

Abstract:

The genus *Sarcocystis* is an obligatory intracellular coccidial protozoa. Intermediate host becomes infected by ingestion of sporocysts contain four sporozoites and eventually tissue cysts formed in cardiac, smooth and skeletal muscles. Sexual stage take place in definitive host (predator) after ingestion of tissue adult cysts contain bradyzoite and finally sporocysts passed along faeces into the environment. So far, more than 150 species of *Sarcocystis* have been isolated from various animals. There are four species of *Sarcocystis* infect sheep, that definitive host of two pathogenic species are canids and form microscopic cysts. The definitive host of two nonpathogenic species are felids and form macroscopic cysts.

In this study, in order to survey sarcocysts infection rate of slaughtered sheep in abattoir of Birjand, 420 carcasses were chosen to identify macroscopic cysts randomly and the esophagus, diaphragm and skeletal muscles were inspected carefully. For detection of microscopic cysts, samples collected from the esophagus, diaphragm, heart and skeletal muscles of 140 carcasses randomly and investigate by impression smear method in the laboratory.

The results of this study indicated that the prevalence of macroscopic cysts was 7.1% and microscopic cysts was 95.7%. The prevalence of macroscopic cysts in esophagus, diaphragm and skeletal muscles was 5.2%, 3.3% and 1.1%, respectively. The prevalence of microscopic cysts in esophagus, diaphragm, skeletal muscles and heart was 82.1%, 87.8%, 78.5%, 95.7%, respectively. Statistical analysis showed the significant difference between sarcocysts and organs. The prevalence of macroscopic cysts in age groups 4year or more, 3 year, 2 year and 1 year or less was 22.8%, 14.4%, 1.1% and 0, respectively. The prevalence of microscopic cysts in age groups 4year or more, 3 year, 2 year and 1 year or less was 100%, 100%, 95.8% and 88.8%, respectively. Statistical analysis showed the significant difference between sarcocysts and age. The prevalence of macrocysts in male was 7.9% and in female was 6.3%. The prevalence of microcysts in male was 96.5% and in female was 95.1%. Statistical analysis showed no significant difference between sarcocysts and sex.

Key words: *Sarcocystis*, sarcocyst, sheep, abattoir, Birjand.



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The Thesis Submitted for the Degree of DVM

A Survey on Sarcocyst Infection Prevalence in Slaughtered Sheep in Birjand Abattoir

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September 2016