

Clinical aspects and diagnosis of erythema migrans and borrelial lymphocytoma

R.R. Müllegger

SUMMARY

There are three distinct cutaneous manifestations of Lyme borreliosis (LB), erythema migrans (EM), borrelial lymphocytoma (BL), and acrodermatitis chronica atrophicans. EM, the hallmark of early LB, is the most frequent manifestation of LB and develops within 4-180 days (median, 14 days) after an infectious tick bite. There are five different clinical types of EM.

Solitary macular and solitary annular EM comprise more than 80% of all EM lesions. Less frequent variants are the bull's eye type, the minimal size EM, the combined BL and EM, and the multilocular EM. EM in children is most frequently located in the head-neck region and often displays an atypical morphology. It may be associated with an ipsilateral peripheral facial palsy. Extracutaneous, usually mild and transient, signs and symptoms occur in up to 40% of all EM patients (major form of EM). They must not be confused with features of human granulocytic ehrlichiosis that is found in about 20% of LB patients in Austria. The diagnosis of EM is primarily made on clinical grounds. Serologic test results are often false negative or positive. Histopathology from lesional skin is a helpful adjunct to the diagnosis. Direct detection of *B. burgdorferi* (DNA) by cultivation or PCR can prove the diagnosis.

BL is a subacute cutaneous manifestation of LB that has been defined as a stage 2 (early disseminated infection) manifestation, but may also occur during early localized infection. It usually represents a solitary lesion in stereotypical locations (ear, nipple) and represents a B cell pseudolymphoma.

KEY WORDS

Lyme borreliosis, *Borrelia burgdorferi*, erythema migrans, borrelial lymphocytoma

Introduction

Lyme borreliosis (LB) is a multisystemic infectious disease that is caused by the arthropod-borne spirochete *Borrelia burgdorferi* sensu lato (*Bb*). In Europe, about 80% of all cases of LB represent skin manifestations, all together named dermatoborrelioses (DB). There are three characteristic manifestations of DB, in which the

etiopathogenic role of *Bb*, most often the subtype *Borrelia afzelii* (1,2), is proven by cultivation of the spirochete from lesional skin. These manifestations are erythema migrans (EM), borrelial lymphocytoma (BL), and acrodermatitis chronica atrophicans. In this article, clinical and diagnostic aspects of EM and BL will be

