SCHISTOSOMUS REFLEXUS IN A GOAT- A CASE REPORT

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ABSTRACT

A two and half year old non-descript goat of second parity was presented to District Veterinary Polyclinic, Akola with history of labour pain since last four hours but no progression in parturition. Clinical observations revealed the visceral organs of foetus were protruding from vulva of the dam. Per-vaginal examination revealed a deformed foetus in the pelvic cavity with transverse presentation and vertical position. The dystocia was relieved manually. After removal of foetus, it showed spinal inversion, ankylosis of hind limb and protrusion of liver, intestine, stomach, kidney from abdominal opening of foetus. On the basis of gross examination, case was diagnosed as Schistosomus reflexus syndrome.

Key words: Ankylosis, goat, reflexes, schistosomus, spinal inversion

Introduction

Schistosomus reflexus is characterized by the presence of exposed abdominal and sometimes thoracic viscera (Noakes *et al*., 2002) or herniation of abdominal viscera and skeletal defects (Dennis and Mayer, 1965). Schistosomus reflexus is an extreme closure defect of the abdominal cavity that is associated with skeletal defects and usually encountered as an obstetrical problem. The condition is reported most commonly in cattle (Robert, 1971) but is also reported in sheep (Smith, 1969; Dennis, 1972; Mukasa-Mugerwa and Bekele, 1989) and goat (Bedford, 1967). Both visceral exposure and spinal inversion are considered as true Schistosomus reflexus (Laughton *et al*., 2005). Defective kids are probably rarely reported and many sporadic cases, which would include many genetic defects, are not even reported (Dennis and Leipold, 1986). Considering the fact and paucity of report of Schistosomus reflexus in goat, the present case was put on record.

Material and Methods

A two and half year old non-descript goat of second parity was presented to District Veterinary Polyclinic, Akola with protrusion of intestine from vagina with a history of labour pain since last four hours but no progression in parturition. Clinical examination revealed healthy and relatively alert dam. The body temperature, respiratory rate and heart rate were recorded as 103.28°F, 36/minute and 78/minute, respectively. The protruded intestine was congested and appeared dark red in color.

Results and Discussion

Per-vaginal examination revealed foetal visceral organs and limbs of kid in the pelvic cavity. On the basis of per vaginal examination the case was suspected for Schistosomus reflexus syndrome. The dystokia of transverse presentation and vertical position was relieved manually in standing position. Removed one dead foetus revealed inversion of spinal cord, ankylosis of hind limb and protrusion of swollen liver, pale color spleen,congested intestine, stomach, kidneys from abdominal opening of foetus, rumen was distended with fluid (Fig. 1 and 2) and weighed 2.4 kg. Exposure of thoracic cavity revealed absence of diaphragm, normal lungs and hypertrophy of heart (Fig. 3). On the basis of gross examination, the case was confirmed as Schistosomus reflexus syndrome. After reliving dystokia the dam was further treated using antibiotics and analgesics for three days and case was recovered without any complications.

Schistosomus reflexus is a rare type of congenital foetal monstrosity which is primarily observed in cattle (Robert, 1971) with prevalence ranging from 0.01 % (Sloss and Johnston, 1967) to 1.3% (Knight, 1996). Literature's scan revealed higher prevalence of Schistosomus reflexus with extremities presentation in cattle and buffalo (Sharma *et al*., 2017; Sacchan *et al*., 2013, Padma *et al*., 1993; Srivastava *et al.,* 1998) and in sheep (Balaswamy and Narasimhaswamy, 1997; Kalita *et al.,* 2004). Kumar *et al.* (2016) reported that extremities presentation is more common as compared to the visceral presentation. However, in present case there was no extremities presentation but the intestine was protruded out which is considered to be a rare case. Schistosomus reflexus mainly results due to genetic factors, mutation, chromosomal anomalies, infectious agents, environmental factors or combination of all these factors (Ozsoy *et al*., 2009). This condition is characterized by marked ventral curvature of the spine posturing the limbs and heads close to each other which lead to evisceration of abdominal organs due to failure of normal closure of the abdominal ring (Robert, 1971). Dead foetus revealed inversion of spinal cord and ankylosis of hind limb which was also observed by Kumar *et al*. (2016) and Kalita *et al.* (2004). Congestion of intestine may be due to protrusion of intestine through vulva. Abnormal shape and cystic liver were recorded in previous report (Robert, 1971), however in present case liver was found to be swollen having rounded borders. Schistosomus reflexus resulted in to structural deformities which lead to abnormal posture results into dystokia (Suther *et al*., 2011) and adhesions of fetus which makes difficulty in normal parturition and most of the times the foetus is removed by cesarean section (Sacchan *et al*., 2013; Yadav *et al*., 2017).

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Fig. 1: Schistosomus reflexus in a goat kid showing ankylosis and evisceration of abdominal organs

Fig. 2: Schistosomus reflexus in a goat kid showing swollen liver and congested intestine

However, in present case no adhesion of foetus was recorded and might be the reason for normal resolving the problem of dystokia.

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Fig. 3: Schistosomus reflexus in a goat kid showing hypertrophy of heart

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