

## Case Reports

### THE FIRST ENDEMIC CASE OF LYME BORRELIOSIS IN IRAN

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#### ABSTRACT

This case report shows the existence of Lyme borreliosis disease in Iran and proves the existence of the spirochete *Borrelia burgdorferi* in Iran which had not been found before in the ticks of this region. It is important for our physicians to consider Lyme borreliosis in their differential diagnosis. Apart from skin manifestations, neurological, cardiac, articular and ocular lesions are not disease-specific and the diagnosis can be mistaken. An important feature of this case is the existence of atypical cutaneous lesions alongside the typical lesions.

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#### INTRODUCTION

Lyme disease is a multisystem disorder caused by the spirochete *Borrelia burgdorferi* (BB)<sup>1</sup> transmitted by Ixodes tick bites. Three subtypes of BB are actually known to cause Lyme disease: *BB stricto sensu*, *BB garinii*, and BB of the group VS461.<sup>2</sup> Transmission by other insect vectors is possible but not yet proven. Instead, the main reservoirs of BB, mainly considered to be rodents, are the hosts of the larvae and nymphs. The disease is mainly seen in the northern hemisphere; Canada, United States, Europe, Russia, China, Japan, etc. The incidence of the disease is increasing world-wide. This increase is probably due to the better knowledge of physicians. It may also be due to the immigration of birds transporting the infected ticks to different countries.

The clinical manifestations can be divided into three stages by analogy to syphilis: 1-early localized infection, 2-early disseminated infection, and 3-late chronic infection.

Early localized infection is seen 1 to 3 weeks after the tick bite. The skin lesion is an erythema migrans appearing at the site of the tick bite and centered by it.<sup>3</sup> The erythema is annular with a centrifugal migration. Regional lymphadenopathy and minor constitutional symptoms can be seen. Other skin manifestations at this stage are borrelia lymphocytoma<sup>4</sup> and urticarial and vasculitic eruptions.<sup>5</sup> Early localized infection is not always discovered in all patients. Early disseminated infection starts after the early localized infection or some months later. After this stage the disease spreads into the organism. The cutaneous lesions are multiple erythema migrans-like lesions. Early systemic manifestations are neuroborreliosis, arthritis, carditis, and other organ involvement. Late or chronic infection starts one to several years later. The cutaneous lesion at this stage is the characteristic acrodermatitis chronica atrophicans (ACA).<sup>6</sup> Other manifestations are neurologic,<sup>7</sup> rheumatic,<sup>8</sup> cardiac,<sup>9</sup> and other organ involvement.

The positive diagnosis is made by the history of the manifestations, the presence of skin lesions, and positive serology. The histology of the skin lesions is not specific. Demonstration of the spirochete in the skin biopsy specimen

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