First report of Lyme disease causing mitral valve endocarditis

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https://danielcameronmd.com/first-report-of-lyme-disease-causing-mitral-valve-endocarditis/

In March 2017, a 68-year-old man was admitted to the Mayo Clinic, in Rochester, Minnesota with symptoms suggestive of heart failure.

“He had a chronic cough and progressive dyspnea, which were consistent with New York Heart Association class IV symptoms of heart failure,” writes Fatima. “He also had atrial ?brillation with rapid ventricular response.”

His medical history included alcoholism and treatment for Lyme carditis in both 2009 and 2014.

B. burgdorferi spirochete found in mitral valve tissue. Patient is diagnosed with mitral valve endocarditis. This is his third cardiac complication due to Lyme disease.

Doctors performed mitral valve surgery because of the man's progressive symptoms and multi-valve disease. Cultures were negative. But doctors suspected he had culture-negative infective endocarditis and prescribed IV vancomycin and cefepime.

The diagnosis of Lyme disease was delayed. One week after he was dismissed from the hospital and 12 days following his operation, *B. burgdorferi* DNA was detected in mitral valve tissue, writes Fatima.

Serologic tests for Lyme disease were performed. The IgG and IgM western blot tests came back positive.

IgG positive bands included: p93, p66, p58, p45, p41, p39, p30, p28, p23, p18 and IgM bands p39, p23, which confirmed the diagnosis of acute Lyme endocarditis according to Centers for Disease Control and Prevention diagnostic criteria.

The man’s treatment was changed to 6 weeks of IV ceftriaxone.

> *“Endocarditis caused by Borrelia has been reported only twice previously, and in both cases, these were species (Borrelia afzelii and Borrelia bissettii) not present in North America,” the authors point out.*

This case was particularly challenging as the patient had ongoing issues from atrial ?brillation with rapid ventricular response and complications from his mitral valve, which caused tonic-clonic seizures and transient right-sided weakness.

Fortunately, the patient was doing well at his 10-month follow-up appointment. And a repeat PCR test for *B. burgdorferi* was negative.

According to the authors, there are 2 types of cardiac manifestations of Lyme disease: conduction disturbances and structural pathologies of the heart.

“Rhythm problems related to Lyme carditis include atrioventricular conduction block, sinoatrial block, temporary bundle block, and paroxysmal atrial ?brillation,” the authors explain.

They point out that Lyme endocarditis is extremely rare and that currently there are no specific recommendations for treatment.

“We opted to treat our patient with 6 weeks of ceftriaxone, in accordance with general treatment recommendations for bacterial endocarditis,” Fatima writes.

Editors note: This is the patient’s third cardiac complication due to Lyme disease within an 8-year period.

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References:

1. Fatima B, Sohail MR, Schaff HV. Lyme Disease-An Unusual Cause of a Mitral Valve Endocarditis. Mayo Clin Proc Innov Qual Outcomes. 2018;2(4):398-401.
