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The long-term course of Lyme arthritis in children

IS Szer, E Taylor, and AC Steere

Abstract

BACKGROUND AND METHODS. The natural history of Lyme disease is not completely known. We studied the long-term course of Lyme arthritis in 46 children in whom the onset of the disease occurred between 1976 and 1979 and who received no antibiotic therapy for at least the first four years of the illness. **RESULTS.** Of the 46 children (age range, 2 to 15 years), 33 (72 percent) initially had erythema migrans, 7 (15 percent) had influenza-like symptoms, and 6 (13 percent) had migratory joint pain. These manifestations were followed by brief attacks of arthritis, particularly affecting the knee. The percentage of children with recurrent episodes of arthritis declined each year. By year 4, only 10 children still had a mean of two episodes of arthritis per year; the duration of arthritis was generally longer in older children (P less than 0.05). During the sixth year of illness, two children (4 percent) had keratitis, and more than 10 years after the onset of disease, a subtle encephalopathy developed in two other children. Of the 39 children whom we were able to contact in 1988-1989, 12 (31 percent) still had occasional brief episodes of joint pain and 1 (3 percent) had marked fatigue. All 46 children had positive IgG antibody responses to *Borrelia burgdorferi* throughout the illness and on long-term follow-up. As compared with those who became asymptomatic, the children with recurrent symptoms more often had IgM responses to the spirochete and had significantly higher IgG titers (P less than 0.05). **CONCLUSIONS.** The course of initially untreated Lyme disease in children may include acute infection followed by attacks of arthritis and then by keratitis, subtle joint pain, or chronic encephalopathy.

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