

Comparative Hematological Analysis of Blood Profile in Experimentally Infected with *Trichinella spiralis*, *Trichinella britovi* and *Trichinella pseudospiralis* Mice

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Abstract : Trichinellosis is a food-borne parasitic disease caused by nematodes of the genus *Trichinella* which are zoonotic parasites with cosmopolitan distribution and major socio-economic importance. Human infection is acquired through consumption of undercooked meat from domestic or wild animal. Penetration of *Trichinella* larvae into striated skeletal muscle cells results in ultrastructural and metabolic changes. Migration of larvae causes the typical symptoms and signs of the disease. The severity of the symptoms depends on the number of ingested *Trichinella* larvae and the immune response of the host. Eosinophilia is present, with few exceptions, in most cases of human trichinellosis, inasmuch as it is the earliest and most important host response. Even in human asymptomatic cases, increases in eosinophilia of up to 15% have been observed. Eosinophilia appears at an early stage of infection between the second and fifth weeks of infection. By 2005 it was considered that only two species of *Trichinella* genus were found in the country. After routine trichinelloscopy procedure disseminated single muscle larvae in samples of wild boars and badger were PCR-identified as *T. pseudospiralis*. The study aimed to observed hematological changes occurring during experimentally induced infection with *Trichinella spiralis*, *T. britovi* and *T. pseudospiralis* in mice. We performed hematological blood profile, tracking 15 blood indicators. In statistical analysis made by Two-way ANOVA, there were significant differences of HGB, MCHC, PLT, Lymph%, Gran% in all three types of trichinellosis compared to control animals. Capsule-forming *T. spiralis* showed statistically significant differences in HGB, MCHC, Lymph% and PLT compared to the other two species. Non capsule-forming *T. pseudospiralis* showed statistically significant differences in Lymph%, Gran% relative to the control and in Gran% relative to *T. spiralis*. It appears rather substantial the process of capsule formation for prolonged immune response and retention of high content of percentage of lymphocytes(Lymph%) and low of granulocyte(Gran%) in *T. pseudospiralis*, which is contrary to studies for *T. spiralis* and eosinophilia. Studies and analyzes of some specific blood profile parameters can provide additional data in favor of early diagnosis and adequate treatment as well as provide a better understanding of acute and chronic trichinosis.

Keywords : hematological test, *T. britovi*, *T. spiralis*, *T. pseudospiralis*

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