Acute pericarditis and pericardial effusion as the primary clinical presentation of Lyme disease

Vanja Nedeljković[1],
Ana Marija Slišković[2],
Dejan Došen[2],
Marko Siroglavić[2],
Petra Angebrandt Belošević[2]*

[1]Special Hospital for Pulmonary Diseases, Zagreb, Croatia
[2]University Hospital Centre Zagreb, Zagreb, Croatia

KEYWORDS: Lyme carditis, pericarditis, borreliosis, pericardial effusion.

CITATION: Cardiol Croat. 2023;18(5-6):181-2. | https://doi.org/10.15836/ccar2023.181

***ADDRESS FOR CORRESPONDENCE**: Petra Angebrandt Belošević, Klinički bolnički centar Zagreb, Kišpatićeva 12, HR-10000 Zagreb, Croatia. / Phone: +385-1-2367-894 / E-mail: petraang37@yahoo.com

ORCID: Vanja Nedeljković, https://orcid.org/0000-0003-0781-0148 • Ana Marija Slišković, https://orcid.org/0000-0001-6622-7572
Dejan Došen, https://orcid.org/0000-0002-2641-4768 • Marko Siroglavić, https://orcid.org/0000-0003-2582-747X
Petra Angebrandt Belošević, https://orcid.org/0000-0001-5431-9736

Introduction: AV block of varying severity is the most common disorder in Lyme carditis. However, myocarditis, pericarditis, and heart failure have all been described as possible manifestations. The clinical course of Lyme carditis is generally mild, and in most cases, completely reversible.[1-3]

Case report: 32-year-old male patient was admitted for one week history of shortness of breath and chest pain. Physical exam showed normal findings. Resting 12-lead ECG showed signs of pericarditis and laboratory tests showed mild signs of inflammation. Echocardiography (**Figure 1** and **Figure 2**) showed circular pericardial effusion maximum size of 22 mm next to the right atrium and ventricle with otherwise normal findings. For first day of admission patient was treated with high doses of ibuprofen and colchicine. After 2 days of treatment patient developed fever with significant rise in inflammatory markers and therefore antimicrobial therapy was initiated (first amoxicillin + clavulanic acid and azithromycin). Since patient had a fever that lasts longer than 5 days with rise in inflammatory markers (maximum value of CRP was 285 mg/L) antimicrobial therapy was escalate to piperacillin-tazobactam. Due to clinical course of disease, we performed all blood test, including viral and bacterial serology, and other tests to exclude autoimmune condition, tuberculosis, and neoplasm. We performed CT scan which revealed bilateral pleural effusion. All blood tests were negative except serology of Lyme borreliosis (Lyme disease) where IgM antibodies for Borrelia burgdorferi infection were detected with Enzyme-Linked Immunosorbent Assay (ELISA) and confirmed with Western Blot Analysis (WB). After consulting with infectologist, antimicrobial therapy was changed to ceftriaxone. Soon after, fever stopped, patient had no more chest pain and markers of inflammation, CRP and leukocyte count, decline. After 5 days of antibiotic therapy echocardiography revealed no signs of pericardial effusion (**Figure 3** and **Figure 4**).

FIGURE 1. Long parasternal view of circular pericardial effusion.

RECEIVED: March 20 2023
ACCEPTED: March 29, 2023

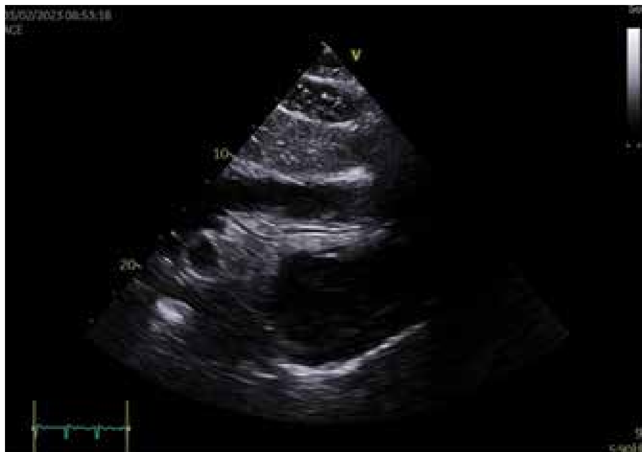

FIGURE 2. Subcostal view of pericardial effusion.

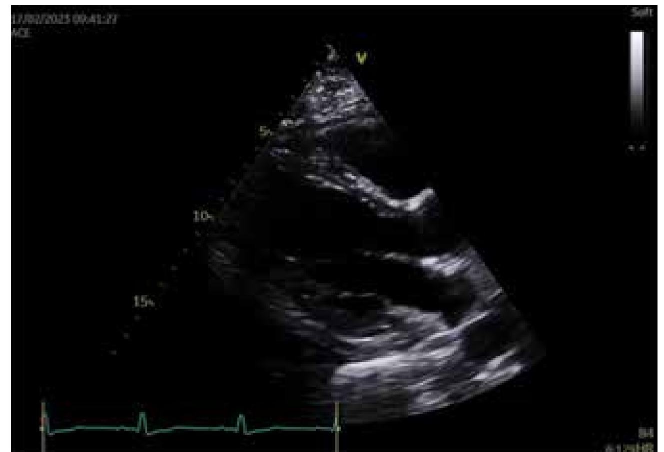

FIGURE 3. Long parasternal view of resolution of pericardial effusion after antibiotic treatment.

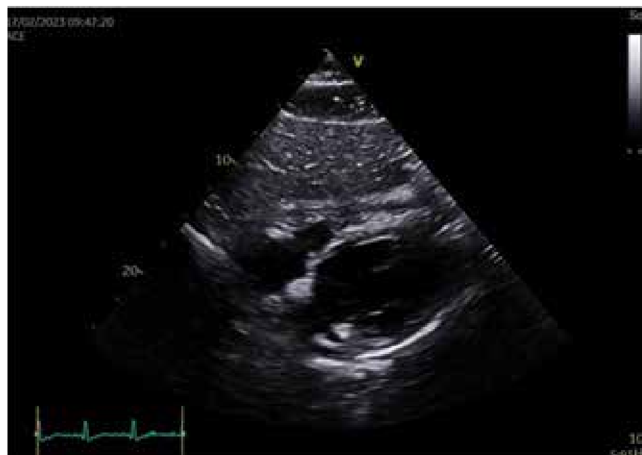

FIGURE 4. Subcostal view of resolution of pericardial effusion after antibiotic treatment.

Conclusion: Lyme disease is a common disease that uncommonly affects the heart. Because of its rarity and the often absence of other clinical manifestation, consideration of Lyme carditis demands a high level of suspicion. Therefore, we believe that with atypical clinical presentation, this was rare case of Lyme carditis manifested as acute pericarditis.

LITERATURE

1. Robinson ML, Kobayashi T, Higgins Y, Calkins H, Melia MT. Lyme carditis. Infect Dis Clin North Am. 2015 Jun;29(2):255-68. https://doi.org/10.1016/j.idc.2015.02.003
2. Błaut-Jurkowska J, Olszowska M, Kaźnica-Wiatr M, Podolec P. Borelioza serca [Lyme carditis]. Pol Merkur Lekarski. 2015 Aug;39(230):111-5. Polish. **PubMed**: https://pubmed.ncbi.nlm.nih.gov/26319387/
3. Kostić T, Momčilović S, Perišić ZD, Apostolović SR, Cvetković J, Jovanović A, et al. Manifestations of Lyme carditis. Int J Cardiol. 2017 Apr 1;232:24-32. https://doi.org/10.1016/j.ijcard.2016.12.169