

SCHISTOSOMUS REFLEXUS IN A DOG: CASE REPORT

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A 6 year old Labrador bitch presented to veterinary clinical complex with prolonged whelping signs i.e. straining and abdominal discomfort without any progress. However, after suitable treatment animal yielded a pup which had slit opening on ventral aspect of abdomen through which visceral organs were protruding out. Later it was diagnosed as a case of schistosomus. Subsequently rest of the fetus delivered without any difficulty moreover, bitch recovered uneventfully.

Keywords: Bitch, lineaalba, Schistosomus reflexus, whelping.

Schistosomus reflexus (SR) is a Greek word which means monster fetus with a cleft or split opening on abdomen (Noakes *et al.*, 2009). This is a rarely occurring congenital anomaly of a fetus, marked by presence of split/cleft at abdomen resulting in exposed visceral organs (Schistosomus) and typical ventral bending of vertebral column (reflexus). The *schistosomus* i.e. congenital schistocoelia is observed in majority of animals whereas *reflexus* part of syndrome is a common finding in ruminants along with schistosomus part. This congenital abnormality arises due to the failure of complete closer of ventral aspect of fetal abdomen, precisely, linea alba. However, the exact cause leading to above mentioned failure can be attributed to various factors i.e. chromosomal abnormalities, mutations, infectious agents, hormonal factors or various other environmental factors alone or in combinations.

Case history and Observations

A 6 year old Labrador bitch in her second parity was presented to Veterinary Clinical Complex (VCC) at Bihar Veterinary College, Bihar Animal Sciences University, Patna, with persistent abdominal contractions since few hours without yielding the pups, however, at the time of admission to clinic, animal was relaxed but dull and lethargic. Per vaginal examination revealed open cervix and dilated vaginal canal. Ultrasonographic and radiographic evaluation revealed presence of multiple fetuses inside the uterus.

Treatment

Temporarily it was diagnosed as uterine inertia therefore; fluid therapy with dextrose solution along with calcium was administered. Bitch yielded first pup, ten minutes post commencement of treatment. The pup was dead at the time of delivery and had a ventral midline defect measuring 4 cm long opening starting from few centimeters below to umbilicus towards pubis with exposition of intestine, liver and other vital organs (Figure – 01 & 02). Other structures like limbs, joint and vertebral column were normal in shape. Bitch yielded more pups however; all were live, normal and apparently healthy. The animal was given supportive therapy and discharged uneventfully.

Discussion

Schistosomus reflexus (SR) is sequelae of congenital disorder during embryonic development phase leading to incomplete closure of ventral part of the abdomen, more specifically Linea alba and muscles below to it. Almost every bovine case represents truly defined, Schistosomus and reflexus part of deformity, however, case reports of dog and cat fetuses represents only schistosomus part of abnormality as also recorded by Ozalp, *et al.*, 2011; Molina, *et al.*, 2012 and Bertolo, *et al.*, 2017, which is in agreement with our case finding, (Figure 01 and 02). To the best of our knowledge our case is one of the few reported cases of present category around the country. In our case only abdominal opening with exposed abdominal contents was observed. Moreover couple of other cases reported

thoracic and abdominal opening leading to evisceration of organs from both the portions of the body as also reported by many research workers, viz. Mateo and Camón, 2008; Öszoy, *et al.*, 2009 and Bertolo, *et al.*, 2017.

Etiopathology of *Schistosomus reflexus* is not yet clear but may be associated with metabolic, physical, genetic, endocrine and infectious factors alone or in combination

during embryonic developmental stage. Some workers reported chromosomal abrasions, chromatid and chromosomal breaks in affected cases which is suggestive of genetic involvement of the syndrome. In conclusion this case report presents one of most rare occurrence of *Schistosomus reflexus* cases among canines.



Figure – 01. Pup delivered with exposed viscera within semi intact fetal membrane



Figure - 02. Eviscerated organs through a slit opening posterior to umbilicus towards pubis

Conclusions

The reported clinical case represents very rarely occurring condition of *Schistosomus reflexus* in dogs. This case was successfully managed and dam recovered uneventfully.

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