

Total atrioventricular block in Lyme borreliosis

 **Jurica Petranović***,

 **Rea Levicki¹,**

 **Ivan Barišić¹,**

 **Ile Rašteggorac¹,**

 **Vladimir Dujmović¹,**

 **Darko Počanić²**

¹Požega General Hospital,
Požega, Croatia

²University Hospital "Merkur",
Zagreb, Croatia

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***ADDRESS FOR CORRESPONDENCE:** Jurica Petranović, Dora Pfanova 7, HR-10000 Zagreb, Croatia. / Phone: +385-91-1304-192 / E-mail: jura83@gmail.com

ORCID: Jurica Petranović, <https://orcid.org/0000-0002-7129-0266> • Rea Levicki, <https://orcid.org/0000-0003-3687-1310>

Ivan Barišić, <https://orcid.org/0000-0001-7397-7582> • Ile Rašteggorac, <https://orcid.org/0000-0002-2773-0957>

Vladimir Dujmović, <https://orcid.org/0000-0001-6545-9283> • Darko Počanić, <https://orcid.org/0000-0003-3257-110X>

Introduction: Lyme disease is caused by the spirochete *Borrelia burgdorferi*. It manifests as erythema migrans but can also cause central neuropathy, arthritis and carditis.¹ Cardiac manifestations include conduction abnormalities with varying degrees of atrioventricular block and other rhythm disturbances.² The incidence of Lyme disease increases from west to east across Europe, with the highest incidence in Slovenia (155/100 000).³

Case report: We observed a 32-year-old male patient who presented to the Emergency Department with recurrent syncope. Electrocardiography recorded intermittent total atrioventricular block, with an average heart rate of 25/min. A temporary pacemaker (Oscor Pace 101H, Single Chamber External Pacemaker) was implanted emergently using right jugular access. He had been on Sovsko lake near Čaglin village in Požega-Slavonia county 7 days prior to admittance, after which he had fever and chills for 2 days followed by diarrhea for 1 day. We started empirical treatment with intravenous ceftriaxone due to suspected Lyme disease. No tick bites on skin were found.

Results: Results of serological testing showed that IgM Lyme titer (ELISA) was positive >5.23, also CLIA IgM were positive (IgM >190, IgG >240), followed by positive IgM and IgG Western Blot. Considering these results, we continued ceftriaxone treatment according to guidelines for 6 weeks. Echocardiography demonstrated normal left and right ventricular systolic function with no valvular dysfunction. First 3 days continuous pacing was required, afterwards for 7 days only intermittent pacing in night hours was required. In the end, the patient maintained normal sinus rhythm at 65-75 bpm. Two days after, the external pacemaker and active fixation lead was removed.

Conclusion: Lyme borreliosis infection can cause conduction abnormalities, including total atrioventricular block in structurally healthy heart. Conduction abnormalities are reversible with the use of proper antibiotic treatment.

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LITERATURE

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