P1228

Individual discriminators contribution to the reduction of inappropriate therapies in implantable defibrillators

C. Gunturiz Beltran1; V. Bertomeu Gonzalez2; J. Moreno Arribas1; L. Perez2; JM. Martinez Ferrer1; A. Alzueta2; M. Arcos2; A. Aren2; X. Vinolas3; M. Alvarez2; I. Angueria2; R. Porro2; J. Castillo Castillo1; A. Bellver1; L. Mont2; I. Angueria9; R. Porro10; J. Castillo Castillo1; A. Bellver11; L. Mont12

1University Hospital San Juan de Alicante, Cardiology, Alicante, Spain; 2University Hospital Complejo A Coruña, A Coruña, Spain; 3University Hospital of Araba, Vitoria, Spain; 4University Hospital Virgen de la Victoria, Malaga, Spain; 5Hospital of Basurto, Bilbao, Spain; 6University Hospital Gregorio Maranon, Madrid, Spain; 7Hospital de la Santa Creu i Sant Pau, Barcelona, Spain; 8Hospital University Virgen de las Nieves, Granada, Spain; 9University Hospital of Bellville, Barcelona, Spain; 10Hospital San Pedro de Alcantara, Caceres, Spain; 11Hospital General de Castellon, Castellon, Spain; 12Hospital Clinic de Barcelona, Barcelona, Spain

On behalf of: The investigators of SCOOP-UMBRELLA study

Funding Acknowledgements: This work was sponsored by Medtronic Balloon Research Center

Background: Inappropriate therapies (IT) in implantable defibrillator (ICD) reduce the quality of life and survival. Discriminators can reduce IT.

Purpose: To analyse the percentage of activated discriminators and their contribution to the reduction of IT by classification of event that must be ruled out.

Methods: Multicenter, observational, prospective study. All episodes detected in patients with ICD implantation between March 2005 and October 2014, were included.

Results: Follow-up of 945 (IQ 499-1463) days. 2522 patients and 13536 episodes with 842 (6.2%) IT. IT were divided into (according to the committee of experts): sinus tachycardia (ST) 280(33.3%), atrial fibrillation/flutter (AF) 470(55.8%), T wave detection 74(8.8%), noise 182(2.1%). Total episodes respectively: 3395/1322/162/92.

Discriminators activation number (all episodes) in patients was: none 1399(10.3%), 1 1216(14.8%), 2 1210(1.6%).

Individual discriminators: The table shows the percentage of total IT produced due to the wrong classification of episodes by ICD. Subsequently, the activation percentage of each discriminator (regarding its availability or devices with EDA, and regarding all the specific episodes). Finally, the discriminator efficacy for each event is analysed according to its presence.

Conclusions: The discriminators “noise”, “T-wave” and “wavelet” (the last for AF and ST) reduce IT if they were activated. “PRlogicAF” had non-significant trend to reduce IT. “Stability” does not reduce IT (for AF nor TS), but it also increases them. It also happened with “onset” (for ST). “Onset” (for AF and ST) were neutral.

There were a lot of devices without discriminators, and a low percentage of activation with these two discriminators.

P1229

Different scenarios leading to inappropriate therapy inhibition in single chamber ICD detection programming

R. Tavener1; T. Strisciuglio2; F. Van Heuverswyn2; L. Timmers3; J. De Pooter2; S. Knecht1; M. Duytschaever1; Y. Vandekerckhove1; A. Kucher3; R. Stroobandt1; SF. Fehrendt; VM. Moeller; FH. Hoelschermann; MN. Neuss; CB. Butter

1St-Jan Hospital, Department of Cardiology, Bruges, Belgium; 2Ghent University Hospital (UGZ), Ghent, Belgium; 3Biotronik, Berlin, Germany

Background: Strategies using high-rate cutoffs and delayed therapy for ventricular tachycardia (VT/VF) as supraventricular tachycardia (SVT), (3) misclassification of mono- or polysystolic ventricular tachycardia (PVT/VTV) as monomorphic VT/VF, (4) inappropriate shock abortion and (5) false termination detection. In the majority of patients (16/24), a combination of different scenarios led to inappropriate therapy inhibition. In patients with PVT/VF classified as VT (n=9), 78% (7/9) had a fatal outcome. This was significantly higher compared to patients in which the underlying scenario was absent (n=15), fatal outcome in 5/33 or p<0.03. For all other individual scenarios, no difference in terms of fatal outcome was observed.

Conclusions: We describe six different life-threatening scenarios due to inappropriate ICD inhibition in a single chamber ICD detection setting. All these scenarios are more likely to occur with high rate programming and long detection times. In view of the limited trial data, a safety first programming in this setting still seems warranted.

P1230

Is the subxiphoidal pacemaker with an epicardial lead a safe therapy for pacemaker dependent patients after device explantation due to infection?

SF. Fehrendt; VM. Moeller; FH. Hoelschermann; MN. Neuss; CB. Butter

Background: Pacemaker implantation in iatrogenic bradycardia reduce implantable cardioverter-defibrillator (ICD) therapy. However, in ICDs using single chamber detection criteria, data on safety in this setting are scanty.

