THE TICKING HEART

A Case and Review of Acute Lyme Cardiac Complications

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Lyme disease is common in Minnesota; 912 cases were reported to the state health department in 2012. Cardiac complications occur in up to 10% of patients who contract the disease. We report a case of mild Lyme myocarditis, which responded to outpatient treatment, and discuss ambulatory triage of cardiac complications.

Case Report

An otherwise healthy 25-year-old woman presented to the emergency department with one day of fever, frontal headache and neck stiffness. She had no rashes on her skin. Results of the remainder of the complete multi-system examination and neurologic evaluation were unremarkable. Lumbar puncture revealed a normal protein, glucose and cell count. She was provided oxycodone for pain and advised to follow-up with internal medicine.

Two weeks later, her headache had resolved, but she had persistent fatigue and a new rash on her skin. Examination revealed scattered 2 cm to 10 cm annular erythematous plaques. Laboratory evaluation was significant for a positive Lyme-specific IgM on Western blot. ECG showed first-degree AV block with PR interval of 232 msec. She was diagnosed with acute Lyme disease and started on oral doxycycline. Repeat ECG two weeks later was normal with a PR interval at 144 msec. Her symptoms had completely resolved by then.

Discussion

The most common clinical feature of Lyme myocarditis is variable degrees of AV block, which occurs in nearly all patients. The majority of those who have cardiac involvement will also have typical symptoms of Lyme disease; however, there are reports of isolated cardiac involvement in the absence of usual systemic symptoms.

Given the frequency of cardiac complications in Lyme disease, we would recommend that clinicians have a low threshold in obtaining an initial ECG at the time of clinical diagnosis. If normal or first-degree AV block with PR interval less than 300 msec is noted, outpatient antibiotic treatment is appropriate, as these patients are at very low risk for progression to complete heart block.

Hospitalization with cardiac monitoring and intravenous antibiotics are recommended for ambulatory patients presenting with cardiac symptoms, first-degree AV block with PR interval greater or equal to 300 msec, or higher degrees of AV block. The Infectious Disease Society of America recommends parenteral ceftriaxone for patients with the previously stated ECG changes. The recommended duration of treatment is 10 to 21 days. The majority of conduction abnormalities have a benign prognosis and usually resolve within a week if the infection is treated appropriately.

REFERENCES