

Vasovagal Syncope: Therapeutic Issues

Syncope Clinic: First One Year Experience And Problems In Japan

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Abstract

Introduction: We would like to report the experience and problems of The Syncope Unit in Japan.

Methods: we enrolled consecutive patients referred to our Syncope Clinic for one year.

Results: 54 patients (35 males, age 59) referred due to syncope unknown origins. Their median number of syncope was two. During 30±27 days, 63% of all (34 patients) were diagnosed. The most common origin is reflex syncope (11 patients). Nine patients (17%) rejected further examinations. The others were in process. We performed specialized examination to selected patients as follow: electrophysiological studies for 11 patients (20%), tilt table tests for 15 (27%) and coronary angiography for 9 (17%). Indications of implantable loop recorders were in 11 (20%) for recurrence syncopal episodes at high risk. However, 72 % of them were rejected for the implantations. About treatments, we performed 9 pacemaker implantations, 1 implantable cardioverter-defibrillator implantation and 2 radiofrequency catheter ablation procedures.

Conclusion: We documented the current practice of syncope management in a specialized facility in Japan. Several major problems were detected. The most common problem is rejections of future managements.

Evaluation Of Baroreceptor Sensitivity Changes During The Treatment Of Vasovagal Sensitivity By Tilt Training

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Abstract

Objectives: The aim of study was an analysis of baroreceptor sensitivity Changes of baroreceptor sensitivity during the treatment of with vasovagal syncope with tilt training.

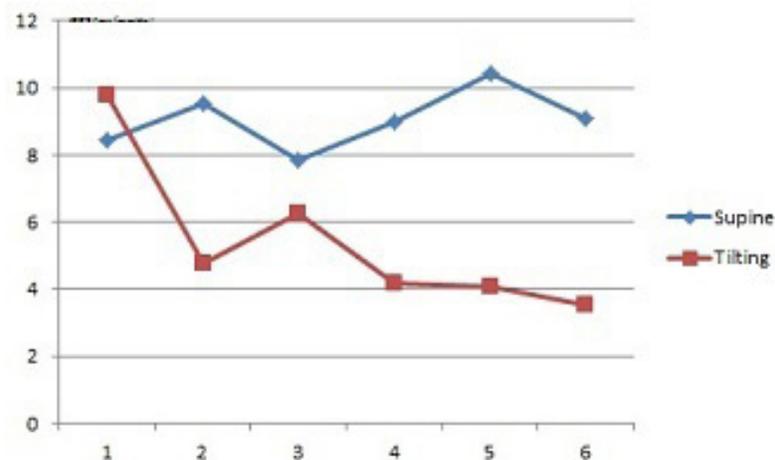
Study population: we observed 75 pts. (23 men, 1162 women) aged 18-42 yrs (median of age: 21 yrs) with vasovagal syncope (VVS) confirmed by head-up tilt test (HUTT) and referred to non-pharmacological treatment by tilt training.

Methods: All pts underwent HUTT performed according Italian protocol. After positive HUTT result patient were referred to classical tilt training proposed by Ector – repeated tilting until achieving two consecutive negative responses. Continuous non-invasive monitoring of heart rate (HR) and blood pressure (beat-to beat) was performed using NEXFIN analyser. Based on registered HR and blood pressure values the baroreceptor sensitivity index (iBRS) was calculated separately for supine and for tilting during the following training sessions.

Results: Significant reduction of iBRS during tilt across the training cycle was observed in all patients (2,5 vs. 9,8 ms/mmHg $p < 0,01$), whereas there was no changes regarding supine values of iBRS through the training.

Conclusions:

1. Modification of baroreceptor sensitivity during the tilting seems to be important mechanism responsible for antysyncopal effect of tilt training.
2. The monitoring of tilt related baroreceptor sensitivity may be marker of effectiveness of treatment of vasovagal syncope by tilt training.



Limited Utility Of Physical Counter-Pressure Maneuvres In Preventing Syncopal Recurrence In Patients Older Than 40 YEARS With Recurrent Neurally-Mediated Syncope. An Analysis From The Third International Study On Syncope Of Uncertain Etiology (Issue-3)

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Abstract

Aims: Physical counter-pressure maneuvers are effective in young patients with vasovagal syncope and recognizable prodromal symptoms. Aim of this study was to investigate their effectiveness in patients ≥ 40 years with severe neurally mediated syncope (NMS) enrolled in the Third International Study on Syncope of Uncertain Etiology (ISSUE-3).

Methods and results: In the ISSUE-3 study, 63 out of 162 patients had a diagnosis of hypotensive NMS (type 2,3 and 4A) documented by implantable loop recorder (ILR); of these, 40 were instructed to perform isometric leg and arm physical counter-pressure maneuver (PCM) therapy. Their mean age was 62 ± 13 years; 71% of patients had a history of some episodes without prodrome. A group of 45 untreated patients acted as controls. During follow-up, syncope recurred in 15 PCM patients (39%) and in 24 control patients (53%). At 21 months, the estimated product-limit syncope recurrence rates were 42% (95%CI 29-62) and 64% (95%CI 48-80) respectively ($p=0.30$).