Purpose: To describe scenarios leading to fatal or near fatal outcome despite a functional single or dual chamber ICD programmed with single chamber detection criteria.

Methods: We identified 24 patients (males 75%, mean age 70 ± 12 years), with a life-threatening event (n=12) or fatal outcome (death n=12 years), with a follow-up of 945 (IQ 499-1463) days. 2522 patients and 13536 episodes with 842 (6.2%) IT. IT were divided into (according to the committee of experts): sinus tachycardia (ST) 280(33.3%), atrial fibrillation/flutter (AF) 470(55.8%), T wave detection 74(8.8%), noise 182(2.1%). Total episodes respectively: 3395/1322/162/92.

Discriminators activation number (all episodes) in patients was: none 1399(10.3%), 1 1216(14.8%), 2 1210(1.6%).

Individual discriminators: The table shows the percentage of total IT produced due to the wrong classification of episodes by ICD. Subsequently, the activation percentage of each discriminator (regarding its availability or devices with EDA, and regarding all the specific episodes). Finally, the discriminator efficacy for each event is analysed according to its presence.

Conclusions: The discriminators “noise”, “T-wave” and “wavelet” (the last for AF and ST) reduce IT if they were activated. “PRlogicAF” had non-significant trend to reduce IT. “Stability” does not reduce IT (for AF nor TS), but it also increases them. It also happened with “onset” (for ST). “Onset” (for AF and ST) were neutral.

There were a lot of devices without discriminators, and a low percentage of activation with these two discriminators.

Abstract P1228 Table. Incidence of inappropriate therapies sec

<table>
<thead>
<tr>
<th>Detected event</th>
<th>T-wave AF</th>
<th>PRlogicAF</th>
<th>AF Wavelet</th>
<th>AF Stability</th>
<th>AF Onset</th>
<th>ST</th>
<th>PRlogicST</th>
<th>ST Wavelet</th>
<th>ST Onset</th>
<th>Noise</th>
<th>Noise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discriminator</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activated discriminator regarding total episodes with EDA (%)</td>
<td>67/100</td>
<td>475/84</td>
<td>775/137</td>
<td>529/94</td>
<td>257/49</td>
<td>146/98</td>
<td>1817/118</td>
<td>807/53</td>
<td>574/28</td>
<td>59/100</td>
<td></td>
</tr>
<tr>
<td>Activated discriminator regarding total episodes with EDA (%)</td>
<td>67/141</td>
<td>475/35.9</td>
<td>775/58.6</td>
<td>529/40</td>
<td>257/19.4</td>
<td>146/43.2</td>
<td>1817/53.5</td>
<td>807/238</td>
<td>574/16.9</td>
<td>59/64.1</td>
<td></td>
</tr>
<tr>
<td>Total inappropriate therapy (within each event) (%)</td>
<td>74/45.7</td>
<td>470/35.6</td>
<td>470/36.6</td>
<td>470/36.6</td>
<td>470/36.6</td>
<td>280/8.2</td>
<td>280/8.2</td>
<td>280/8.2</td>
<td>280/8.2</td>
<td>18/16.6</td>
<td></td>
</tr>
<tr>
<td>Inappropriate therapy WITH/DISCONNECTED %</td>
<td>11/5</td>
<td>157/33.1</td>
<td>224/28.9</td>
<td>224/28.9</td>
<td>224/28.9</td>
<td>224/28.9</td>
<td>224/28.9</td>
<td>224/28.9</td>
<td>224/28.9</td>
<td>224/28.9</td>
<td></td>
</tr>
<tr>
<td>Inappropriate therapy WITHOUT DISCONNECTOR %</td>
<td>73/76.8</td>
<td>313/37</td>
<td>246/45</td>
<td>25/32.7</td>
<td>380/36.7</td>
<td>146/76</td>
<td>175/11.1</td>
<td>198/77</td>
<td>203/7.2</td>
<td>11/33.3</td>
<td></td>
</tr>
<tr>
<td>p value</td>
<td>&lt;0.0001</td>
<td>0.155</td>
<td>&lt;0.0001</td>
<td>0.007</td>
<td>0.842</td>
<td>0.104</td>
<td>&lt;0.0001</td>
<td>0.024</td>
<td>&lt;0.0001</td>
<td>0.013</td>
<td></td>
</tr>
</tbody>
</table>

P1231

Pacemaker implantation in iatrognee bradycardia: clinical, analytical and electrical predictors of heart rhythm disturbances persistence

L. Marques; A. Castro; H. Guedes; D. Seabra; A. Neto; A. Andrade; P. Pinto Centro Hospitalar do Tâmega e Sousa, EPE, Cardiology Department, Penafiel, Portugal

Introduction: Bradycardia evaluation is a common challenge in the emergency department. On its approach, a potential reversible cause should be sought, and permanent pacing delayed, until correction of triggers. Even so, many patients (pts) will exhibit persistence of heart rhythm disturbances, keeping indication for permanent cardiac pacemaker (PPM) implantation. The identification of this subgroup of pts remains a challenge. Aims: To characterize a cohort of pts admitted to a cardiology ward with a diagnosis of bradycardia in the context of negative chronotropic medication intake and/or electrolyte disturbances. To identify prognostic features that may be associated with PPM implantation.