Home Monitoring of ICD and CRTD Implanted Patients, the Israeli Experience

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Background: Home Monitoring is an automatic remote monitoring system that uses the cellular phone network, and enables physicians to remotely monitor clinical status and device status of ICD and CRTD implanted patients. Remote monitoring refers to the daily transmission of pre-defined alerts, allowing the physician to rapidly identify malfunction of the device. This advance in patients care may improve patient safety and satisfaction and has the potential of reducing costs.
Aim: To describe the follow up of 138 ICD and CRTD patients implanted at 3 different Israeli medical centers who were monitored by Home Monitoring Biotronik® system.
Methods and Results: 138 patients [119(86.3%) male, mean age 65.8±10 years, mean EF% 29±7] were implanted with CRTD 51(36.9%), dual chamber ICD 43(31.1%) and single chamber ICD 44(31.9%), during the years 2010 and 2011. Patients were follow up with the Home Monitoring system for a mean of 168±26 days. 25 different alerts were pre-defined, and divided in six groups: Implant alerts, Lead alerts, Bradycardia alerts, Atrial and Ventricular Arrhythmia alerts and Heart Failure alerts. Alerts were sub-classified in Red alerts (imminent potential harm for the patient) and Yellow alerts (non-imminent harm for the patient). A total of 474 alerts were registered during the follow up with 84(60.8%) of the patients having at least one alert, 6(1.26%) of the total alerts were red. 35(7.38%) of the alerts were responded with clinic scheduling, 23(4.85%) of the alerts were responded with a phone call to the patient, 10(4.74%) of the alerts were attended by changing program parameters of the device, 7(1.47%) of the alerts resulted in patient re-operation for lead reposition or device replacement and 399(84.17%) of the alerts required no action.
Conclusion: Home Monitoring of ICD and CRTD devices improved medical care by allowing the prompt recognition and rapid correction of device malfunction.