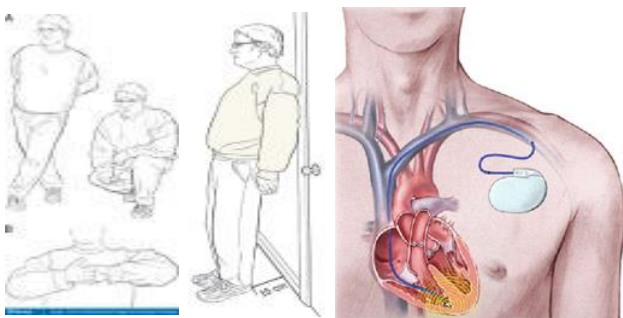


Traitement conventionnel des Syncopes invalidantes



Claude Kouakam
Clinique de cardiologie – ICP
claud.kouakam@chu-lille.fr



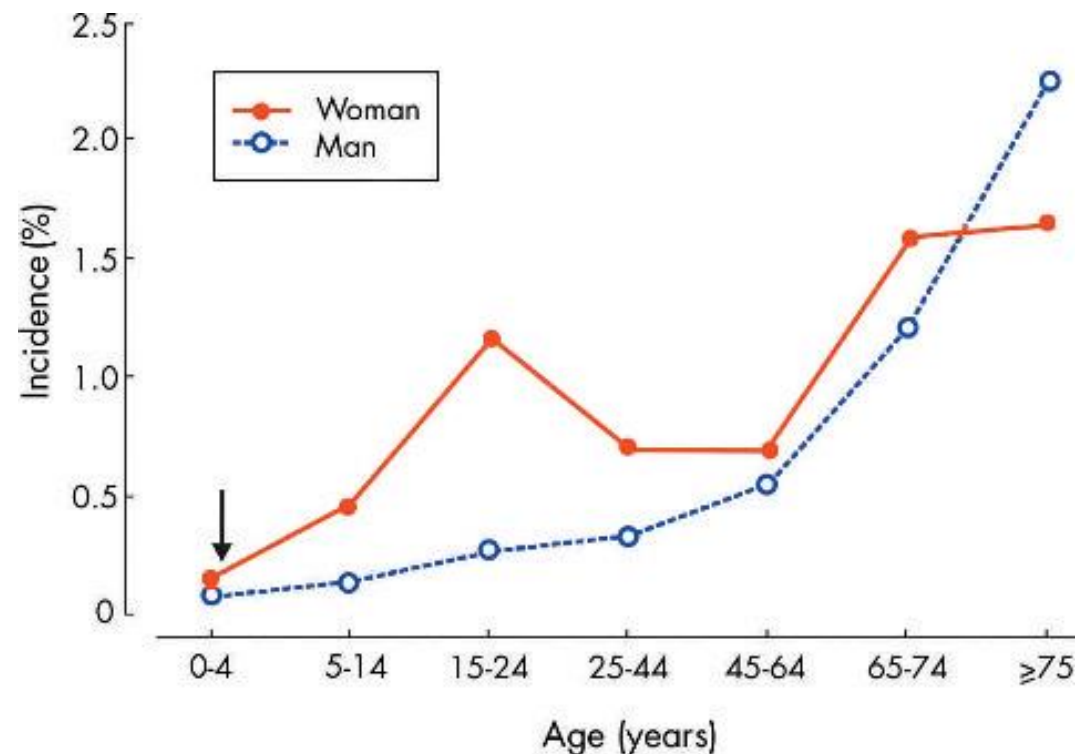
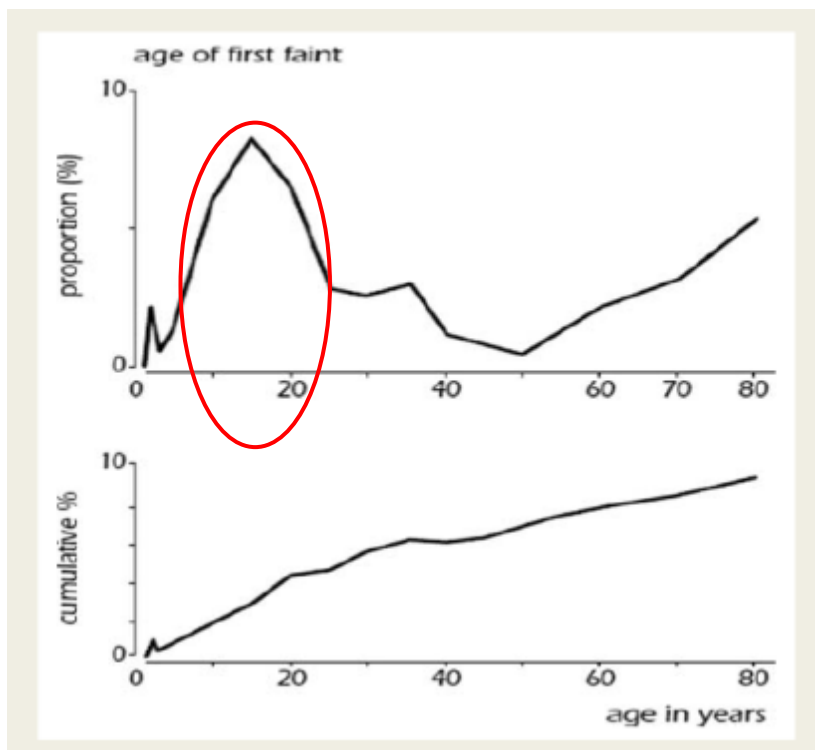
Déclaration de conflits d'intérêts

- ☒ Je déclare les liens d'intérêt potentiel suivants :
- Consultant : Abbott Médical, Medtronic France
- Honoraires : Abbott Médical, Biotronik, Boehringer, Boston Sc France, Medtronic France, Pfizer, Zoll

Syncope

Epidemiologic data

- 6,2/1000 persons/yr, 3% of ED visits and 6% of admissions
- 460 000 hospitalization for S in USA (**1.5% of hospitalization, annual cost of \$2,4 billion**), 190 000 admissions in France
- Patient' anxiety+++, social repercussion++, costly evaluation++



3 patients se présentent aux urgences

Motif d'admission syncope

Mlle F, 23 ans



Pas d'ATCD
Pas de TTT



Mr B, 62 ans



HTA, DNID
Dyslipidémie, surpoids
IDM inf. 2011, FE 40-45%
TTT: AAP, β -, IEC, statines...



Mr P, 91 ans



HTA, troubles cognitifs,
Pas de suivi
TTT: alfuzosine,
amlodipine, atenolol

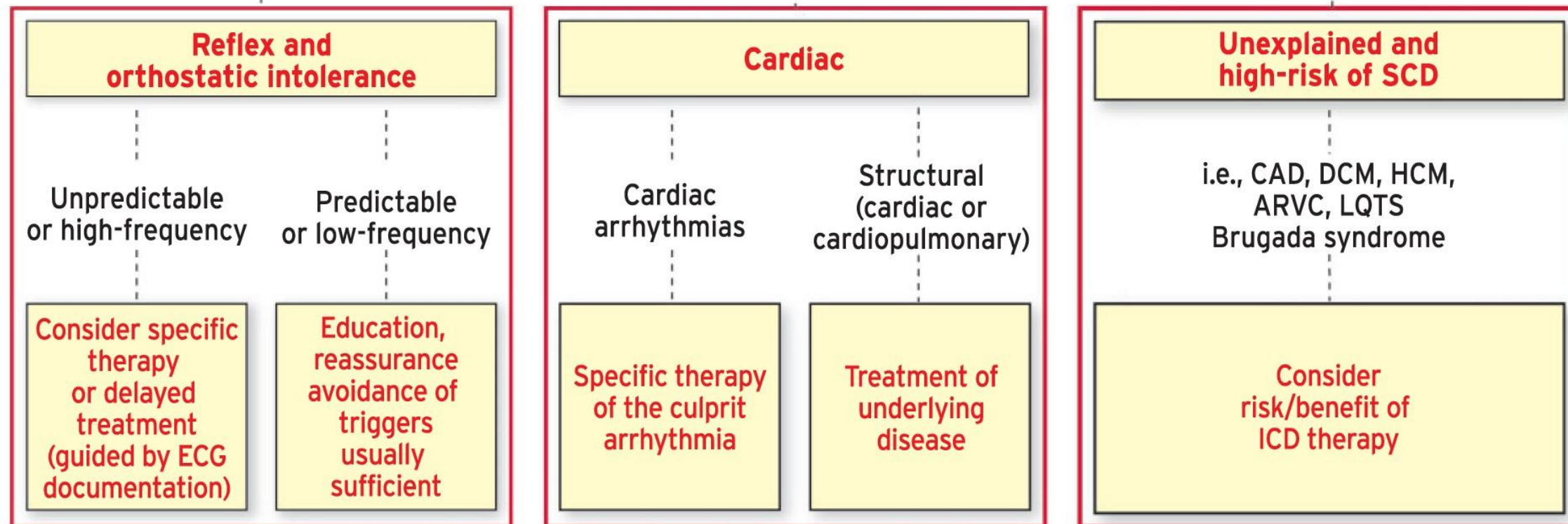


Syncope

Principes de base du TTT conventionnel

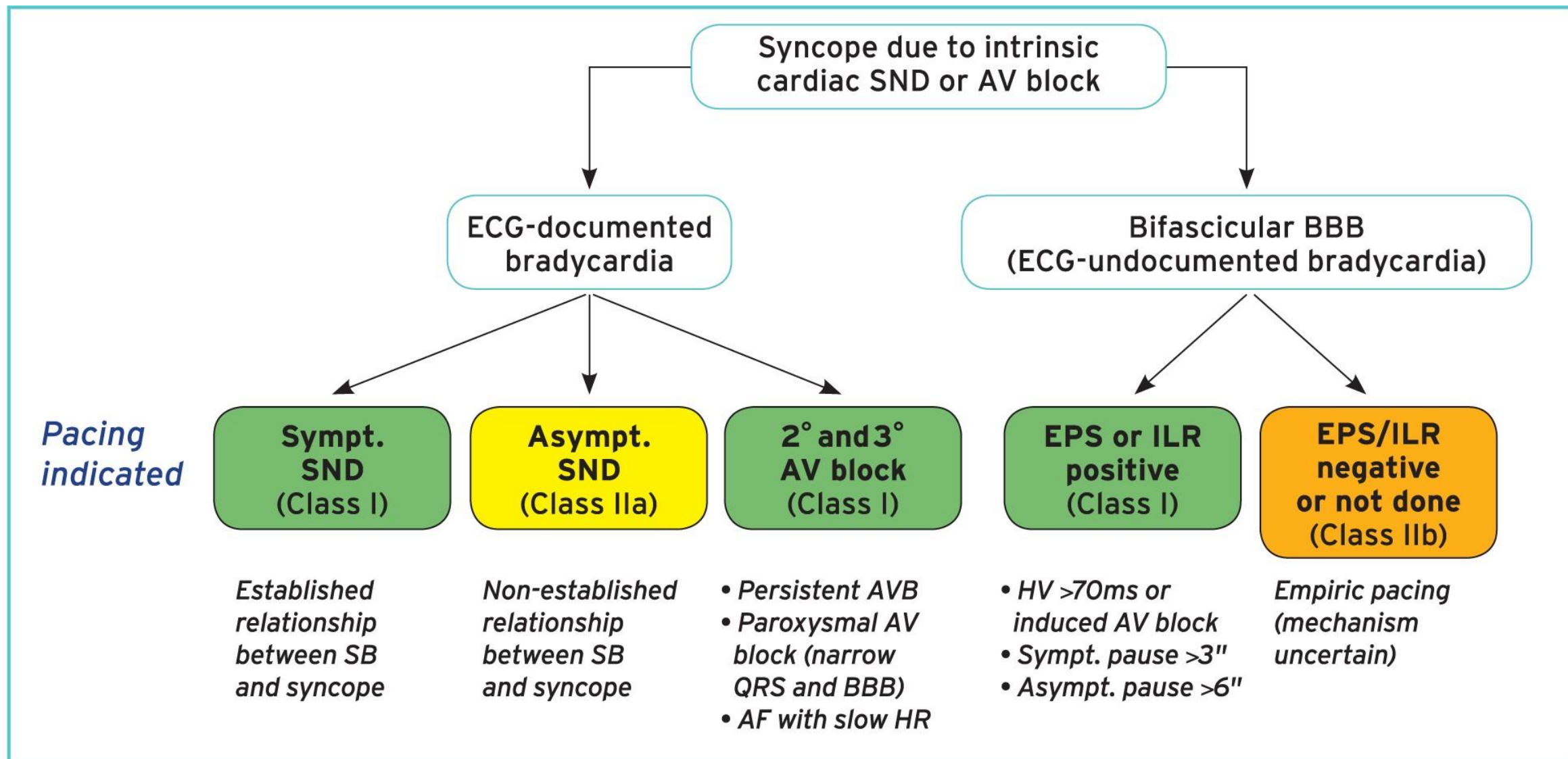
Treatment of syncope

Diagnostic evaluation



Syncope

Traitement des syncopes rythmiques : bradycardie



Syncopes non documentées : Pourquoi faut-il ne pas se précipiter pour implanter toutes les bradycardies?

