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Lyme Arthritis

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2. DIAGNOSIS AND THERAPY

2.1 How is it diagnosed?

Whenever there is newly appearing arthritis without a known cause, Lyme arthritis should be considered for differential diagnosis. The clinical suspicion is confirmed by laboratory investigation including blood tests and, in some instances, tests on synovial fluid (fluid from swollen joints).
In blood, antibodies against Borrelia burgdorferi are found by a test called Enzyme Immuno Assay. If there are IgM-antibodies to Borrelia burgdorferi found by Enzyme Immuno Assay, a confirmatory test called Immunoblot or Western blot must be performed.
If there is arthritis of unknown cause and if there are IgM-antibodies to Borrelia burgdorferi detected by Enzyme Immuno Assay and confirmed by Western blot, the diagnosis is Lyme arthritis. The diagnosis may be confirmed by analysis of synovial fluid, in which the gene of the bacterium Borrelia burgdorferi can be found using a technique called polymerase chain reaction. However, this laboratory test is less reliable than serology measuring antibodies. In particular, the test may fail to indicate infection in the presence of infection and it may indicate infection when there is none. Lyme arthritis should be diagnosed by the paediatrician or in a paediatric hospital. However, if antibiotic treatment fails, a specialist in paediatric rheumatology should be involved in the further management of the disease.

2.2 What is the importance of tests?

Apart from serological values, usually inflammatory markers and blood

chemistry are carried out. In addition, other infectious causes of arthritis may be considered and tested using appropriate laboratory assays.
Once Lyme arthritis has been confirmed by laboratory values including enzyme immunoassay and immunoblot, it is not useful to repeat these tests since they do not indicate response to antibiotic treatment. In contrast, these tests may remain highly positive for years in spite of successful treatment.

2.3 Can it be treated/cured?

Since Lyme arthritis is an infectious bacterial disease, treatment is by administration of antibiotics. More than 80% of patients with Lyme arthritis are cured after one or two courses of treatment with antibiotics. In the remaining 10–20%, further antibiotic treatment usually does not cure the disease and anti-rheumatic treatment is necessary.

2.4 What are the treatments?

Lyme arthritis may be treated by oral antibiotics for 4 weeks or intravenous antibiotics for at least 2 weeks. If compliance is problematic with amoxicillin or with doxycycline (only to be given in children over 8 years of age), intravenous treatment with ceftriaxon (or with cefotaxime) may be more advantageous.

2.5 What are the side effects of drug therapy?

Side effects may occur including diarrhoea, with oral antibiotics, or allergic reactions. However, most side effects are rare and minor.

2.6 How long should treatment last?

After antibiotic treatment has been completed, it is recommended to wait 6 weeks before concluding that treatment might not have cured the disease in the presence of ongoing arthritis.
If this is the case, another antibiotic treatment may be administered. When there is still arthritis 6 weeks after the completion of the second antibiotic treatment, anti-rheumatic drugs should be commenced.

Usually, non-steroidal anti-rheumatic drugs are prescribed and corticosteroids are injected into the affected joints, most often the knee joint.

2.7 What kind of periodic check-ups are necessary?

The only useful check-up is examination of the joints. The longer the period since the disappearance of arthritis, the less probable is a relapse.

2.8 How long will the disease last?

More than 80% of cases disappear after one or two antibiotic treatments. In the remaining cases, arthritis will disappear over a course of months to years. Eventually, the disease will stop altogether.

2.9 What is the long-term evolution (prognosis) of the disease?

After treatment with antibiotics, in most cases the disease will go away without leaving any consequence. There are individual cases where definite joint damage has occurred, including limited range of motion and premature osteoarthritis.

2.10 Is it possible to recover completely?

Yes. More than 95% of cases will recover completely.