Pacemaker Lead Mobile Mass.. *Thrombus or Vegetation!*

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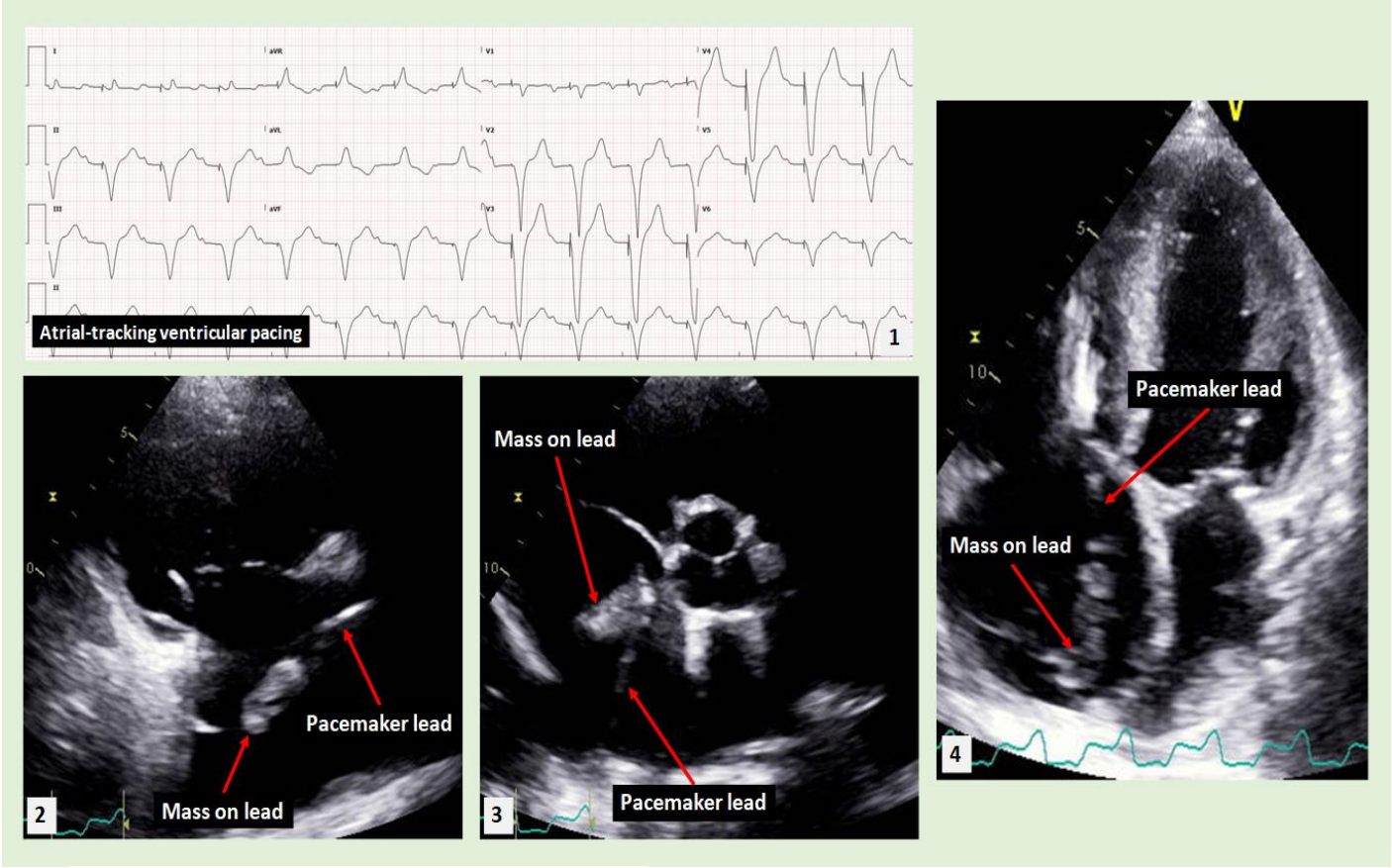

Description

Figure 1 shows an electrocardiogram (EKG) revealing sinus rhythm with atrial tracking ventricular pacing. Figure 2 is a 2-dimensional transthoracic echocardiogram (2-D TTE) view in the modified parasternal long axis view across the right atrium and right ventricular inflow. It shows an atrial pacemaker lead with a mobile mass attached to the lead (see accompanying video). Figure 3 demonstrates the mass on the pacemaker lead within the right atrium in a 2-D parasternal short axis view at the level of the aortic valve. Figure 4 is an apical 4-chamber view demonstrating the left atrial and left ventricular pacemaker leads with a mass adherent to the atrial lead. The mass adherent to the pacemaker lead has the consistency of thrombus, and in the absence of signs and symptoms of infection, it was treated with anticoagulation.

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Discussion

Pacemaker leads are prone to developing thrombi which can appear as an oscillating mass adherent to the lead mimicking an infection on echocardiography [1]. Differentiation between a thrombus and vegetation may be difficult and can be helped by the use of 18F-fluorodeoxyglucose positron emission tomography/computed tomography [2].

Echocardiography remains the gold standard for diagnosing pacemaker lead thrombi. Using echocardiography, the size, motion, potential complications such as embolization or obstruction of cardiac valves can be characterized, and may help guide management [3]. Pacemaker lead thrombi can sometimes also be visualized and diagnosed by cardiac computed tomography [4].

Large thrombi attached to a pacemaker lead have been reported to result in pulmonary embolism [5]. However, the risk of embolization due to pacemaker lead thrombi appears to be small compared to the overall prevalence of these thrombi [6].

The overall incidence of pacemaker lead thrombosis remains low; treatment with anticoagulation is recommended especially prior to ablation procedures [7]. One important risk factor for developing such thrombi seems to be the presence of atrial fibrillation [8].

When an adherent thrombus is large and causing significant embolization or obstruction of the tricuspid valve inflow [9] percutaneous removal of the right-sided leads is often needed [10]. Potential complications with percutaneous approach of lead removal have been reported, including bleeding, tamponade and infection, which may necessitate surgical intervention [11].

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