

ABSTRACT

Bartonellae are agents of infections with varied clinical symptomatology, including serious, such as endocarditis. Direct detection of Bartonella so far in the Czech Republic and therefore does not need to address this issue. Proper diagnosis of these infections is a prerequisite for targeted antibiotic therapy for patients.

The genus Bartonella today are more than 20 kinds of bacteria. They are small Gram-negative rod-shaped bacteria that cause the new emerging infections such as cat scratch disease (CSD), showing the typical regional lymphadenitis, as well as bacillary angiomatosis (BA), whose typical symptoms are skin and subcutaneous nodules (nodules). They also cause a disease called trench fever or South American bartonellosis.

In the experimental part of the work was performed genotypic and phenotypic methods for the diagnosis of these bacteria, specifically on two types of Bartonella, *Bartonella henselae* and *Bartonella quintana*.

The results show that by suitable methods to diagnose Bartonella are amplification genus-specific genes *ribC* and *ftsZ*, further embodiment of a method pulsed electrophoresis (PFGE) as typing method and the determination of susceptibility to antibiotics, the most appropriate testing showed E-test.

This work was carried out optimization of genotypic and phenotypic methods, some of which proved to be suitable for the future introduction of diagnostic bartonellae infections. In the theoretical part was dealing with the literature search of bartonellae infections and their diagnostics.