Table 9 Expected syncope recurrence rates with a permanent pacemaker in different clinical settings (for more details see *Supplementary Data Table 9*).

Clinical setting	Expected 2-year syncope recurrence rate with cardiac pacing
Syncope due to established bradycardia and absence of hypotensive mechanism	High efficacy ($\leq 5\%$ recurrence rate)
Syncope due to established bradycardia and associated hypotensive mechanism	Moderate efficacy (5–25% recurrence rate)
Syncope due to suspected bradycardia and associated hypotensive mechanism	Low efficacy ($> 25\%$ recurrence rate)

©ESC 2018

Importance+++ de la relation (présumée ou avérée) entre bradycardie et hypotension



Femme 80 ans, HTA rénovasculaire, syncope à l'emporte pièce lors de la marche, traumatique. Bilan cardiovasculaire normal → MEI

Récidive S en position assise 8½ mois après l'implantation → pause sinusale de 5 secondes



Medtronic

Asystole Episode #35

Device: Reveal® DX 9528

Serial Number: RAB718321S

Date of Interrogation: 24-Sep-2015 10:45:45

Patient: C

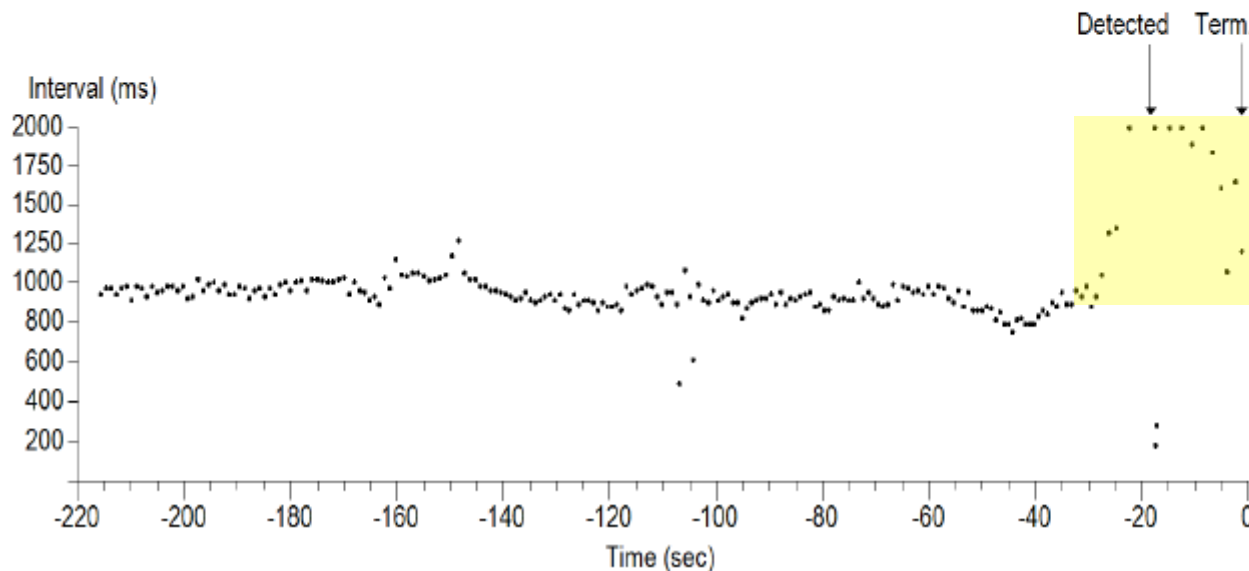
Y

ID: REVEAL

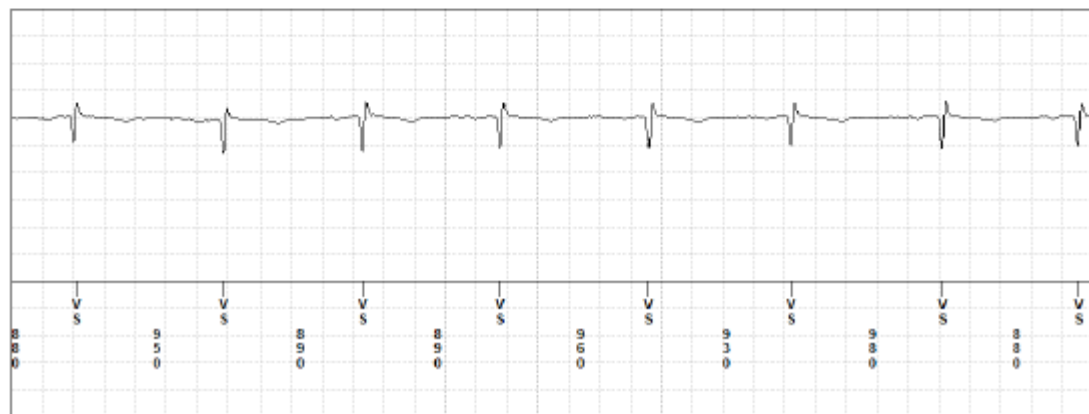
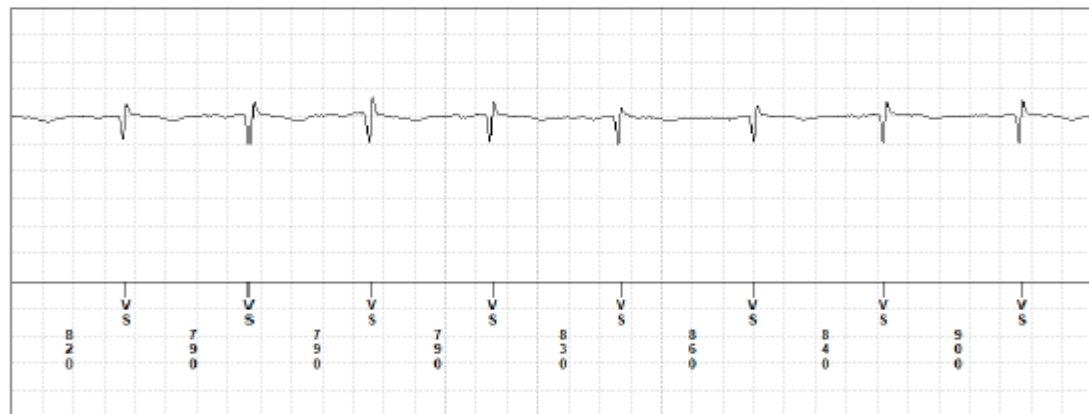
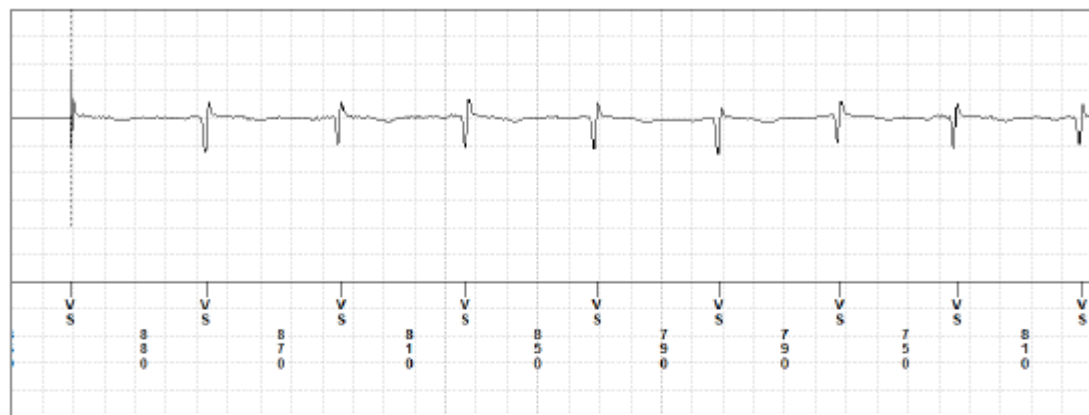
Physician:

ID#	Type	Date	Time hh:mm	Duration hh:mm:ss	Max V. Rate	Median V. Rate
35	Asystole	20-Sep-2015	08:22	:05		63 bpm (960 ms)

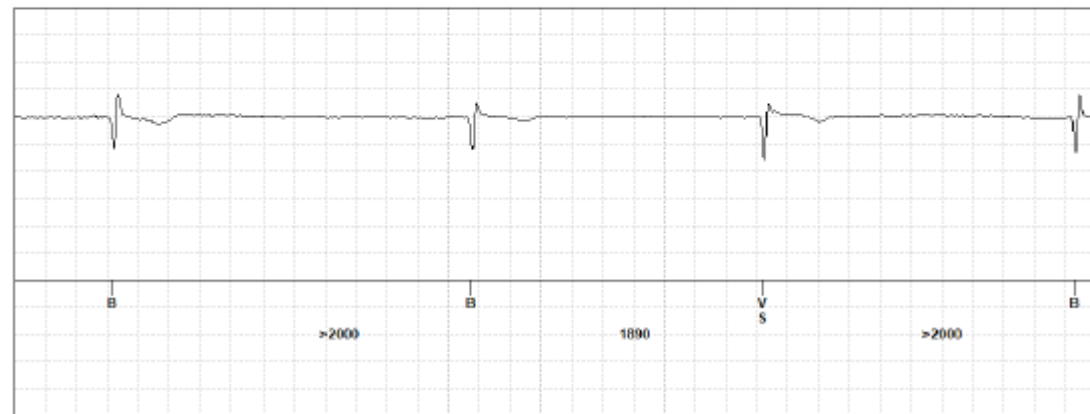
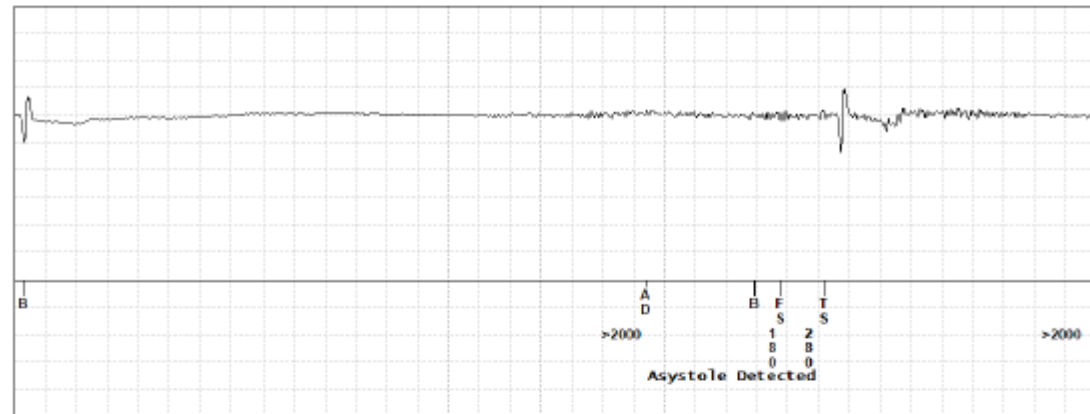
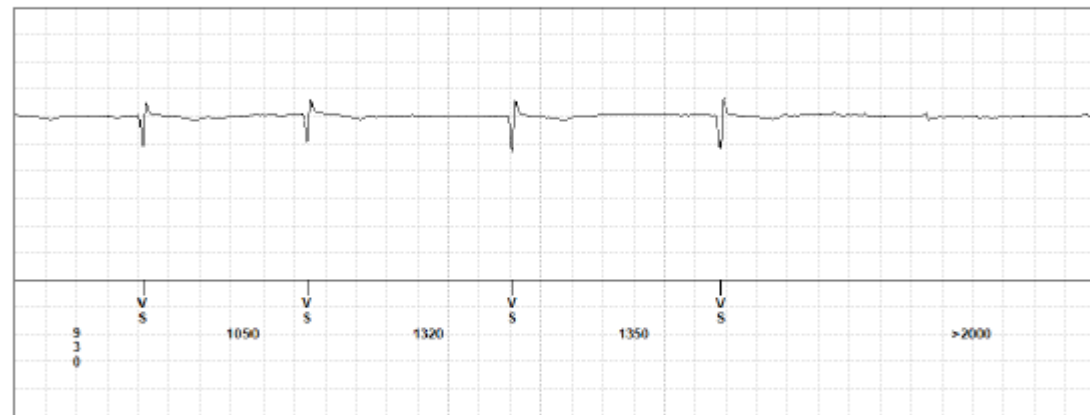
Asystole = 3.0 sec



