

라임 병

Lyme Disease

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Abstract

Lyme disease is a vector - borne infection primarily transmitted by *Ixodes* ticks and is caused by at least three different but closely related species of *Borrelia*. Although it is the most common arthropod - borne disease in the U.S. and Europe, reports of the clinical cases have been relatively rare in Korea. The disease may affect different organs, such as nervous system, joints, heart or eyes, and the clinical pictures include meningitis, cranial neuritis, arthritis, temporary atrioventricular block, and conjunctivitis. The cutaneous manifestations are erythema(chronicum) migrans, borrelial lymphocytoma, and acrodermatitis chronica atrophicans. Early localized infection occurs a few weeks after a tick bite, and erythema migrans is a classic cutaneous manifestation at this stage of infection. Several weeks later, early disseminated infection occurs with bacterial dissemination. Multiple erythema migrans - like skin lesions, neuroborreliosis, arthritis, and carditis can develop. Without treatment, the disease can progress to late or chronic infection, and then acrodermatitis chronica atrophicans may develop in addition to the systemic manifestations. The disease can be diagnosed with serologic tests such as indirect immunofluorescence test or ELISA. The recommended treatment is oral doxycycline or amoxicillin, and the treatment period is variable depending on the organ involved and the duration of the disease. A vaccine for the Lyme disease is approved for adults and commercially available in the United States. However, protection from tick bites by the use of protective clothing in risk areas and body inspection and removal of any attached ticks as soon as possible are the most important prophylactic methods. Chemoprophylaxis after a tick bite is also available.

Keywords : ***Borrelia burgdorferi***; ***Ixodes***; **Erythema migrans**;
Borrelia lymphocytoma;
Acrodermatitis chronica atrophicans

: ; ; borrelial ;

Borrelia

, *Ixodes*

(erythema migrans),

borrelia (borrelia lymphocytoma),

(acrodermatitis chronica atrophicans)

Connecticut

Connecticut River Lyme

. 1975

가

2

가

가

Yale

· 1970 Yale
 Lyme
 Ixodes
 , 1982 Willy Burgdorfer가
 Borrelia
Borrelia burgdorferi (1).
 1900
 (lymphadenosis benigna cutis),
 .
 .
 가
 .
 가 *B. burgdor-*
feri (2),
 가 1993
 3
 (3~5),
*B. burgdorferi*가
 (6).
 .
 가
 .
 가
 .
 가
 .
 Ixodes
 가
 .
*Borrelia*가
 % 50%
 가 Ixodes 가
 (microaerophilic)
 , 1%
Borrelia burgdorferi, *B. garinii*, *B. afzelii*
 ,
 .
 1 Ixodes ,
 ,
*Borrelia*가
 가

1.

. 50%

Early Lyme borreliosis

Localized infection : Erythema migrans and borrelial lymphocytoma without signs or symptoms of disseminated infection(Regional lymphadenopathy and/or minor constitutional symptoms may be present).

Early disseminated infection : Multiple erythema migrans - like skin lesions.

Early manifestations of neuroborreliosis, arthritis, carditis, or other organ involvement.

Late Lyme borreliosis

Chronic infection : Acrodermatitis chronica atrophicans. Neurologic, rheumatic, or other organ manifestations - persistent or remitting for at least 12 months.

가

가

*Borrelia*가

. *Borrelia*

(7, 9).

. 가

1 , 2 , 3

3~10 가

early disseminated in-

, 2 , 3

가

fection

early localized

15%

infection, early disseminated infection, late/

chronic infection (1)(9).

가

가 가

5~10%

7~10

Early localized infection

1~3

가

30~50%

(70%)

가

가 8%

Late/chronic infection 가 가

50~60%

10% *Borrelia* 가

20% 6 가

10

(70%)

가 , 가 , 가

가 가

10 cigarette Barbour - Stoenner - Kelly

paper 5~10% (scleroderma) (10).

(lichen sclerosus et atrophicus) 가 ELISA 가

25~48% 가

3 IgM 가 가 (7).
 4~6 가 가 4~6 doxycycline 14
 . IgG 4~6 ceftriaxone 14~
 4~6 가 , 28 .
 (11). doxycycline amoxi-
 IgM IgG 가 2~3 cillin 30~60 ceftriaxone
 . 14~28 .
 20~50% doxycycline 20~30
 ELISA IgG IgM .
 가 ,
 가 .
 100%
B. burgdorferi 가 IgG , 3
 (12, 13). , 3
 early localized in- 76% (17).
 fection 가 , , , , 가 *B. burgdorferi*
 가 , , , , , 24
 (14, 15). 가
 , .
Borrelia
 . Western blot doxycycline 3~5
 가 (18),
 (16). *I. scapularis* 72 doxycy-
 cline 200mg 1
 (19).
 (20).
 doxycycline(200mg)
 amoxicillin(1,500mg) 14~21
 , 30 ,

가 (21).
가
1
가 가 (22~24).
가
late/chronic infection
가
*B. burgdorferi*가
가

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| 3. | 8. |
| 4. | 9. |
| 5. | 10. |