Clinical Microbiology and Infection 26 (2020) 1044–1045

Contents lists available at ScienceDirect

Clinical Microbiology and Infection

journal homepage: www.clinicalmicrobiologyandinfection.com

Picture of a Microorganism

A dancing balloon in the right atrium - A rare presentation of MSSA cardiac device related infected endocarditis

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ARTICLE INFO

Article history:
Received 31 October 2019
Received in revised form
10 January 2020
Accepted 18 January 2020
Available online 30 January 2020

Editor: M. Paul

Keywords:
Cardiac device-related infected endocarditis
Endocarditis
Staphylococcus aureus
Trans-oesophageal echocardiography
Vegetations

A 78-year-old female with a double-chamber pacemaker implanted in the previous year presented to the hospital because of recurrent fever, which started 1 day after a tooth extraction. She was previously hospitalized three times in a tertiary hospital with the same symptoms and diagnosed with methicillin-sensitive *Staphylococcus aureus* (MSSA) bacteraemia of unknown origin. Also, trans-oesophageal echocardiography (TOE) was performed three times, but revealed no vegetations of measurable size. Eventually, about 1 month after the symptoms started, the patient was admitted to our department. One day after admission, another TOE was performed, and a marked thickening along the course of the atrial lead (L) as well as a vegetation (V) (10 × 9 × 4 mm) on the arch of the atrial lead were observed (A, Video S1) on the two-plane presentation in a modified bicaval trans-oesophageal view. Additionally, there was a round, cystic, oscillating structure (15 × 15 × 15 mm), 'a dancing balloon', resembling an evolving vegetation, a cyst or a thrombus (arrow) (B, Video S2), linked to the vegetation with a short stalk (4 mm) in the right atrium (RA) on modified transgastric 3D views (C, Videos S3 and S4). Urgent surgery was considered given the local extension of the infection and, the high likelihood of embolism from the oscillating structure. The patient underwent complete surgical device removal (pacemaker generator and leads) via sternotomy and right atrial incision. The resected tissue was collected and eventually identified as vegetation and an abscess positive for MSSA. The TOE and blood testing for inflammatory markers 1 month post discharge revealed no signs of relapse or re-infection.

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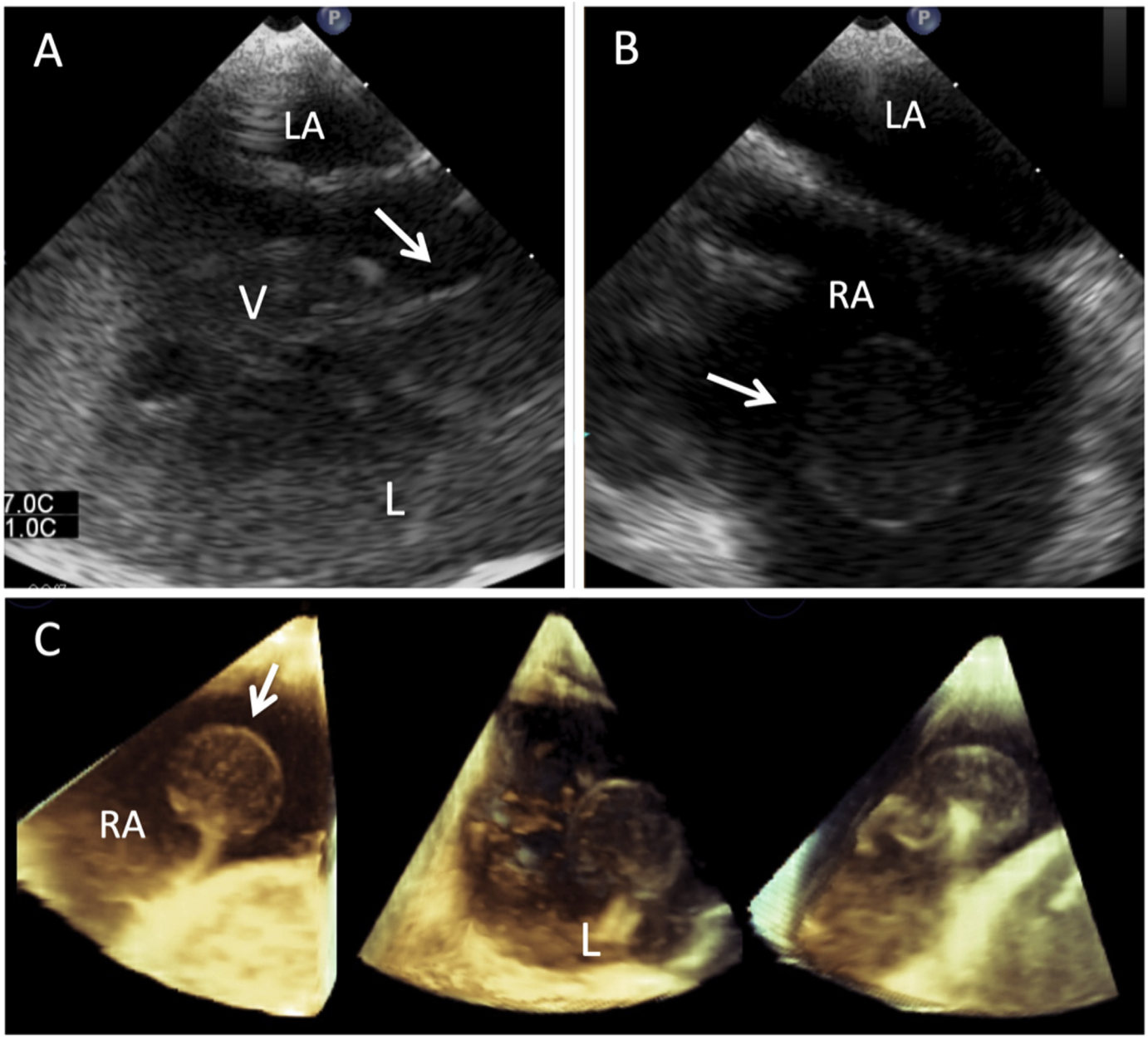
https://doi.org/10.1016/j.cmi.2020.01.019



Supplementary data related to this article can be found online at https://doi.org/10.1016/j.cmi.2020.01.019.

Transparency declaration

None declared. No external funding was received

Authors contributions

M.M. performed trans-oesophageal echocardiography, prepared the manuscript and accepted the final version. A.G. was the treating physician of the patient, prepared the manuscript and accepted the final version. P.C. operated on the patient and accepted the final version of the manuscript. J.K. consulted the patient and accepted the final version of the manuscript. G.O. consulted the patient and accepted the final version of the manuscript.