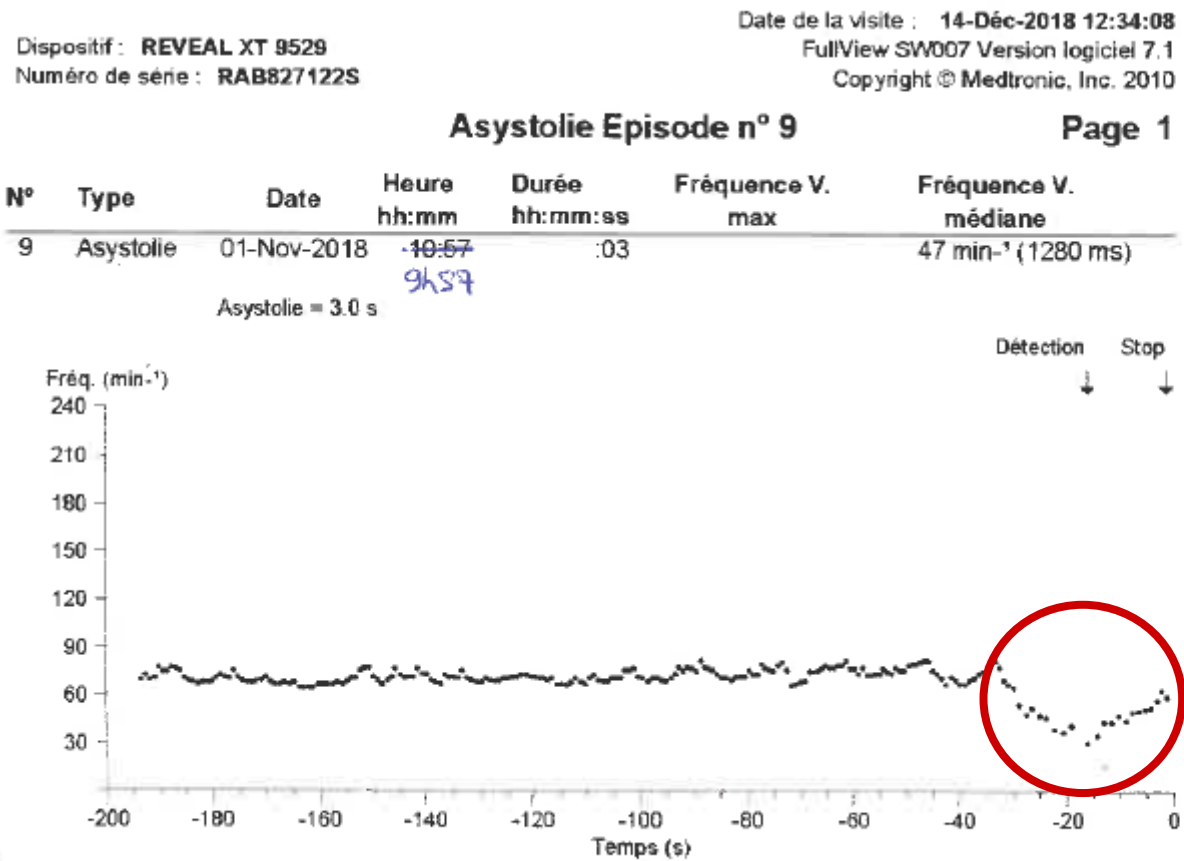
Asystole Episode #35



Asystole Episode #35



Homme 39 ans, HTA, syncopes inexpliquées ($\pm$ brutales) avec ATCD de MS familiale, implantation MEI 15 mois auparavant $\rightarrow$ récurrence syncope



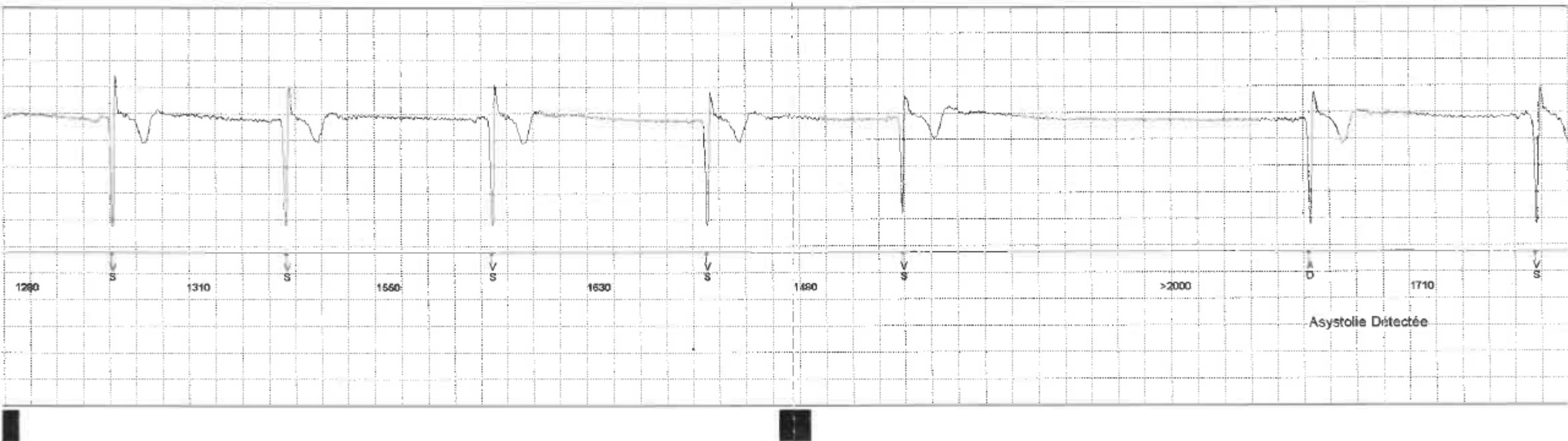
Dispositif : REVEAL XT 9529
Numéro de série : RAB827122S

Asystolie Episode n° 9
Episode #9



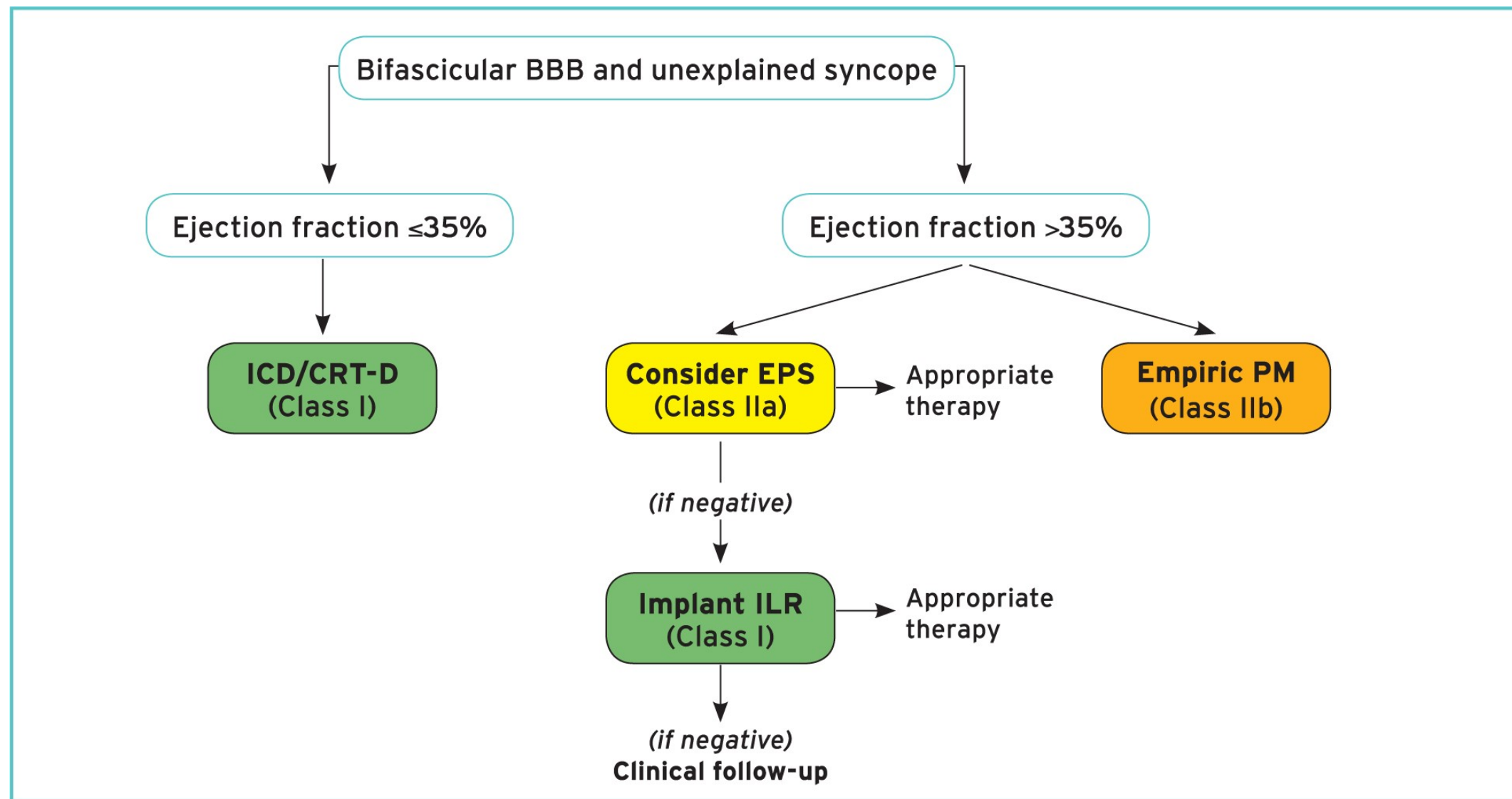
Homme 39 ans, HTA, syncopes inexpliquées ($\pm$ brutales) avec ATCD de MS familiale, implantation MEI 15 mois auparavant $\rightarrow$ récurrence syncope

