah buffalo by traction and mutation techniques.



Fig-1 *Schistosoma reflexus* (Moon Calf) with ankylosed limbs and exposed abdominal/thoracic viscera



Fig-2 Buffalo after removal of the foetus

Application of research: Providing information to field vets regarding dystocia due to *Schistosoma reflexus* and management of such cases.

Research Category: Veterinary Gynaecology & Obstetrics

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Study area / Sample Collection: Teaching Veterinary Clinical Complex, Hisar

Breed name: Murrah Buffalo

Conflict of Interest: None declared

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