Lyme Disease

Case Study

A 38-year-old male had a 3-week history of fatigue and lethargy with intermittent complaints of headache, fever, chills, myalgia, and arthralgia. According to the history, the patient's symptoms began shortly after a camping vacation. He recalled a bug bite and rash on his thigh immediately after the trip. The following studies were ordered:

Studies	**Results**
Lyme disease test,	Elevated IgM antibody titers against *Borrelia burgdorferi* (normal: low)
Erythrocyte sedimentation rate (ESR),	30 mm/hour (normal: ≤15 mm/hour)
Aspartate aminotransferase (AST),	32 units/L (normal: 8-20 units/L)
Hemoglobin (Hgb),	12 g/dL (normal: 14-18 g/dL)
Hematocrit (Hct),	36% (normal: 42%-52%)
Rheumatoid factor (RF),	Negative (normal: negative)
Antinuclear antibodies (ANA),	Negative (normal: negative)

Diagnostic Analysis

Based on the patient's history of camping in the woods and an insect bite and rash on the thigh, Lyme disease was suspected. Early in the course of this disease, testing for specific immunoglobulin (Ig) M antibodies against *B. burgdorferi* is the most helpful in diagnosing Lyme disease. An elevated ESR, increased AST levels, and mild anemia are frequently seen early in this disease. RF and ANA abnormalities are usually absent.

Critical Thinking Questions

1. What is the cardinal sign of Lyme disease? (always on the boards)
2. At what stages of Lyme disease are the IgG and IgM antibodies elevated?
3. Why was the ESR elevated?
4. What is the Therapeutic goal for Lyme Disease and what is the recommended treatment.