Pause sinusale de 3.5 secondes précédée d'une bradycardie progressive



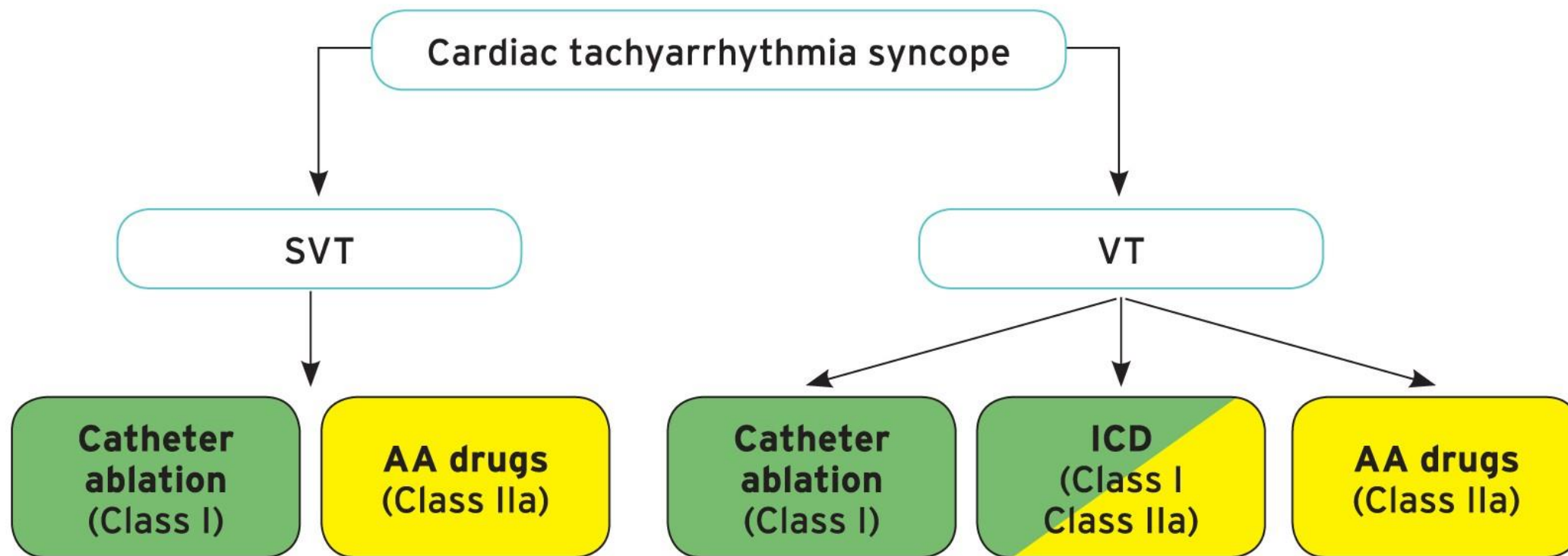
Syncope

Traitement des syncopes rythmiques : bradycardie



Syncope

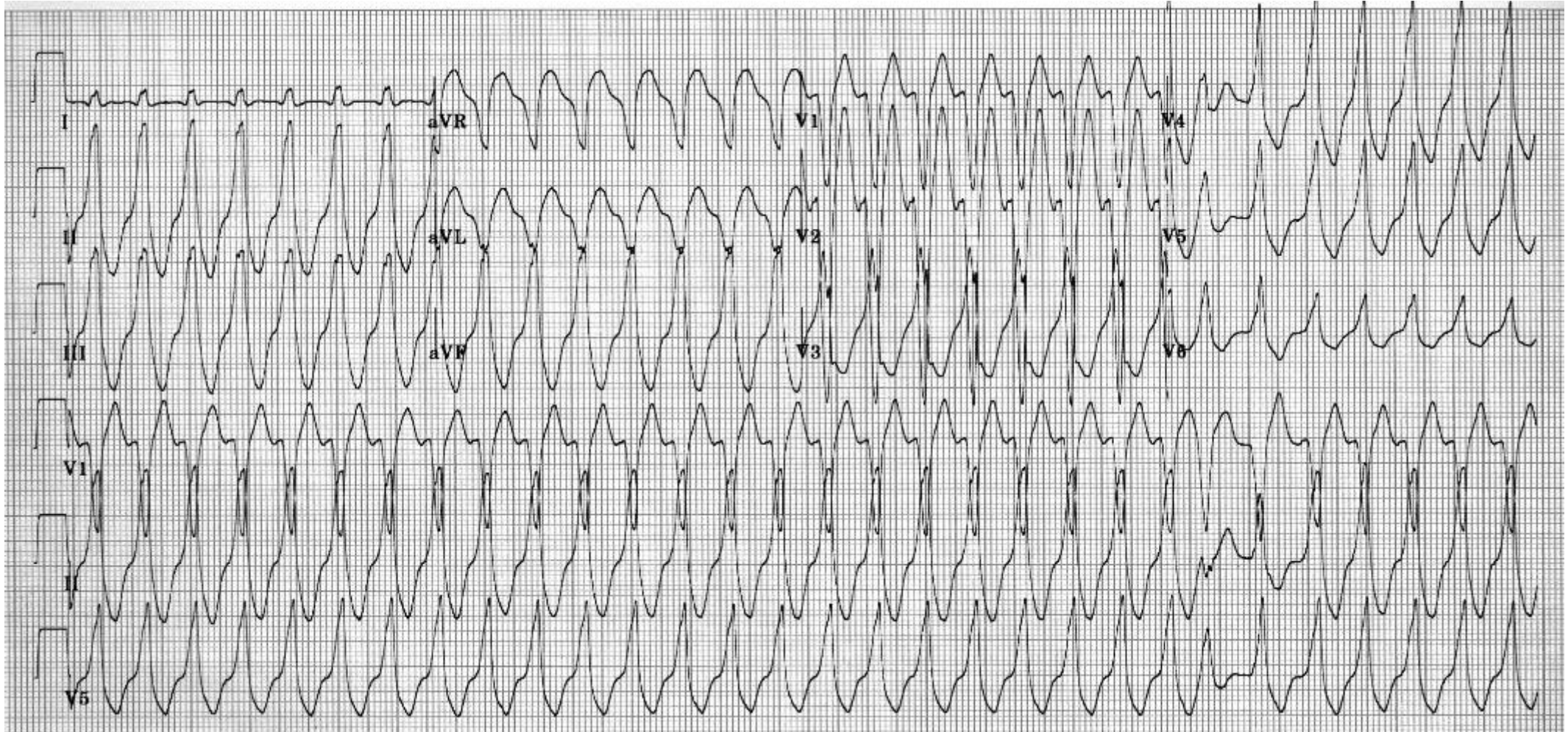
Traitement des syncopes rythmiques : tachycardie



Pt 44 ans, admission USIC pour syncopes récurrentes



Pt 62 ans, coronarien, FE 40 – 45%, syncope à domicile



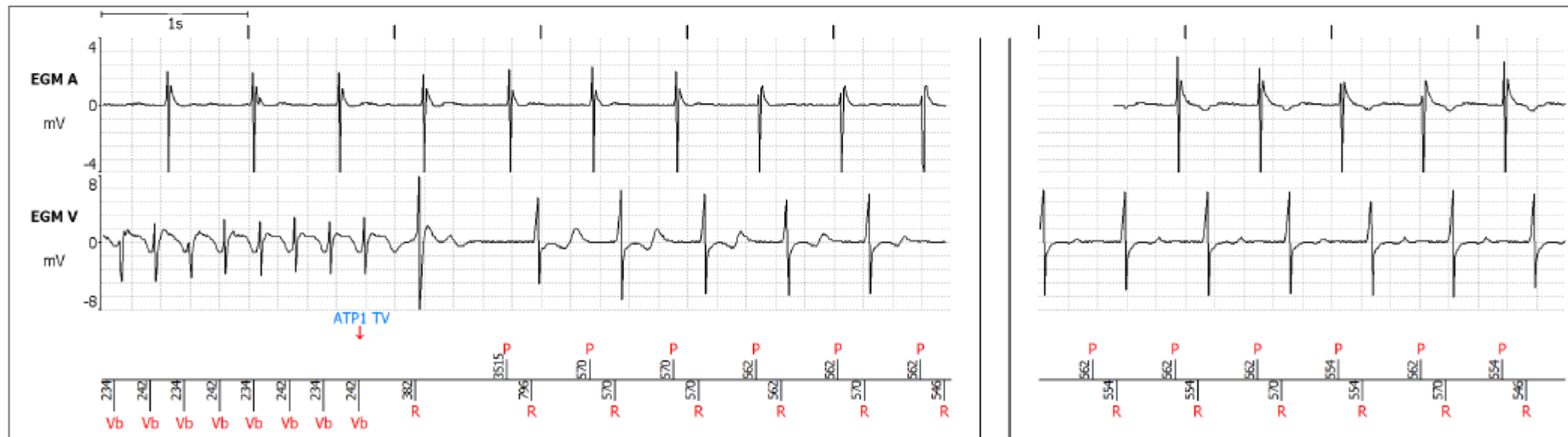
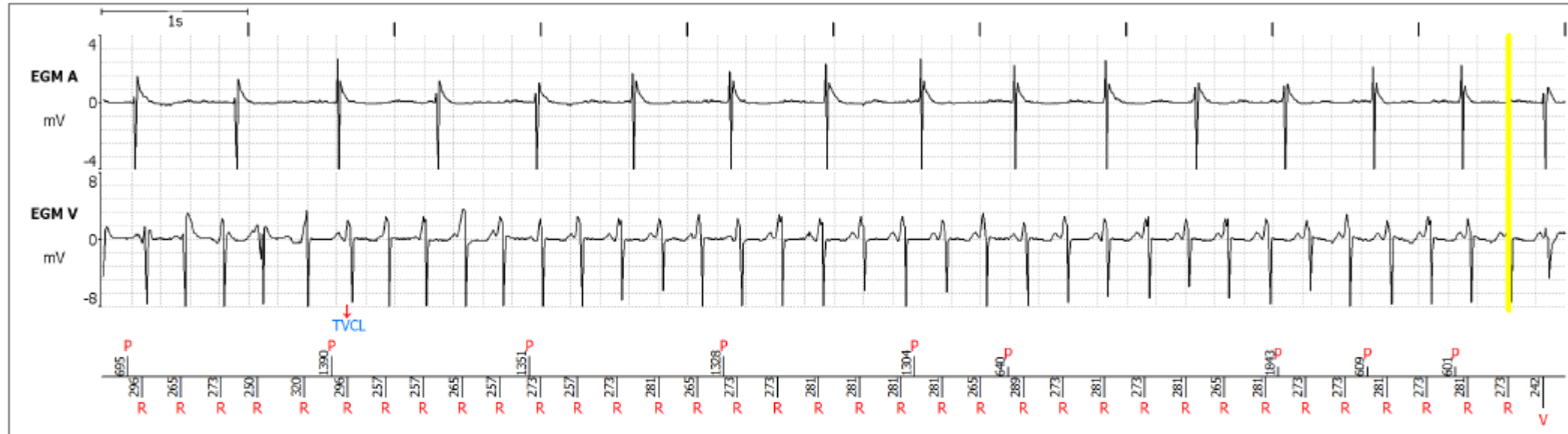
Tachycardie régulière à QRS larges 170 bpm régularisée après bolus IV de 300 mg d'Amiodarone

La suite 5 mois plus tard...

