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Rare incidence of schistosomus reflexus and its successful pervaginal delivery in a Mecheri ewe

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Abstract
A full term pregnant Mecheri ewe was presented with the history of dystocia. Vaginal examination revealed deformed fetus, after the successful pervaginal delivery on detailed examination of the fetus the case was diagnosed as Schistosomus reflexus.

Keywords: Dystocia, ewe, congenital abnormality, schistosomus reflexus

Introduction
Schistosomus reflexus occurs during early part of the embryonic development due to dorsal reflection of lateral edges of the germinal disc instead of ventrally to form the body cavities (Wani *et al.,* 1994) [10]. Exact etiology of this fetal abnormality is unknown but it occurrence may be correlated with genetic factors, infectious agents and environmental factors or combination of all (Ravikumar *et al.,* 2013) [6, 7]. This monstrosity is characterized by protrusion of abdominal organs throw deformed ventral abdominal cavity, ankylosis and improper positioning of limb, hypoplasia of thoracic organs and ventral deviation of the spine (Periyannan *et al.,* 2021) [4]. Among the farm animal Schistosomus reflexus is frequently reported in cattle and rare in sheep and goat (Selvaraju *et al.,* 2020) [9]. Hence, this article communicates rare incidence of schistosomus reflexus and its successful pervaginal delivery in a Mecheri ewe.

History and clinical examination
A pluriparous full term pregnant Mecheri ewe on its 3rd parity with the history of dystocia was presented to VCC, Veterinary College and Research Institute, Namakkal. Attendant of patient reported that water bag had ruptured 4 hours back and fetal membrane like structure protrudes through vagina before the fetal expulsion. At the time arrival the animal was in standing posture and physiological parameters such as rectal temperature (38.8 °C), heart rate (88 beats/min) and respiratory rate (45 breaths /min) were within normal profile. Vaginal examination revealed fully relaxed cervix and presence of deformed fetus with exposed abdominal visceral organs in uterine passage. Based on vaginal examination tentatively the present case was diagnosed as schistosomus reflexus.

Treatment
After the detailed examination of the ewe, considering the parity and complete cervical relaxation it was decided to deliver the fetus through pervaginum. Hair over the perineal region was clipped and it cleaned 1% KMNO4 solution. Vaginal passage was lubricated with antiseptic cetrimide cream then dead male abnormal fetus was removed from birth canal by mutation operation. Following fetal delivery intravenous infusion of inj. Ringers lactate 100 ml, inj. 5% dextrose 100 ml, inj. Oxytocin 10 IU and inj. calcium borogluconate 50 ml was done. Inj. ceftriaxone 500 mg/kg, inj. Meloxicam 10 mg and inj. Chlorpheniramine malate 10 mg was administered intramuscularly for three days. Two weeks after the fetal delivery the ewe recovered completely and returned to normal feeding behaviour.

Discussion
On physical examination the present monster revealed consistent features of schistosomus reflexus such as exposure of abdominal organs through ventral fissure (Fig. 2), deformed diaphragm. Ankylosis and abnormal arrangement of fetal skeleton (Fig. 3) with inversion of

spine (Fig. 4) noticed in radiography. Presence of both spinal inversion and exposure of abdominal organs through fissure is called true Schistosomus reflexus (Pramod Kumar *et al.*, 2020) [5] and in this case also similar findings were present. Hydrocephalus, prognathia, cleft sternum, reduction in number of thoracic vertebrae and ribs, limbs and head encapsulated by skin, scoliosis, umbilical hernia, imperforate anus and non-union of pubic symphysis, hydronephrosis, enlarged and cystic liver, cryptorchidism and hypoplasia of reproductive organs also reported in various occurrences of Schistosomus reflexus (Laughton *et al.*, 2005) [2].

Dystocia due to Schistosomus reflexus was reported by Selvaraju *et al.* (2013) [6, 7], Manokaran *et al.* (2014) [3] and Periyannan *et al.* (2021) [4] in cow and Ravikumar *et al.* (2013) [6, 7] reported in goat. Incidence of this abnormality varies from 0.01% to 1.3% in bovines (Laughton *et al.*, 2005) [2]. In small ruminants of the causes of dystocia faulty maldispositions and incomplete cervical dilatation contributes 45.45% and 42.10% respectively (Sharma *et al.*, 2014) [1] and recent publications revealed dystocia due to Schistosomus reflexus is very rare in ewe. Expulsion of this fetal monster without assistant is reported by Suthar *et al.* (2011) [8] and by caesarean section is reported Ravikumar *et al.* (2013) [6, 7] in small ruminants. Fully developed schistosomus reflexus monster required Caesarean section or fetotomy for its effective delivery (Selvaraju *et al.*, 2020) [9]. In this present case true schistosomus reflexus in Mecheri ewe was delivered pervaginally by mutation operation.

Fig 1: Schistosomus reflexus in a lamb

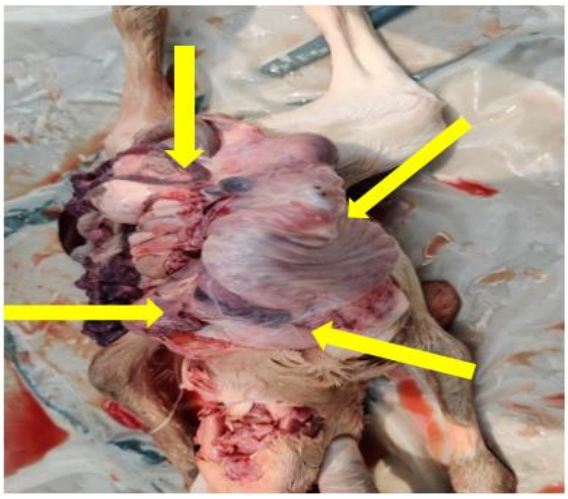

Fig 2: Exposture of abdominal organs through abdominal fissure

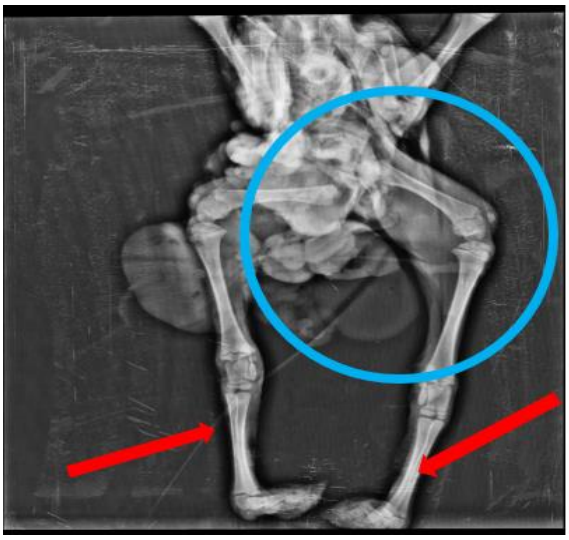

Fig 3: Ankylosis and irregular arrangement fetal limbs noticed in Radiography

Fig 4: Radiography reveled ventral curvature of spine

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