selecting Ramp or Burst+ in a randomized way, maintained for 4 months and then crossed over.

Results: We report about the ancillary study comparing Ramp vs Burst+ ATP efficacy: after a follow up of 13 months, 98 patients suffered 5098 AT episodes. In 60 patients, 1417 AT episodes were treated and 646 (45.6%) successfully terminated. Burst+ terminated 246 out of 645 AT episodes (38.1%) in 44 patients. Ramp terminated 400 out of 772 AT episodes (51.8%) (p<0.001 vs Burst+) in 49 patients. In 24 patients who had at least 6 AT episodes treated by both therapies, mean ATP efficacy per patient was 43.3% for Burst+ and 57.9% for Ramp (p<0.05).

Conclusions: In patients suffering from bradycardia and AT, atrial ATP therapies were able to terminate approximately half of treated AT episodes. In particular Ramp was significantly more effective than Burst+.

215 Improved efficacy of atrial overdrive pacing in patients with atrial fibrillation using hybrid-therapy (Amiodarone or right atrial linear ablation). 8 months results of the Medab-Study

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Background: atrial fibrillation (AF) is commonly observed in pacemaker (PM) patients. In addition to treatment with antiarrhythmic drugs and catheter ablation, pacing therapies (preventive and therapeutic) are a focus of interest. The main advantage of overdrive pacing is the quick and painless termination. Newer observations show that atrial arrhythmias with short cycle lengths (i.e.<200ms) can be terminated also by overdrive pacing. Nevertheless, these encouraging results need to be confirmed by additional randomized clinical trials.

Hypothesis: the additional use of a class III antiarrhythmic drug or right atrial linear ablation increase the efficacy of pacing therapies in patients with paroxysmal atrial fibrillation (PAF).

Methods: 59 patients (pts) (mean age 70±4.7 yrs, NYHA II/I 89.6%) with PAF and a class I PM indication were included in this prospective multicenter randomized study. All pts received β-blocker therapy and a DDDRPM-PM (AT500, Medtronic) with preventive and overdrive pacing options. After PM-implantation, additional treatment was given in randomized fashion: β-blocker only (control group); isthmus ablation + β-blocker (ablation group). There was a 2 months stabilization phase, and thereafter follow-up visits were performed every other month.

Results: After 8 months, 22120 episodes of fast atrial arrhythmia (median cycle length 210 ms) were treated by both therapies, mean ATP efficacy (median 50% (Quartile 50%; 15%, 80%) of episodes compared to drug therapy.

Conclusions: Ramp or Burst+ in a randomized way, maintained for 4 months and then crossed over.

217 Adaptation to the vertical position is related to the increase in HRV assessed in short time during HUT

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There are no data about the influence of tilt training on the autonomic activity in patients with vasovagal syncope. The aim of the study was to assess the influence of tilt training on HRV parameters in vasovagal patients.

The study was performed in 16 patients (10F; 6M) aged 30.5±19 years treated with tilt training. During the diagnostic tilt test (HUT) and during the monitoring one after 1-3 months of tilt training Holter monitoring was performed. The diagnostic HUT was performed according the Italian protocol. Vasovagal syncope occurred in 3 patients during the passive phase and in 13 after NTG provocation. In 9 patients there was a cardioinhibitory and in 7 mixed reaction. Time and frequency domain HRV parameters were studied in 2 minutes intervals: 2 minutes before HUT (I), between 2 and 4 minutes of HUT (II) and between 18 and 20 minutes of HUT or 2 minutes before the syncope (III) in the passive phase of HUT.

<table>
<thead>
<tr>
<th></th>
<th>Before</th>
<th>After 1-3 months</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>mRR I</td>
<td>972 ± 167</td>
<td>959 ± 149</td>
<td>NS</td>
</tr>
<tr>
<td>SDNN I</td>
<td>74 ± 36</td>
<td>81 ± 48</td>
<td>NS</td>
</tr>
<tr>
<td>LF I</td>
<td>37 ± 20</td>
<td>42 ± 25</td>
<td>NS</td>
</tr>
<tr>
<td>HF I</td>
<td>53 ± 24</td>
<td>48 ± 39</td>
<td>NS</td>
</tr>
<tr>
<td>mRR II</td>
<td>710 ± 132</td>
<td>710 ± 132</td>
<td>NS</td>
</tr>
<tr>
<td>SDNN II</td>
<td>48 ± 23</td>
<td>54 ± 33</td>
<td>NS</td>
</tr>
<tr>
<td>LF II</td>
<td>29 ± 17</td>
<td>34 ± 18</td>
<td>NS</td>
</tr>
<tr>
<td>HF II</td>
<td>13 ± 13</td>
<td>22 ± 18</td>
<td>0.01</td>
</tr>
<tr>
<td>B I</td>
<td>2.5 ± 0.7</td>
<td>1.9 ± 0.9</td>
<td>NS</td>
</tr>
<tr>
<td>mRR III</td>
<td>685 ± 124</td>
<td>711 ± 103</td>
<td>NS</td>
</tr>
<tr>
<td>SDNN III</td>
<td>42 ± 21</td>
<td>53 ± 29</td>
<td>NS</td>
</tr>
<tr>
<td>LF III</td>
<td>23 ± 11</td>
<td>31 ± 11</td>
<td>0.01</td>
</tr>
<tr>
<td>HF III</td>
<td>11 ± 6</td>
<td>17 ± 8</td>
<td>0.01</td>
</tr>
<tr>
<td>B III</td>
<td>2.1 ± 0.5</td>
<td>2.0 ± 0.6</td>
<td>NS</td>
</tr>
</tbody>
</table>