Rythme: TV

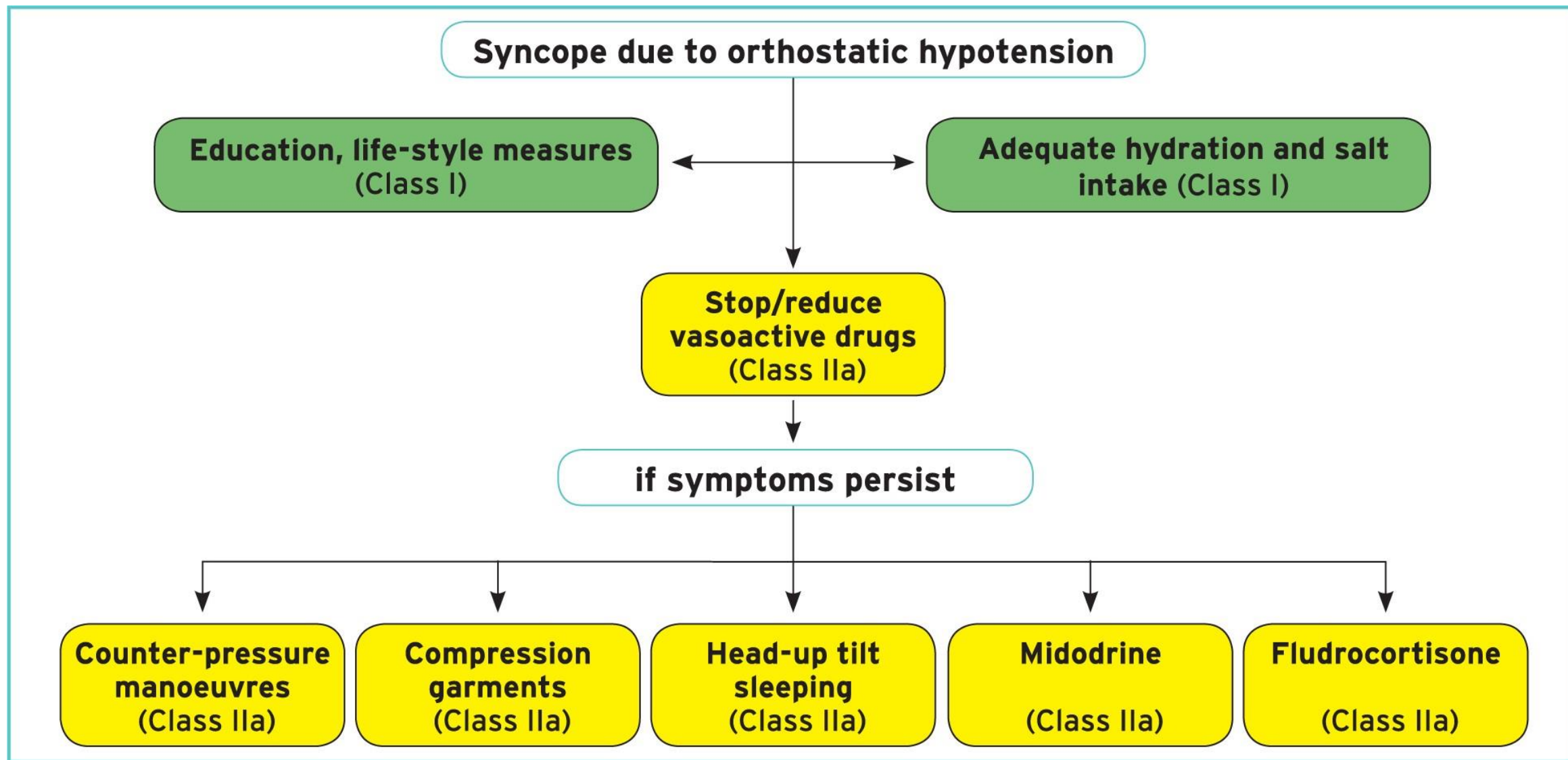
Durée: 34s

TRAITÉ: ATP

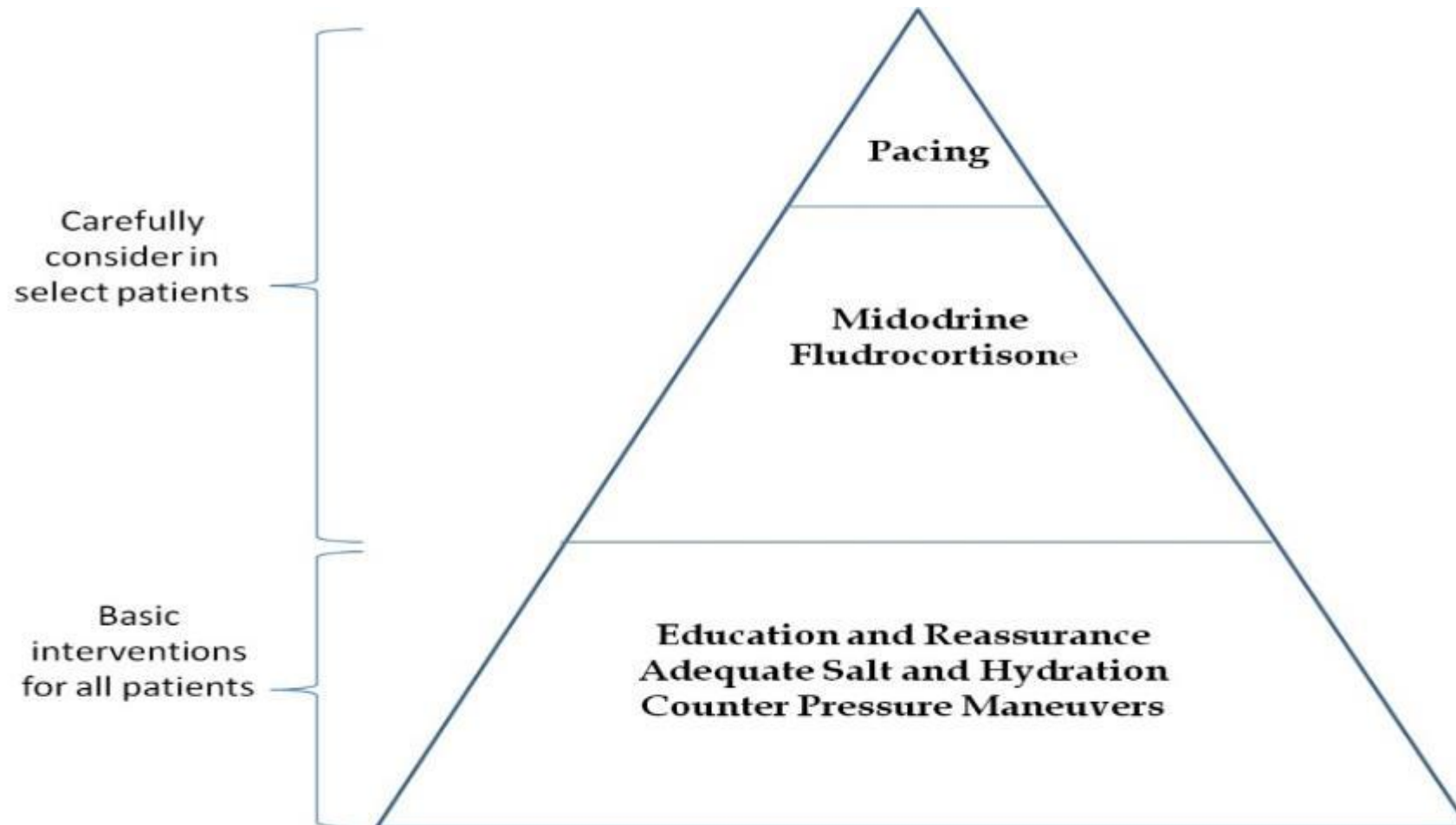


Syncope

Traitement des syncopes dues à une HTO



Traitement des syncopes réflexes

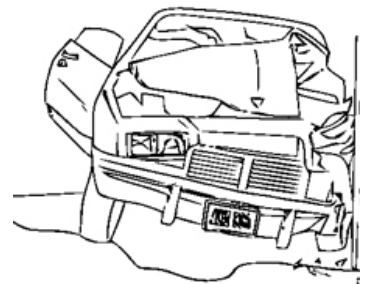


Syncope

Traitement des syncopes réflexes

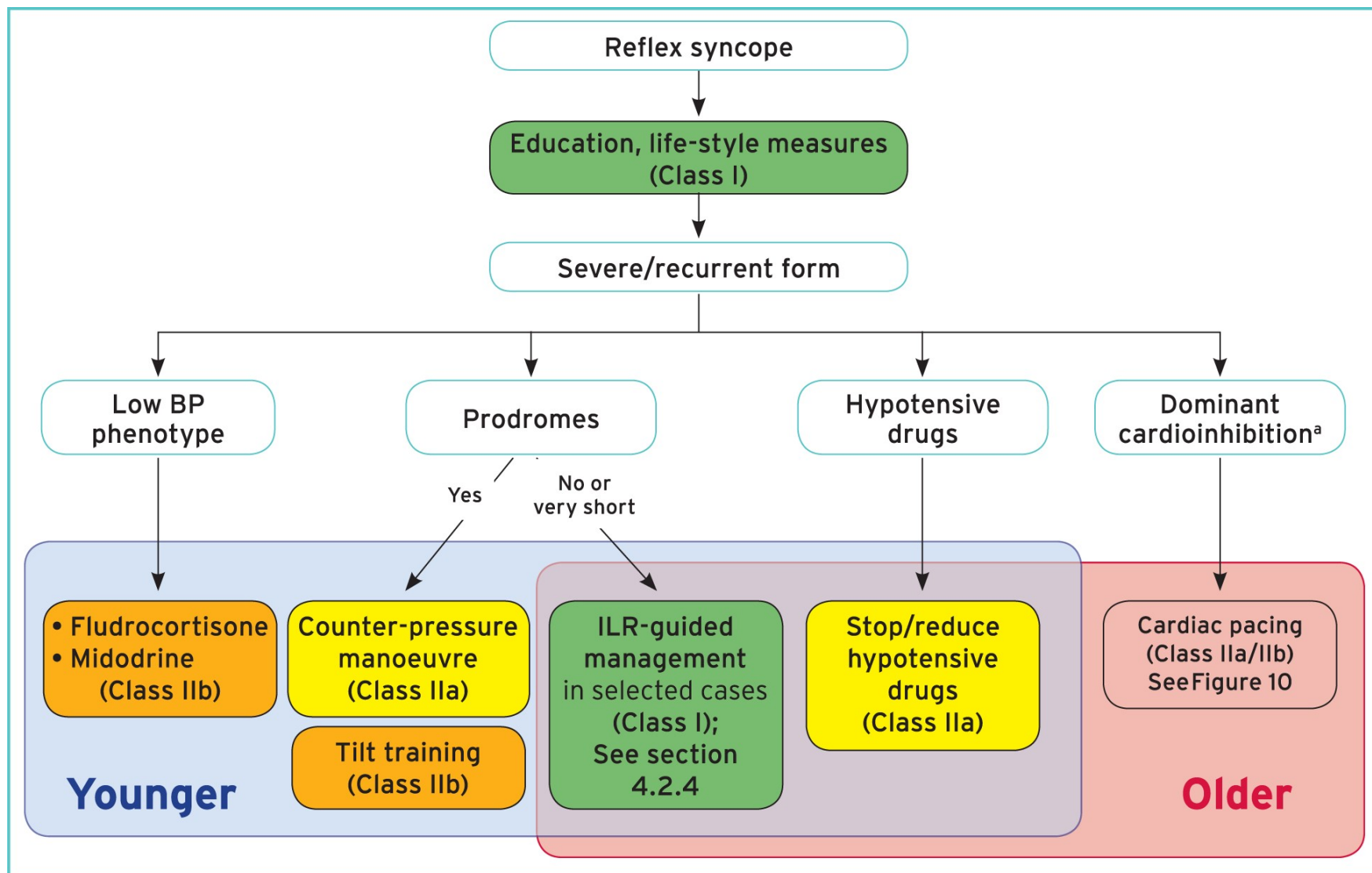
QUAND TRAITER LA SYNCOPÉ RÉFLEXE ?

- Fréquentes & invalidantes
- Altération de la qualité de vie
- Récurrentes sans ou avec très peu de prodrome expose les patients à un **risque de traumatisme**
- Lors d'une **activité à haut risque** (conduite...)



