Evaluation of the Feasibility of Wireless Remote Monitoring in Patients with Pacemakers

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Aim: Although previous studies demonstrated the advantage to use remote monitoring systems (RMS) for the follow-up of high power devices (ICDs, CRTDs), the usefulness of RMS for pacemakers is still controversial. We investigated the alerts and patient satisfaction to evaluate the usefulness of RMS in patients with pacemakers. Methods: 61 patients were implanted with a Biotronik pacemaker from February 2010 to May 2011 and were equipped with a wireless RMS. The contents of the e-mail alerts detected by the daily transmission were investigated. Furthermore, the patients were asked to complete a questionnaire with respect to satisfaction of this system. Results: A total 13,861 transmissions were made during the follow-up period (1-15, mean 8.6 months). Of this total 168 alerts from 17 patients (28%) were received. The alerts consisted of atrial high-rate episodes (45%), atrial fibrillation burden (37%), and ventricular high-rate (16%). None of these alerts required an emergent in-office patient visit. The answers of the questionnaire were obtained from 70% of the patients, of which 95% of them felt secure and satisfied with the RMS. Conclusion: Further investigation is needed, however the results of this evaluation showed that patient satisfaction with RMS is sufficient and in office visits were not increase by event notifications. This leads us to conclude that RMS in pacemaker patients has the potential to reduce in-office follow-ups. Keywords: remote monitoring system, pacemaker