

BORRELIA BURGDOFFERI SENSU LATO (LYME DISEASE)

THE BACTERIUM

The Borrelia is a bacterium of the spirochete phylum.



CLINICAL MANIFESTATIONS

The Borrelia Burgdorferi sensu lato is the etiological agent of the Lyme borreliosis. The Lyme disease is characterized by local and general manifestations and it can be divided in three stages. The first stage is characterized by the dispersion and by the multiplication of the spirochete where there's the tick's bite. In about the half of the patients it can be seen the characteristic erythema cronicum migrans (ECM), eventually combined both with fever and lymphadenopathy and with articulation's, head's and muscle's pain. The second stage, which corresponds to the borrelia's dissemination through blood and lymph, can appear weeks or months after the tick's bite. It's characterized by neurological (meningitis, facial palsy), rheumatological (arthritis, myalgia, arthralgia) and/or cardiac manifestations (myocarditis, pericarditis). The third stage, which can appears months after the infection, is characterized by chronic manifestations of the skin (Acrodermatitis chronica atrophicans), of the central nervous system (encephalitis) and at articular level (arthritis). In the last years there has been a great strain to characterize genetically the spirochete, which are associated to the Lyme disease. Many molecular methods allowed to divided the described species: the first time in 1982 from the Swiss Willy Burgdorfer in 7 species (B. burgdorferi sensu stricto, B. garinii, B. afzelii, B. japonica, B. andersonii, B. lusitaniae and B. valaisiana). Many studies on clinical samples demonstrated that there is an association among single species and that there are specific clinical manifestations.

EPIDEMIOLOGY

In Europe there are many types of ticks, such as Ixodes ricinus, which is the most common and which has a particular clinical importance, because it's considered as the principal carrier of the spirochete Borrelia burgdorferi sensu lato, etiological agent of the Lyme disease. Ixodes ricinus lives in woods, in zones near woods and in overgrown (grass, bush and underbush), where there's a fresh and moist climate, waiting for an host (animal or human). Normally it's active from March to October (during the winter it's on the ground). Ixodes ricinus is rare over 1500 meters. In Switzerland, depending on the woods, between the 5 and 50% of ticks carry this bacterium. In Ticino, this value is about 15%. It's very difficult to quantify this disease, because positive cases are not notified at the federal office of public health: it's thought that about 3000 people are every year damaged from this bacterium. The microbiology cantonal office elaborated a form for medics in case of census regarding the Lyme disease in Ticino. In the last years there has been a great strain to characterize genetically the spirochete, which are associated to the Lyme disease. Many molecular methods allowed to divided the described species: the first time in 1982 from the Swiss Willy Burgdorfer in 7 species (B. burgdorferi sensu stricto, B. garinii, B. afzelii, B. japonica, B. andersonii, B. lusitaniae and B. valaisiana). Many studies on clinical samples demonstrated that there is an association among single species and that there are specific clinical manifestations.

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Further information or bibliographic references can be asked to the laboratory.

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TREATMENT

The Treatment consists in a antibiotic cure. The therapy is efficient especially at the beginning stage of the disease. Now, there is no vaccine.

TEST

Amplification by means of PCR of the gene recA's zone.

SAMPLE TAKING

Biopsy, liquor

EXECUTION

Daily

COST

According to the federal charge rate of the analyses (3378.00) TP 180

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