Syncope

Traitement des syncopes réflexes



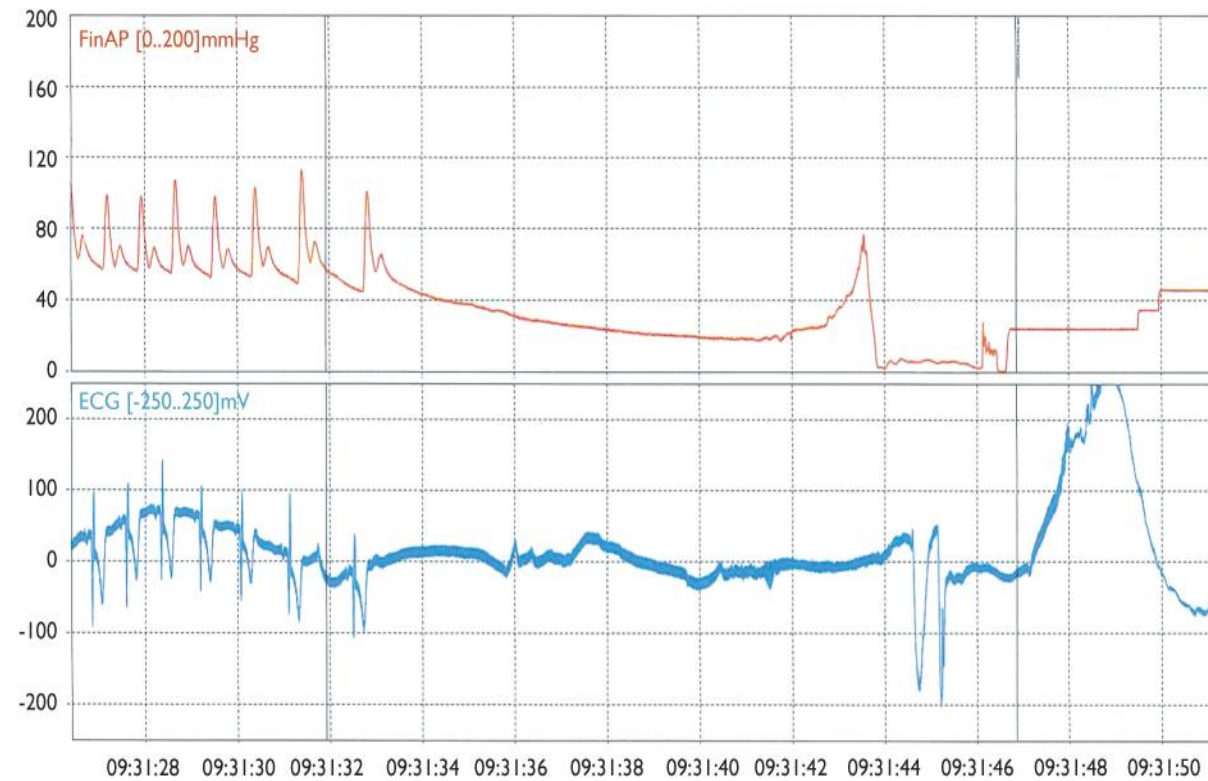
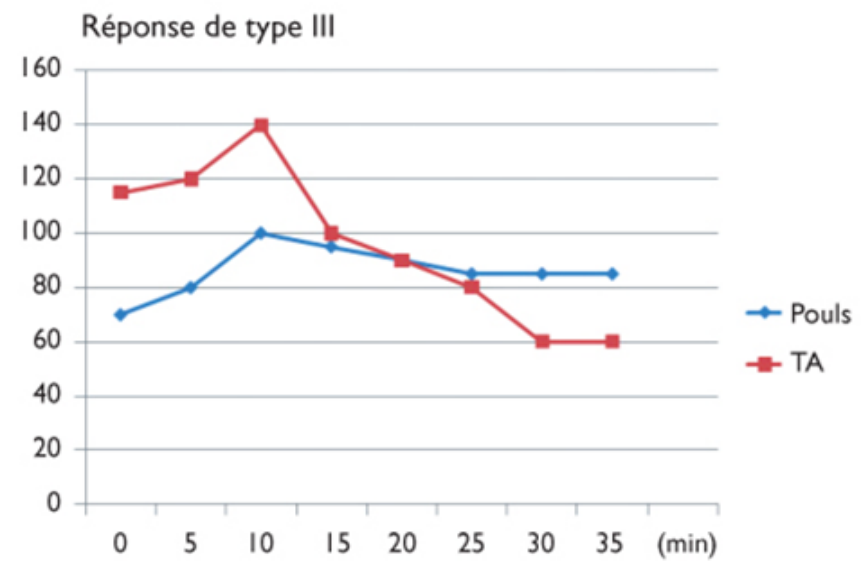
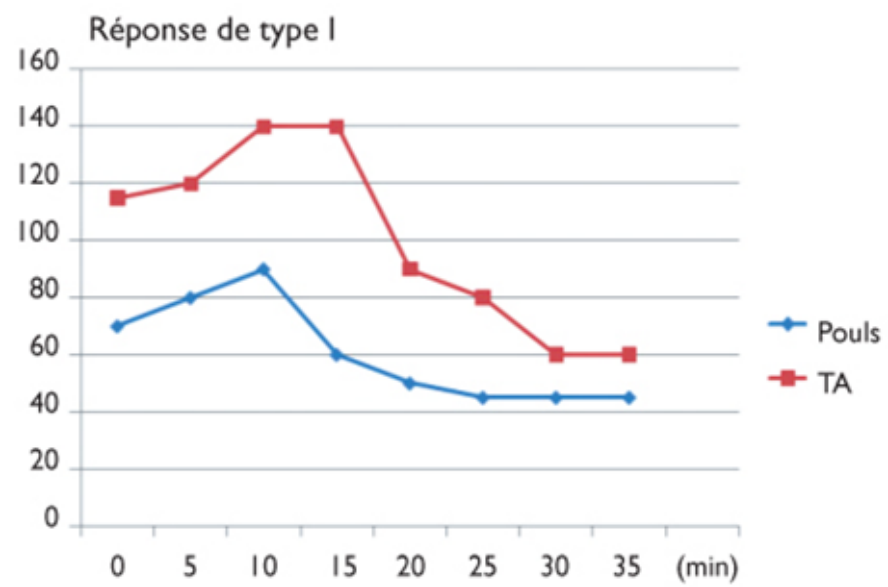
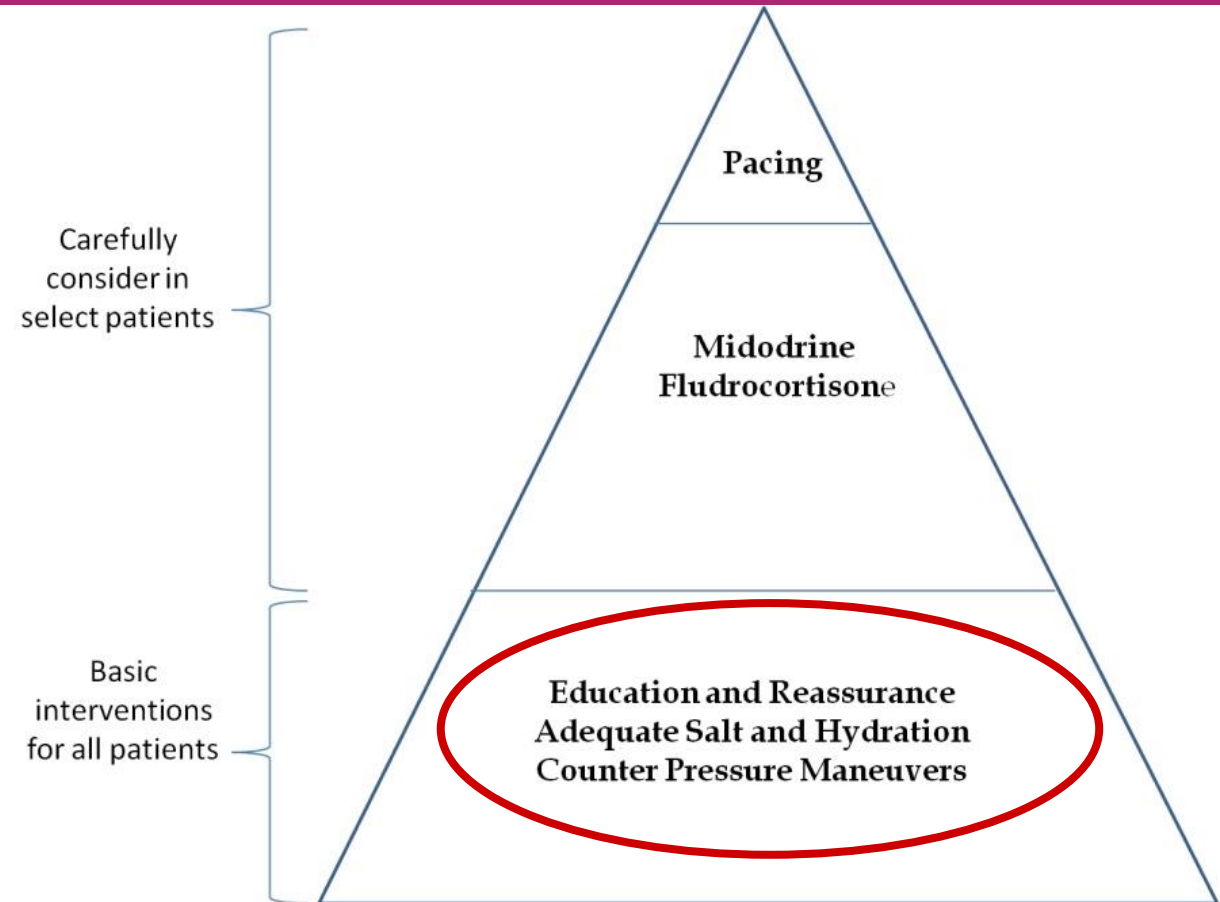


Figure 3.
Réponse cardio-inhibitrice pure sur un enregistrement de Beat scop



Syncope

Traitement des syncopes réflexes

EDUCATION POUR TOUS+++

- Réassurance sur la b nignit  de la pathologie
- Identification des **conditions favorisant** la survenue des  pisodes syncopaux
- Port de bas de contention
- Hydratation & r gime hypersod 

Recommendations	Class ^a	Level ^b
Education and lifestyle modifications		
Explanation of the diagnosis, the provision of reassurance, and explanation of the risk of recurrence and the avoidance of triggers and situations are indicated in all patients. <i>Supplementary Data Table 10</i>	I	B
Discontinuation/reduction of hypotensive therapy		
Modification or discontinuation of hypotensive drug regimen should be considered in patients with vasodepressor syncope, if possible. ^{260–262}	IIa	B

Syncope

Traitement des syncopes réflexes

BIEN S'HYDRATER... EN PROPHYLAXIE!