Conclusions: 1. The benefit of PC maneuvers was limited in ISSUE-3 patients affected by hypotensive NMS. The likely factors that hampered effectiveness of PC therapy were older age and absence of sufficiently long recognizable prodromal symptoms in the ISSUE-3 population.

Diagnostic Yield Of Tilt Table Test To Predict Recurrences Of Neurally-Mediated Reflex Syncope In Patients Treated Using A Pacemaker

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Abstract

Aim: To verify the diagnostic value of tilt table test (TTT) to predict the efficacy of cardiac pacing (PM) for preventing recurrences of neurally mediated reflex syncope in a selected group of patients with severe clinical presentation and cardio-inhibitory activity documented by implantable loop recorder.

Methods: In this observational and retrospective study we wanted to observe the results of TTT in two groups of treated patients using a PM: with and without recurrences.

Results: We analysed 21 patients. During an average follow-up period of 23+10 months the recurrence of syncope occurred in 5 patients (22%). 16 patients (78%) had not recurrences.

In the group with recurrences TTT was positive in 3 out of four patients in whom the TTT was performed (75%). Among the 16 patients without recurrences TTT was performed in 12 of those and was positive only in 2 cases (16,6%).

Conclusions: A positive TTT response in selected patients treated with PM is more likely correlated with a higher frequency of recurrences of syncope, while a negative response seems to predict the success of the pacing therapy.

Dual Chamber Pacemaker (With Rate Drop Response Algorithm) In Patients With Severe Clinical Presentation Of Neurally-Mediated Syncope Selected By Implantable Loop Recorder

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Abstract

Aim: To assess the efficacy of cardiac pacing in a selected group of patients with severe clinical presentation of certain or suspected neurally-mediated reflex syncope (NMS), age > 40 years and evidence of a cardio-inhibitory activity (CI) documented by Implantable Loop Recorder (ILR).

Methods: We selected, using the ILR, patients with a CI mechanism and treated them implanting a dual chamber PM with rate drop response (RDR) algorithm. Other patients were sent to "training" sessions of learning the Isometric Counterpressure Maneuvers (ICPM).

Results: We analysed 71 patients (period 2007-2012). 21 patients received a PM (mean age 68+13 years). After an average follow-up period of 23+12 months, among the treated patients recurrences occurred in 5 patients (24%). 16 patients (76%) had no recurrences.

There was an improvement of the quality of life in all treated patients.

Conclusions: PM implantation is justified only in well selected patients. Dual chamber PM with RDR algorithm is efficient for preventing recurrences and improve the quality of life. In some cases it could be necessary to perform a "hybrid" therapy (PM + ICPM).

The Benefit Of Pacemaker Therapy In Patients With 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)

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Abstract

Aims: The Third International Study on Syncope of Uncertain Etiology (ISSUE-3) showed that dual-chamber permanent pacing is effective in reducing recurrence of syncope in patients ≥ 40 years with severe asystolic neurally mediated syncope (NMS). Nevertheless, patients receiving pacing therapy had an estimated syncopal recurrence of 25% at 2 years. Aim of this study was to investigate the role of tilt testing (TT) response in predicting syncopal recurrence.

Methods and results: In the ISSUE-3 registry, 162 out of 504 patients had a diagnosis of NMS documented by implantable loop recorder (ILR). TT was positive in 76 and negative in 60 (not performed in 26). An asystolic response (type 2B: VASIS classification) predicted asystole during a spontaneous NMS on ILR (type 1 of the ISSUE classification) with a positive predictive value of 86%. The corresponding values were 48% in patients with non-asystolic TT and 58% in patients with negative TT ($p=0.001$). Fifty-two patients (26 TT + and 26 TT -) with asystolic, type 1 NMS were treated with a pacemaker. Syncope recurred in 8 TT+ and in 1 TT- patients. At 21 months, the estimated product-limit syncope recurrence rates were 55% and 5% respectively ($p=0.004$).

TT+ recurrence rate was similar to that of 45 untreated patients (control group) which was 64%, $p=0.75$ (Figure 1). The recurrence rate was similar among 14 patients with asystolic and 12 non-asystolic responses during TT, $p=0.53$.

Conclusions: Cardiac pacing is very effective in NMS patients who have the documentation of an asystolic pause during a spontaneous event and a negative TT; conversely, there is no evidence of efficacy in patients with a positive TT. Although an asystolic response during TT predicts an asystolic spontaneous NMS, the pacing benefit is similar to that of non-asystolic responses.

