Usefulness of SafeR Mode for Reduction of Ventricular Pacing in Patients with Sick Sinus Syndrome

Satoru Komura, Koji Abe, Chizuru Sato, Kensuke Fujiwara, Atsushi Iwasa
Division of Cardiology, New Tokyo Hospital, Chiba, Japan

Background: It was reported that unnecessary right ventricular pacing increased the risk of atrial fibrillation (Af) or congestive heart failure (CHF). We evaluated the usefulness of SafeR mode, a new pacing algorithm designed to minimize ventricular pacing. Methods: 18 patients (75±8 years old, 7 men) who had pacemaker implantation were randomized to SafeR mode or DDD mode for 3 months and then crossed over to the alternate pacing modality for 3 months. Atrioventricular (AV) conduction interval during atrial pacing set at 90beats/min was measured and the paced/sensed AV delays were programmed at 30msec longer than the measured AV interval in device implantation. On completion of the 3-month crossover phase, we evaluated the percentage of ventricular pacing, the number of premature atrial conduction (PAC), premature ventricular conduction (PVC), plasma BNP level and the prevalence of Af. Results: The percentage of ventricular pacing was significantly lower in SafeR mode than that in DDD mode (3.3% vs 31.1%, P<0.001). The number of PAC, PVC, BNP and Af episodes tend to be reduced by SafeR mode compared with DDD mode, however, there were no statistically difference in both modes. Adverse events potentially related with SafeR mode were not observed. Conclusion: SafeR mode significantly reduced unnecessary right ventricular pacing. This mode may reduce the risk of Af or CHF in patient with SSS. Keywords: pacemaker, SSS