Abstract: **P1176**

Remote monitoring decreases unnecessary electrotherapy rate and improves patient survival

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**Topic(s):**
Home and Remote Patient Monitoring

**Citation:**

**Background**

Remote monitoring (RM) is a modern option for cardiovascular implantable electronic devices (CIED). Timely evaluation of the device parameters helps to avoid complications associated with the technical CIED features, to identify life-threatening arrhythmias, shocks and possible decompensation of the heart failure (HF).

**Objective**

To compare the level of appropriate and inappropriate CIED electrotherapy, the survival rate of patients with and without RM during a five-year follow-up period.

**Materials and methods**

We analyzed data from 517 patients with CIED, 278 of them had RM system. CIED types were 229 CRT-D, 144 ICD for primary prevention of sudden cardiac death (SCD), 150 ICD for secondary SCD prevention. Mean age was 62.1 ± 12.4 years, 294 patients were male, the proportion of ischemic patients was 56.3% (n=291). No differences were found in baseline patient characteristics with and without remote monitoring. The following parameters were evaluated: the number and type of ventricular arrhythmias, the use of ICD electrotherapy, analysis of the unnecessary ventricular tachycardia (VT) detection, time to decision making, patient survival. A corresponding detailed statistical analysis of the primary data was carried out.

**Results**

VT was detected in 165 out of 517 patients (32.2%). The greatest number of VTs was found in patients with secondary SCD prevention. According to the saved electrograms, 8.2% episodes with false VT/VF detection were detected. These events related to supraventricular tachycardias (atrial fibrillation, atrial flutter with fast ventricular rate), ventricular lead dysfunction, T-wave oversensing. Ineffective maximum energy shock therapy was registered in 45 cases (18.8%). These episodes were related to false VT detection due to atrial fibrillation or lead damage. Data on any types of electrotherapy, as well as electrogram analysis were carried out significantly earlier in patients with RM. Success of antitachycardia pacing (ATP) did not depend on the type of CIED and VT rate. Survival rate was significantly higher in the patient group with RM (Log-Rank test = -9.21; p < 0.001).

**Conclusions**

The RM systems have the objective information and help to assess the clinical situation in each case in a timely manner with quick decision making for the better assistance in the treatment of patients and improving their survival.
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