Conclusions: 1. Tilt training leads to greater activation of parasympathetic modulation in response to HUT. 2. Altered sympathovagal balance could be responsible for the efficacy of tilt training in vasovagal patients.

219 The role of clinical anxiety in the head up tilt test

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Introduction: It has been reported that the expression of neurocardiogenic syncope is related to mental conditions and psychiatric disorders. The effect of clinical anxiety on the response to head-up tilt test with clonidine challenge has not been studied so far. The aim of this study was to investigate the impact of the anxiety status on the response to head-up tilt testing.

Methods: We studied 41 consecutive patients (pts) with recurrent neurocardiogenic syncope (>2 episodes in the past year), mean aged 34±14 years. During their initial evaluation, they completed a 25 item questionnaire of the Clinical Anxiety Scale based on the DSM III diagnostic criteria. A positive anxiety score was associated with a status of increased anxiety and a negative score was considered as indicative of a...
The aim of this study was to evaluate if by using a low-dose of sublingual nitroglycerin (NTG) for the assessment of unexplained falls has been proved in older patients (P). In addition, whether different NTG doses have impact on the sensitivity of the test was also assessed.

**Methods:** 56 consecutive P aged ≥65 years with syncope of unknown origin submitted to HUTT. P were tilted upright to 70 degrees for 20 minutes. Carotid sinus massage was done in basin conditions and following the assumption of the head-up tilt posture. If syncope did not occur, sublingual NTG was administered and observation continued for 20 minutes. The first 37 P (group A) received 0.5 mg of NTG and the remaining 19 (group B) received 0.25 mg. Positive responses to NTG were defined as the reproduction of syncope/presyncope and classified as cardioinhibitory, vasodepressor, or mixed (according to a multicenter European working group classification). Those P showing a gradual decrease in BP after NTG followed by symptoms considered to have an exaggerated response. Electrocardiogram and BP were monitored continuously (Task Force Monitor; CNSystems).

**Results:** The mean age was 73.4±6.1 years for group A and 74.5±6.9 years for group B (p=NS). There were no significant differences between clinical characteristics of the groups. HUTT was positive in 51% and 53% (p=NS), negative in 32% and 42% (p=NS), or considered an exaggerated response in 16% and 5% (p=0.45) in group A and group B, respectively. Neurocardiogenic responses were classified as vasodepressor in 32% vs. 32% (p=NS), cardioinhibitory in 5% vs. 0% (p=NS) and mixed in 14% vs. 21% (p=NS) - group A vs. group B. No P experienced side effects. The value of medical history in predicting tilt testing results

**Conclusion:** In older P with unexplained syncope, HUTT potentiated with a lower dose of sublingual NTG provides an adequate total positive rate and may reduce the occurrence of exaggerated responses.

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Head-up tilt testing potentiated with a low-dose sublingual nitroglycerin in elderly patients with unexplained syncope

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The utility of head-up tilt testing (HUTT) potentiated with nitroglycerin (NTG) for the assessment of unexplained falls has been proved in older patients (P). In these subjects, exaggerated responses may follow NTG administration and difficult clinical interpretation. The aim of this study was to evaluate if by using a low-dose of sublingual NTG the occurrence of exaggerated responses could be reduced in elderly P. In addition, whether different NTG doses have impact on the sensitivity of the test was also assessed.

**Methods:** 56 consecutive P aged ≥65 years with syncope of unknown origin submitted to HUTT. P were tilted upright to 70 degrees for 20 minutes. Carotid sinus massage was done in basin conditions and following the assumption of the head-up tilt posture. If syncope did not occur, sublingual NTG was administered and observation continued for 20 minutes. The first 37 P (group A) received 0.5 mg of NTG and the remaining 19 (group B) received 0.25 mg. Positive responses to NTG were defined as the reproduction of syncope/presyncope and classified as cardioinhibitory, vasodepressor, or mixed (according to a multicenter European working group classification). Those P showing a gradual decrease in BP after NTG followed by symptoms considered to have an exaggerated response. Electrocardiogram and BP were monitored continuously (Task Force Monitor; CNSystems).

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**Conclusion:** In older P with unexplained syncope, HUTT potentiated with a lower dose of sublingual NTG provides an adequate total positive rate and may reduce the occurrence of exaggerated responses.