

Lyme carditis causes complete heart block in 26-year-old man

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The patient was evaluated in the emergency room with presyncope (lightheadedness, muscle weakness) and worsening fatigue. Telemetry monitoring demonstrated a “2:1 AV block alternating with complete heart block and a junctional escape rhythm in the range of 30 beats per minute,” according to Chaudhry and colleagues. [1]

Doctors suspected Lyme disease and started intravenous ceftriaxone, but within 24 hours the man’s condition had worsened. “Twenty-four hours after admission, he had loss of junctional escape with underlying complete heart block and asystole with near syncope,” [describes Chaudhry from the Department of Cardiology and Electrophysiology, Aultman Hospital, Ohio.](#)

The man required a pacemaker. “Emergent right subclavian access was obtained for temporary pacing and placement of an active fixation permanent pacemaker lead,” explains Chaudhry. Serologic tests were positive by ELISA and confirmed with the Western Blot IgM.

“Lyme carditis is a dreaded complication of disseminated Lyme disease and is caused by direct cardiac invasion by spirochetes,” he states.

The authors summarize the underlying pathology. “There is initially a transmural inflammation with macrophages and neutrophils followed by a band-like appearance of lymphocytes. Interstitial fibrosis, as well as small and large vessel vasculitis, pericarditis, myocarditis, acute coronary syndromes, and coronary artery aneurysms can potentially occur.”

The placement of an external pacemaker enabled the patient to be discharged home after 12 days while he continued to recover on IV antibiotics. His pacemaker was removed at day 19.

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References:

1. Chaudhry MA, Satti SD, Friedlander IR. Lyme carditis with complete heart block: management with an external pacemaker. Clin Case Rep. 2017;5(6):915-918.

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