

ECG Contest

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An 83-year-old man who had undergone implantation of a DDDR pacemaker (Evia DR-T, Biotronik, Berlin, Germany) due to paroxysmal atrioventricular block, had a routine electrocardiogram (Figure 1), that revealed sinus rhythm with premature ventricular contractions in bigeminy and pacemaker spikes superimposed on the QRS of the sinus beats. As a malfunction of the device was suspected, it was subjected to interrogation. All the parameters were normal (atrium/ventricle: P/R wave sensing, 2.3/13 mV; impedance, 236/634 Ω , and threshold, 0.3/0.7 V at 0.4 ms). Figure 2 shows a tracing obtained with the programmer.

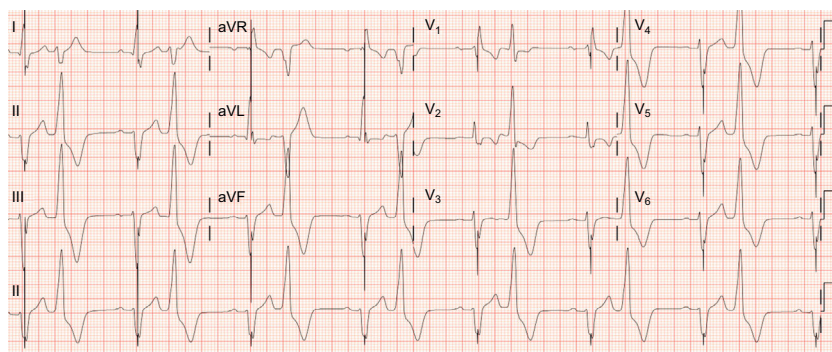


Figure 1.

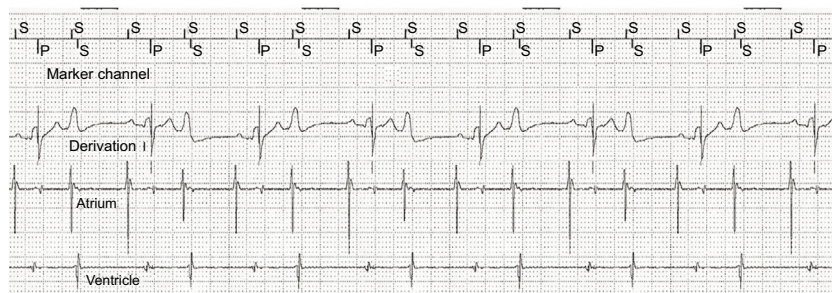


Figure 2.

In view of these values, is this a case of a real pacemaker malfunction?

1. If the pacing and sensing parameters are normal, there is no malfunction.
2. The pacemaker is functioning perfectly. This is a case of fusion: pacing by the device and the appearance of the conducted QRS occur simultaneously.
3. Despite the fact that the R wave measured during the interrogation was normal, there is a defect in ventricular sensing.
4. This situation could be resolved by increasing the ventricular pacing pulse amplitude.

Suggest a solution to this ECG Contest at <http://www.revespcardiol.org/en/electroreto/69/11>. The answer will be published in the next issue (December 2016). #RetoECG.

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