Recommendations	Class ^a	Level ^b
Education and lifestyle modifications		
Explanation of the diagnosis, the provision of reassurance, and explanation of the risk of recurrence and the avoidance of triggers and situations are indicated in all patients. <i>Supplementary Data Table 10</i>	I	B
Discontinuation/reduction of hypotensive therapy		
Modification or discontinuation of hypotensive drug regimen should be considered in patients with vasodepressor syncope, if possible. ^{260–262}	IIa	B

Water drinking in the management of orthostatic intolerance due to orthostatic hypotension, vasovagal syncope and the postural tachycardia syndrome

C. J. Mathias and T. M. Young

Neurovascular Medicine Unit, Imperial College London at St Mary's Hospital, London; Autonomic Unit, National Hospital for Neurology & Neurosurgery, Queen Square; and Institute of Neurology, University College London, London, UK

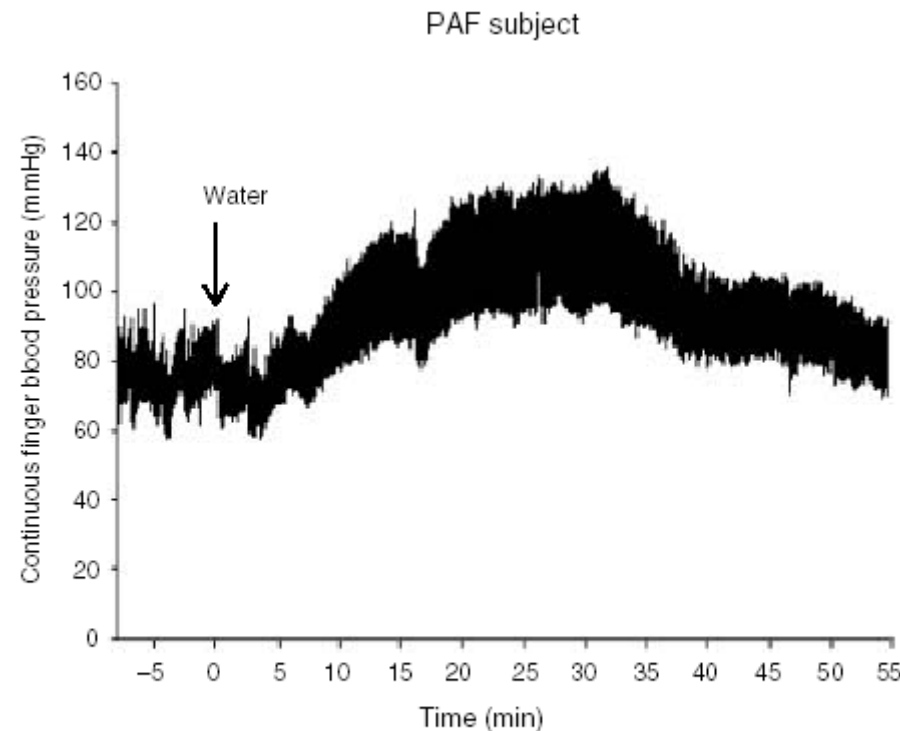


Figure 1 Changes in blood pressure before and after 500 ml distilled water ingested at time '0' in a patient with pure autonomic

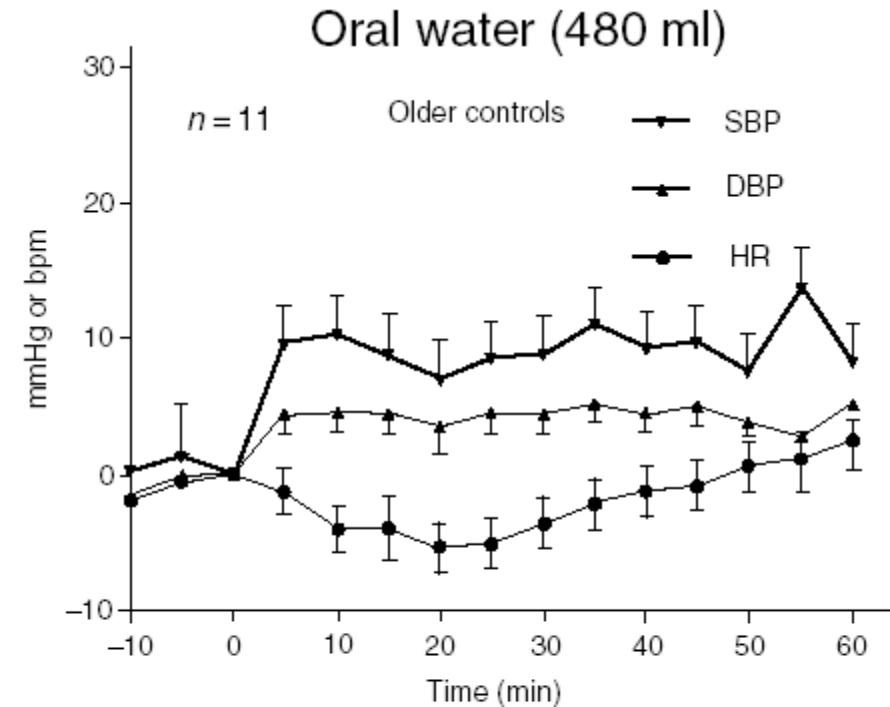


Figure 2 Systolic and diastolic blood pressure and heart rate in a group of normal subjects (age 57 years) before and after ingestion of 480 ml Nashville tap water (from Jordan *et al.*, 2000).

Water Ingestion as Prophylaxis Against Syncope

Chih-Cherng Lu, MD, MS; André Diedrich, MD, PhD; Che-Se Tung, MD, PhD;
Sachin Y. Paranjape, BS; Paul A. Harris, PhD; Daniel W. Byrne, MS;
Jens Jordan, MD; David Robertson, MD

Circulation November 25, 2003

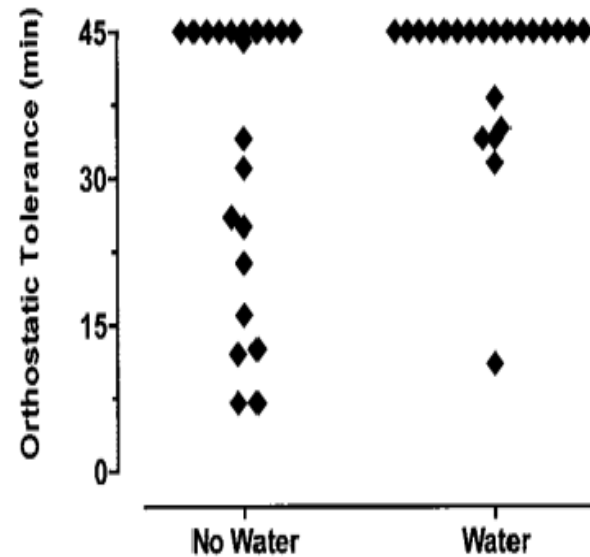


Figure 1. Duration of head-up tilt after drinking 16 oz (473 mL) of water vs no water. Mean improvement of duration of head-up tilt was 8.5 ± 14.0 minutes. $P=0.011$ by Wilcoxon signed-rank test.

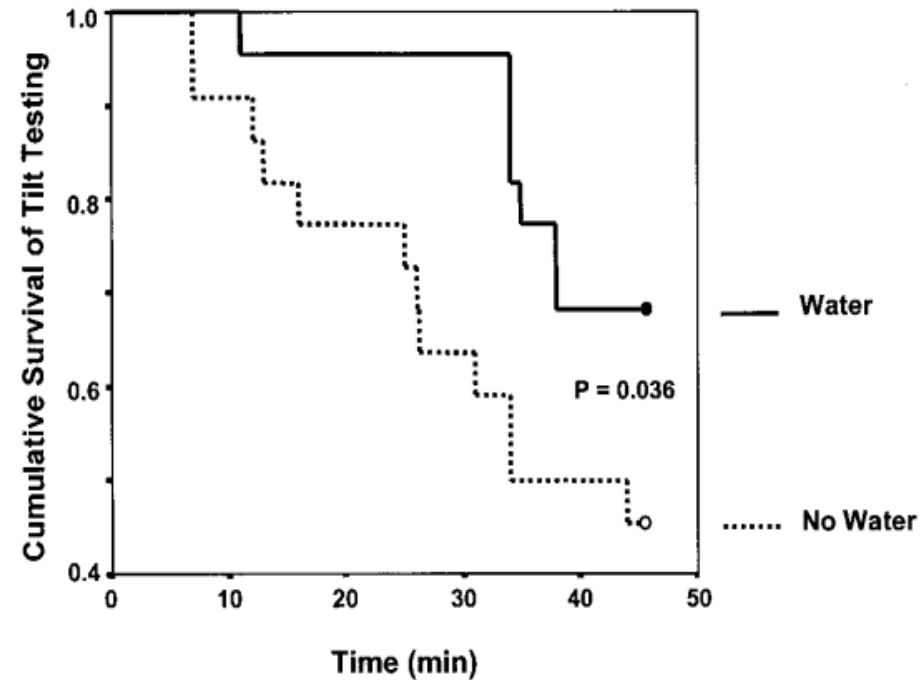


Figure 2. Kaplan-Meier curves of cumulative proportion with orthostatic tolerance (remaining free of presyncopal episodes) with and without water. At 30 minutes, 95% of those with water compared with 63% of those without water were able to tolerate tilt. At completion of study (45 minutes), 69% with water compared with 45% without water were able to tolerate tilt. $P=0.036$ by log-rank test.

Syncope

Traitement des syncopes réflexes

MANŒUVRES DE CONTRACTION MUSCULAIRE ISOMÉTRIQUE

- **Augmenter la tension artérielle** avant la survenue de la syncope (si prodrome ou conditions favorisantes)
- Croiser les jambes, contractions musculaires, serrer une balle en caoutchouc dans les mains (etc...)
- Méthode **simple et peu couteuse**



Recommendations	Class ^a	Level ^b
Physical manoeuvres		
Isometric PCM should be considered in patients with prodromes who are <60 years of age. ^{119–121,263,264}	IIa	B
Tilt training may be considered for the education of young patients. ^{265–272}	IIb	B

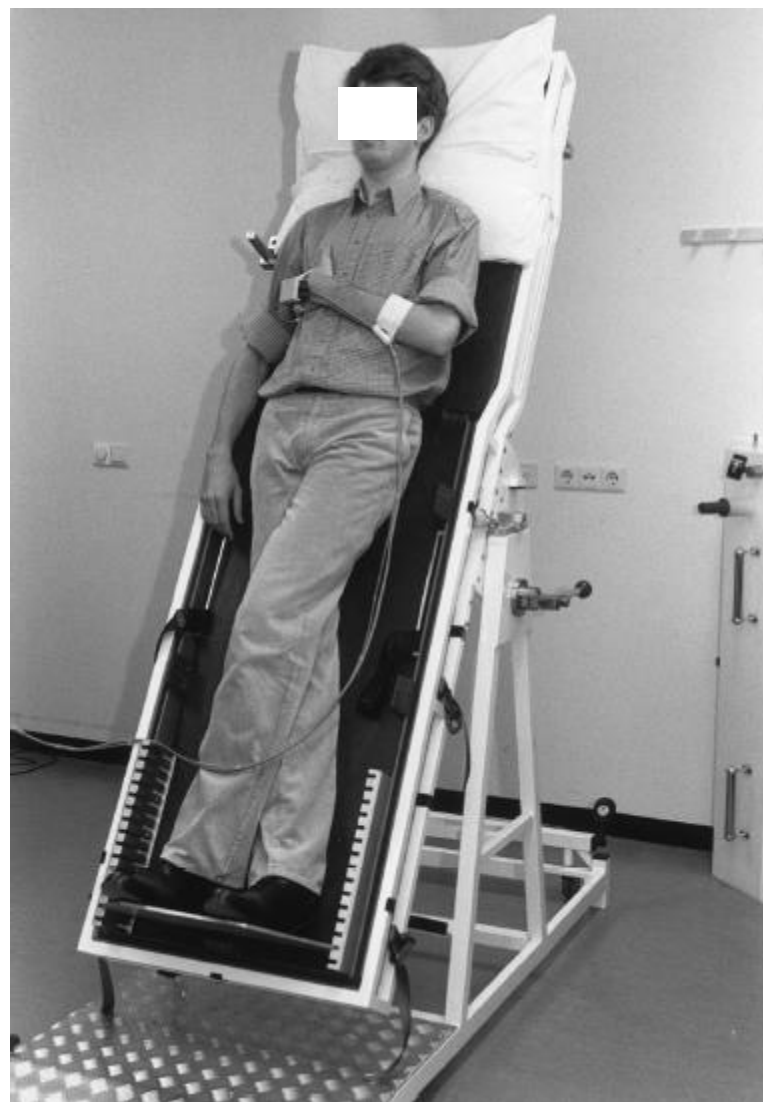


Figure 1 Arm tensing.



