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A Rare Case of Schistosoma reflexum in a goat kid

Raul Sergiu Botișan[1], Diana-Maria Psariuc[1], Irinel Mădălin Tâlvăr[1], Simona Marc[1]*

Faculty of Veterinary Medicine, University of Life Science "King Mihai I" Timisoara, Calea Aradului 119, 300645, Timisoara, Romania;

Raul.Botisan.FMV@usvt.ro, Diana-Maria.Psariuc.FMV@usvt.ro, Irinel-Madalin.Talvar.FMV@usvt.ro

** Correspondence: simona.marc@usvt.ro*

Abstract: *Schistosoma reflexum (SR) is a rare but severe congenital developmental defect characterized by profound fetal malformations and an invariably lethal outcome. The syndrome is characterized by failure of ventral body wall closure, affecting the abdominal and occasionally the thoracic cavity, in association with pronounced spinal retroflexion. This severe skeletal deformity causes abnormal fetal positioning, bringing the head and forelimbs into proximity to the pelvis and sacral region. Schistosoma reflexum has been documented in cattle, while reports on small ruminants remain sporadic. This study describes a French Alpine kid from a herd of 40 goats in Timiș County, Romania. The malformed fetus originated from a primiparous twin gestation, whereas the co-twin developed normally and was delivered alive and viable. In addition to the abnormalities typically associated with this malformation, a duplicated gallbladder was detected. The aim of reporting such cases is to enhance knowledge regarding the occurrence of this malformation and to provide detailed descriptions of the particular morphological characteristics observed.*

Introduction

SR is a congenital malformation, predominantly described in ruminants, particularly cattle. Other associated abnormalities may include limb ankylosis, pulmonary and diaphragmatic hypoplasia, scoliosis, and defects affecting the thoracic, digestive, and urogenital systems [Laughton et al., 2005; Jacinto et al., 2024].

Material and method

The affected kid resulted from a primiparous twin pregnancy following natural mating. The co-twin developed normally and was born alive and healthy. A post-mortem macroscopic anatomical examination was performed to assess the external morphological abnormalities and internal organ development. Particular attention was given to the thoracic and abdominal organs, respiratory system, and urogenital apparatus (Fig.1.).



Fig.1. Clinical aspects of the case

Results and discussions

Post-mortem examination revealed pulmonary hypoplasia (Fig., left), a duplicated gallbladder (Fig., middle) and testes that were located in the abdomen (Fig., right). The observed pulmonary hypoplasia is consistent with abnormalities previously described in animals affected by SR [Laughton et al., 2005]. The occurrence of this malformation in a French Alpine kid further contributes to the limited documentation of SR in small ruminants [Gutiérrez et al., 1999; Nain et al., 2019].



Fig.2. Pulmonary hypoplasia (arrow) (a), duplicated gallbladder (arrows) (b), and the presence of testes within the opened abdominal cavity (arrows) (c).

A noteworthy finding in the present case was gallbladder duplication. However, further investigations would be necessary to establish whether this finding is related to the developmental mechanisms underlying SR or represents an independent congenital anomaly.

• Conclusions

This case underscores the importance of reporting rare congenital malformations in small ruminants affected by SR to improve knowledge of their incidence and variability, as each case appears to exhibit a distinct phenotypic expression of the condition.

• References

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