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Abstract

Introduction

Implantable cardioverter-defibrillators (ICDs) for cardiac resynchronization therapy (CRT-D) with the capability of LV sensing enable the assessment of interventricular delays in ventricular (VT) and supraventricular tachycardias (SVT).

Methods and Results

In total, 1078 EGM recordings of VT or VF episodes were investigated that have been transmitted via Home Monitoring. Only those EGM recordings showing the onset of the tachyarrhythmia were used for investigation. In the 623 cases eligible for evaluation leftsided VTs could be identified in 349 cases, right-sided VTs in 252 cases. SVTs with a 1:1 antegrade conduction were found in 22 cases. VT can present three different interventricular delays whereby the right-ventricular sensed event (RVs) is either preceding the left-ventricular sensed event (LVs), or the LVs is preceding RVs, or there can be a simultaneous occurrence of RVs and LVs. In SVTs, either the LVs events were delayed or occurred simultaneously with the RVs events. SVT cases with LVs preceding the RVs events were not found.

Conclusion

The LV-EGM channel enables to distinguish between left- and right-sided premature ventricular complexes. The assessment of the interventricular delay in VTs is useful to differentiate between a possible apical-, left- or right-sided origin of the VT but not to identify SVTs.

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