COMBINED DIAGNOSTIC YIELD OF TILT TABLE TEST AND IMPLANTABLE LOOP RECORDER TO IDENTIFY PATIENTS AFFECTED BY SEVERE CLINICAL PRESENTATION OF NEURALLY-MEDIATED REFLEX SYNCOPE WHO COULD RESPOND TO CARDIAC PACING

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The efficacy of cardiac pacing for prevention of syncopal recurrence in patients with neurally mediated syncope

<table>
<thead>
<tr>
<th>In favour of pacing (open-label)</th>
<th>Failed to prove superiority of cardiac pacing over placebo</th>
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<tbody>
<tr>
<td>Multicenter, randomized</td>
<td>Randomized, double-blind</td>
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| SYDIT (Circulation 2001)       | VPS II Trial (JAMA 2003)                                 |
| 2-year estimated syncope       | 6-months syncope recurrence rate was 31%                 |
| recurrence rate was 7.2%       |                                                           |

| VASIS (JAMA 2003)              | SYNPACE Trial (Eur Heart J 2004)                          |
| 2-year estimated syncope rate  | 1-year syncope recurrence rate was 29%                    |
| was 6%                         |                                                           |
Context and Background:

It showed the capacity of ILR to guide the specific therapy in the context of NMS, and confirmed that there is not a correlation between the results of TTT and the mechanism documented by ILR at the time of the syncope.

ISSUE 2
International Study on Syncope of Uncertain Etiology 2

Pacing is effective in reducing recurrence of syncope in patients ≥40 years with severe asystolic NMS (ILR). There was 32% absolute risk reduction and 57% relative risk reduction.

ISSUE 3
International Study on Syncope of Uncertain Etiology 3

Eur Heart J 2006; 27, 1085–1092

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Context and Background:

ISSUE 3
International Study on Syncope of Uncertain Etiology 3
Methods: Patient selection

- NMS is defined as any form of reflex syncope (except of carotid sinus syndrome)

- Age > 40 years

- Patients had to have a sufficiently severe clinical presentation to warrant specific treatment

High frequency or risk provided by guidelines:

- invalidated quality of life
- unpredictable syncope
- syncope exposing patients to risk of trauma
- occurrence of syncope during “high risk activity”
Methods: Exclusion of patients

- **Cardiac abnormalities which suggested cardiac syncope**
- **Symptomatic orthostatic hypotension**
- **Non-syncopal loss of consciousness**
Methods

-patients selected by **ILR** in the context of severe clinical presentation of NMS

-patients underwent **PM** implantation (**DDD-RDR**)

**In this observational and retrospective study we wanted to observe the results of TTT in the groups of treated patients with and without recurrences.**
We analysed 24 patients treated using a PM (10 male and 14 female, with an average age of 70 years). Period 2008-2012

During an average follow-up period of 35 months the recurrence of syncope occurred in 7 patients (29%). 17 patients (71%) had not recurrences during the follow-up.
Results

**TTT was positive in 4 patients out of seven with recurrences (in two cases documented CI): 57%**

**Among the 17 patients without recurrences TTT was positive only in 2 patients: 12%**

17 Patients with no recurrence:

- TTT negative: 15 patients (88%)
- TTT positive: 2 patients (12%)

$p = 0.02$
**Conclusions**

Positive TTT is more likely correlated with a higher frequency of recurrences of syncope in the group treated using a PM, while a negative response seems to predict the success of the pacing therapy.

The rationale could be that TTT is able to highlight the importance of a concomitant hypotensive reflex.
Conclusions

The benefit of pacemaker therapy in patients with presumed neurally-mediated Syncope and documented asystole is greater when tilt test is negative. An analysis from the Third International Study on Syncope of Uncertain Etiology (ISSUE-3)


52 Patients (26 TT+, 26 TT-) with asystolic ILR were treated with a PM:
- recurrence of syncope in 8 (31%) TT+ and 1 (4%) TT- patients

- pacing effective in NMS with asystole by ILR and negative TT
- no evidence of efficacy in positive TT
- although a positive asystolic TT response predicts a clinical aystolic NMS, the pacing benefit is similar to that of positive non-aystolic TT response

Consequently PM is not sufficient in a group of patients with positive TTT response.