Case Report

DYSTOCIA DUE TO SCHISTOSOMUS REFLEXUS FETAL MONSTER IN A JERSEY CROSSBRED COW

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ABSTRACT

A case of dystocia due to Schistosomus reflexus fetal monster in a Jersey crossbred cow and its per vaginal delivery through fetotomy is reported in this communication. A five years old, full term pregnant Jersey crossbred cow in her third parity was presented with the history of straining and difficulty in parturition for the past eight hours. Per vaginal examination revealed fully dilated cervix and the fetus with exposed visceral organs and ankylosed limbs. Based on the obstetrical examination, the case was diagnosed as dystocia due to fetal monster. By performing fetotomy, a Schistosomus reflexus fetal monster was successfully delivered per vaginum.

Keywords: Cow, fetal monster, schistosomus reflexus, fetotomy

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Fetal monstrosities may occur due to developmental anomaly of the ovum, embryo or fetus leading to great distortion of the individual or fetus, thus generally causing dystocia (Vegad, 2007). Schistosomus reflexus is a rare fatal congenital monstrosity primarily seen in ruminants, in which thoracic and abdominal organs/viscera are exposed (Schistosomus) and the spinal column has acute angulation (reflexus) such that the head is in close proximity to the tail of the fetus (Laughton *et al*., 2005). These anomalies of trunk with acute angulation of the spine, herniation of abdominal organs and skeletal defects leads to dystocia. In cases of true Schistosomus reflexus, both exposure of visceral organs and inversion of vertebral column are noticed (Roberts, 1971). It is presented either with their extremities or visceral organs in the birth passage which is due to defects involving the incomplete ventral body wall closure (Sacchan *et al.,* 2013). The distorted and celosomian forms are the most prevalent of these fetal monsters in which Schistosomus reflexus and Perosomus elumbis occurs more commonly in ruminants (Kumar *et al.,* 2020). The present paper reports a case of dystocia due to Schistosomus reflexus fetal monster in a Jersey crossbred cow and its successful per vaginal delivery.

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Case history and clinical observations

A Jersey crossbred cow of five years age in her third calving at late gestation was brought to the Large Animal Obstetrics Outpatient ward, Madras Veterinary College Teaching Veterinary Hospital, Chennai with the history of straining, ruptured water bag without any progress in parturition for the past eight hours. On clinical examination, all the physiological parameters were found to be normal and straining was observed. The detailed per vaginal examination revealed fully dilated cervix and presence of two hind limbs with exposed visceral organs. Based on the clinico-obstetrical examination, the condition was confirmed as dystocia due to Schistosomus reflexus.

Treatment and discussion

Under low caudal epidural anaesthesia with 2% lignocaine hydrochloride and sufficient lubrication of the birth passage with luke warm carboxymethyl cellulose, initially traction was applied on both hind limbs but failed to deliver the fetus. Hence, partial fetotomy of hindquarter was performed with the help of Thygeson's Fetotome to remove the left hindlimb and exposed visceral organs were removed to create sufficient space for further obstetrical procedures. Then, a Schistosomus reflexus monster fetus was delivered by applying forced traction through per-vaginum (Fig. 1). Following which, four intrauterine Nurea-M boli were placed and the dam was administered with 50 I.U. of Oxytocin, followed by 4 g of Amoxycillin + Clavulanate (Intamox), Meloxicam @ 0.2 mg/kg BW, Chlorpheniramine maleate @ 0.5 mg/kg BW intramuscularly for the next three days and the cow had an uneventful recovery. On detailed examination of the monster, the fetus was malformed with marked retroflexion of spine appearing as "S" shaped curvature of vertebral column, ankylosed limbs, exposed abdominal visceral organs with congestion and it was confirmed to be Schistosomus reflexus (Fig. 1).

Fig.1 Schistosomus reflexus fetal monster with spinal curvature and exposed abdominal viscera

Schistosomus reflexus is a genetic defect affecting the developing embryo where the lateral edges of the somatic disk curve upwards instead of downwards, leading to this anomaly. Its definitive etiology still remains unclear; however, the previous findings reported that it might be due to mutational agents, autosomal recessive gene inheritance with incomplete penetrance, chromosomal abnormalities or aberrations, infectious agents and teratogenic factors or all together (Laughton *et al*., 2005). It also occurs due to mutational changes of murine gene resulting in severe body wall defects especially on ventral aspect with combination of anomalies

in various internal organs/tissues (Licvet and Licvet, 2008). Use of same sire in the breeding programme should be avoided to control its occurrence due to its genetic related predisposing factors (Sacchan *et al.,* 2013). If the spinal curvature of the monster fetus is acute and severe, thus hindering its passage through the birth canal, partial fetotomy of the fetal parts is indicated and similar delivery was reported by Selvaraju *et al.* (2013) and Kumar *et al.* (2018). Serious post-operative complications may arise due to severe disorientation and acute angulation of the spine with lack of vaginal space. Small sized Schistosomus reflexus monster fetus can be expelled per-vaginum without any obstetrical assistance while, fully developed monster fetus can be delivered by obstetrical procedures like either C-section or partial/complete fetotomy (Kalita *et al.,* 2004). In the present case, partial fetotomy of one hind limb was carried out to establish sufficient space for mutational operations and delivered a Schistosomus reflexus fetal monster successfully by per-vaginum.

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