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Titel des Beitrags:
Management of far-field R wave sensing for the avoidance of inappropriate mode switch in dual chamber pacemakers: results of the FFS-test study.

Abstract:
BACKGROUND AND OBJECTIVE: Far-field R wave sensing (FFS) in the atrial channel of dual chamber pacemakers is a relevant source for inappropriate mode switch from the DDD mode to the DDI or VDI mode. Inappropriate loss of atrioventricular synchrony due to false positive mode switch is hemodynamically disadvantageous, may induce atrial tachyarrhythmias, can lead to pacemaker syndrome, and impairs the reliability of pacemaker Holter data. The aim of the study was to determine whether individual adjustment of the postventricular atrial blanking period (PVAB) based on an additional test is effective in avoiding inappropriate mode switch due to FFS when compared with standard programming of the PVAB. METHODS: A total of 207 patients were supplied with a St. Jude Medical Identity DR or Identity ADx DR dual chamber pacemaker for sinus nodal disease (n = 84), atrioventricular block (n = 79), binodal disease (n = 35), or other indications (n = 9). At hospital discharge, they were randomized to an individually optimized PVAB (n = 100) or to a control group with the PVAB left at the nominal of 100 msec (n = 107). Primary endpoint was the occurrence of inappropriate mode switch due to FFS within 3 months after pacemaker implantation assessed by stored electrograms of the pacemaker.
RESULTS: At the 3-month follow-up, 28/107 (26%) patients with the standard programming of the PVAB showed at least one episode of inappropriate mode switch due to FFS versus 10/100 (10%) patients with optimized PVAB (P< 0.01). The optimized PVAB was shorter than the nominal PVAB in about one-third of patients and longer in about two-third of patients. Different atrial lead localizations were not associated with the occurrence of inappropriate mode switch. CONCLUSIONS: Individual adjustment of the PVAB significantly reduces the incidence of inappropriate mode switch due to FFS.