Total atrioventricular block in Lyme borreliosis

Introduction: Lyme disease is caused by the spirochete Borrelia Burgdorferi. It manifests as erythema migrans but can also cause central neuropathy, arthritis and carditis. Cardiac manifestations include conduction abnormalities with varying degrees of atrioventricular block and other rhythm disturbances. The incidence of Lyme disease increases from west to east across Europe, with the highest incidence in Slovenia (155/100 000).8

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 Pacing) was implanted emergently using right jugular access. He had been on Sovske 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.

LITERATURE