Abstract

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Comparison of results of two methods for laboratory diagnosing lyme borreliosis – PCR methods and ELISA

Diploma thesis

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At present time the Lyme disease is relatively wide-spread affection. Its agent is spirochete *Borrelia burgdorferi* sensu lato and its most eminent vector in Europe is the tick *Ixodes ricinus*.

In the theoretical part of my thesis I decribed the basic characteristics of the genus *Borrelia,* its antigenic structure, epidemology and pathogenesis, disease vectors, clinical sypmtoms of the infection and possibilities of laboratory diagnostics.

My thesis is aimed at comparison of dignostics of Lyme disease by using serological method ELISA and using method PCR. It was used 113 anonymized samples of patients for analyse. The samples were examined for the presence of the antibody against *Borrelia* in classes IgG and IgM and by using real-time PCR method they were examined for the presence of DNA pathogenic *Borrelia*.

The experimental part of the thesis describes realization of the methods, which we have used for diagnostics of Lyme disease.

In the results part is claimed that we noticed only one positive result within detection of *Borrelia* DNA (total positivity 0,88%). The antibody level examination showed that positivity in the class IgG for males was 25,45% and for females 20,69%. In the class IgM the values were 9,09% for males and 3,45% for females.

Discussion and summary state comparisons of our results and literture.

Key words: *Borrelia burgdorferi*, ELISA, PCR, Lyme disease