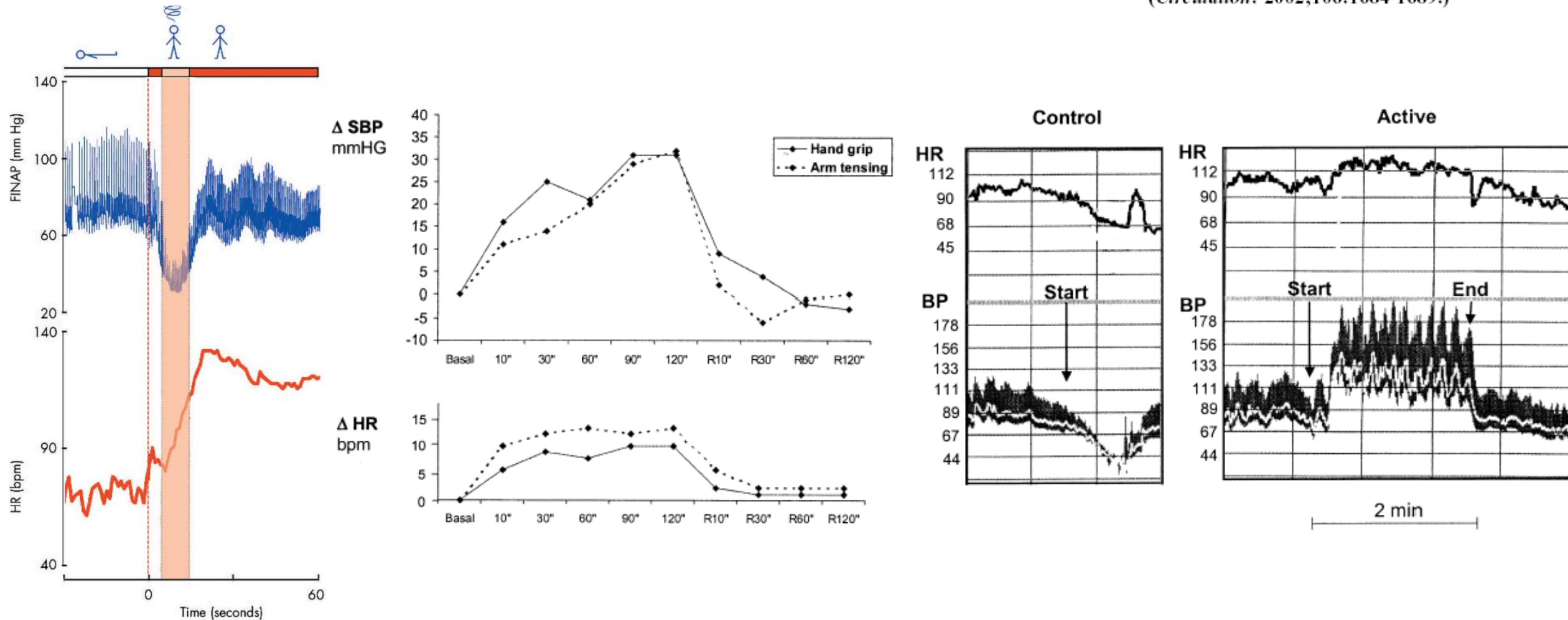
Figure 2 Handgrip manoeuvre.

Management of Vasovagal Syncope

Controlling or Aborting Faints by Leg Crossing and Muscle Tensing

C.T. Paul Krediet, BS; Nynke van Dijk, MS; Mark Linzer, MD;
Johannes J. van Lieshout, MD, PhD; Wouter Wieling, MD, PhD

(*Circulation*. 2002;106:1684-1689.)



Hemodynamic effects of leg crossing and skeletal muscle tensing during free standing in patients with vasovagal syncope

Nynke van Dijk,¹ Ivar G. J. M. de Bruin,¹ Janneke Gisolf,² H. A. C. M. Rianne de Bruin-Bon,³ Mark Linzer,⁴ Johannes J. van Lieshout,¹ and Wouter Wieling¹

J Appl Physiol 98: 584–590, 2005.

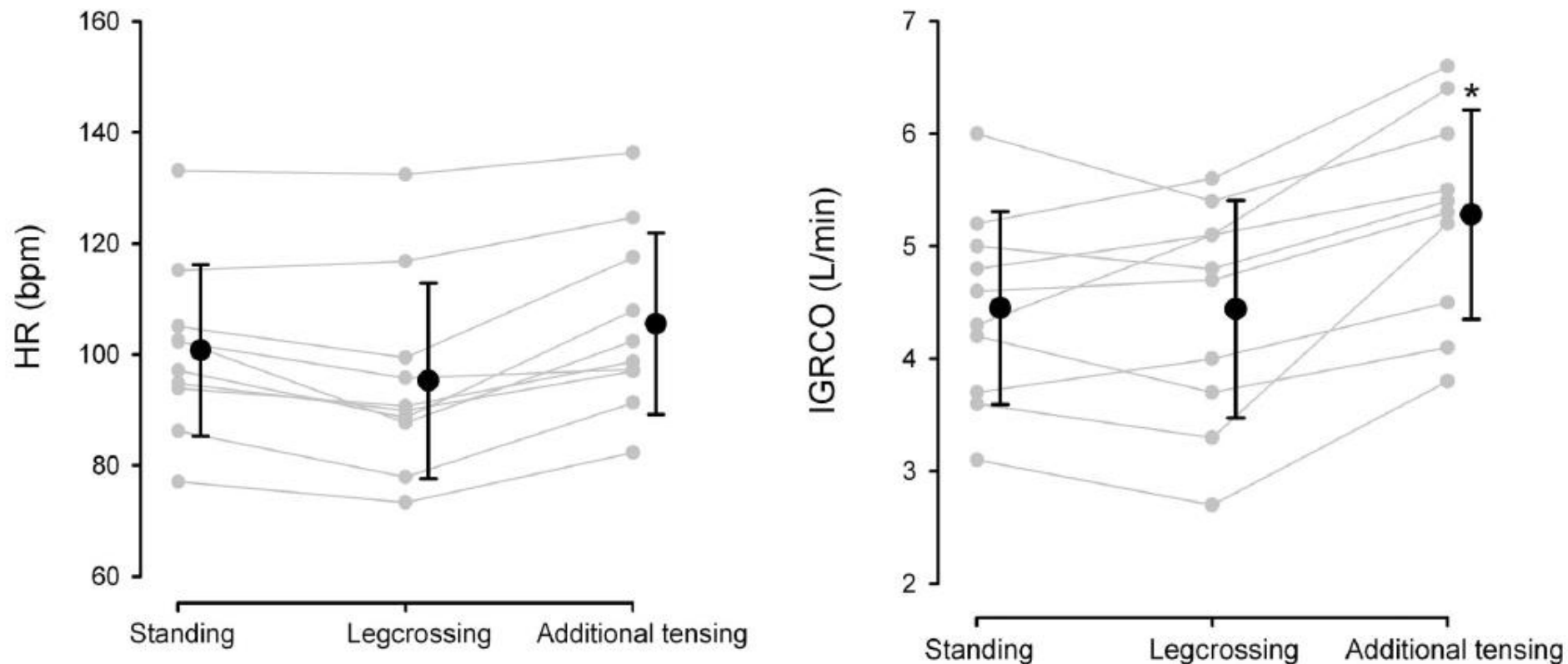
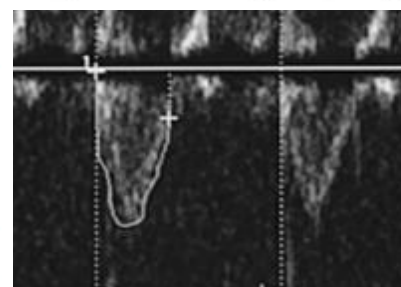
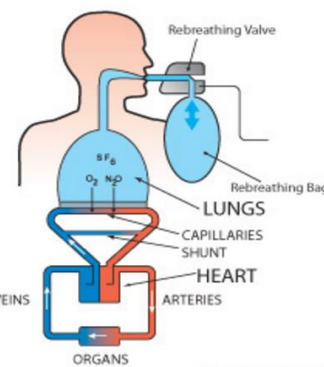


Fig. 5. Changes in cardiac output (CO) during standing, leg crossing, and additional muscle tensing in 10 healthy volunteers measured simultaneously using Modelflow and the inert gas rebreathing (IGR) technique. A: HR changes during maneuvers. B: CO changes measured by IGR (IGRCO). C: CO changes measured by Modelflow (MFCO; calibrated with IGR during standing). Additional muscle tensing produces a significant rise in CO from standing ($*P < 0.05$).



in the leg-crossed position (right c_{iVEINS} ty; PG, peak gradient; VTI, veloc



Syncope

Traitement des syncopes réflexes

MANŒUVRES DE CONTRACTION MUSCULAIRE ISOMÉTRIQUE

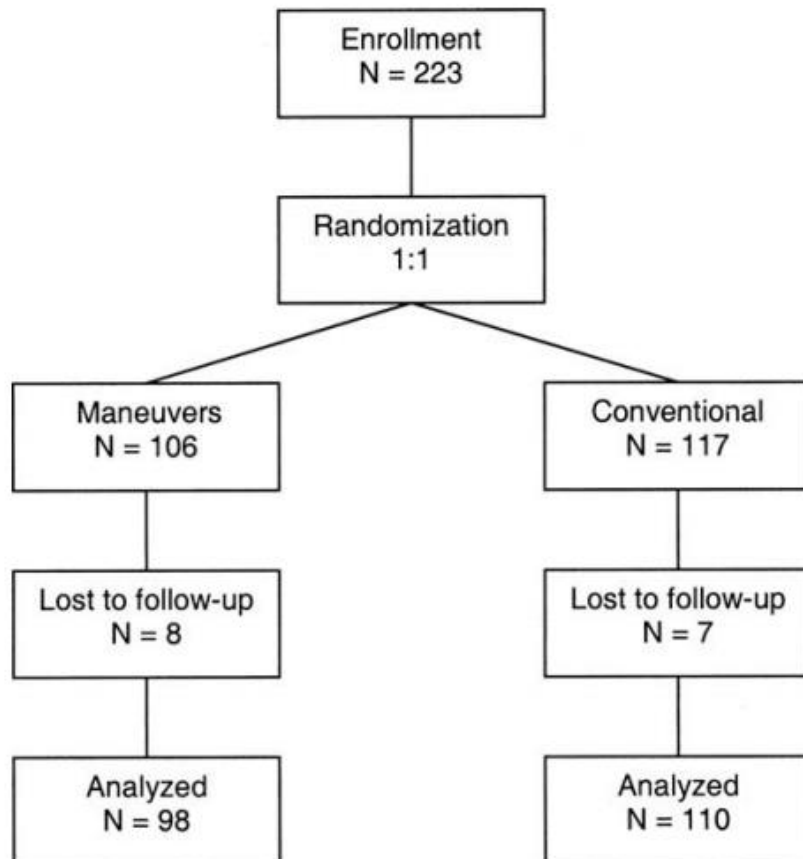
<u>ETUDES</u>	<u>CRITERE D' NCLUSION</u>	<u>METHODES</u>	<u>GRPE CONTRÔLE</u>	<u>NBRE PATIENTS</u>	<u>SUIVI</u>	<u>CJP</u>	<u>RESULTATS</u>
Brignole Jacc 2002	Tilt test positif	Randomisé, HG + AT	Aucun traitement	19	9 mois	Récidive de syncope	p = 0.01
Nynke van Dijk Jacc 2006	Histoire typique de syncope	Randomisé,	Aucun traitement	223	14 mois	Récidive	p = 0.004
Alan L.Peterson Circulation 2003	Tilt test positif Pause syncopale	Non randomisé	Tt le monde → traité	21	10 mois	Récidive de syncope	P = 0.001
Croci Europace 2004	Syncope clinique, tilt positif	Non randomisé	Tt le monde →traité	19	14 mois +/- 6	Récidive	p = 0.03 chez les > 65ans
Tomaino Europace 2014	Syncope documentée sur REVEAL	Randomisé, en ouvert	Aucun traitement	95	21 mois	Temps jusqu'à la 1 ^{ère} récurrence	p = 0.14

Effectiveness of Physical Counterpressure Maneuvers in Preventing Vasovagal Syncope

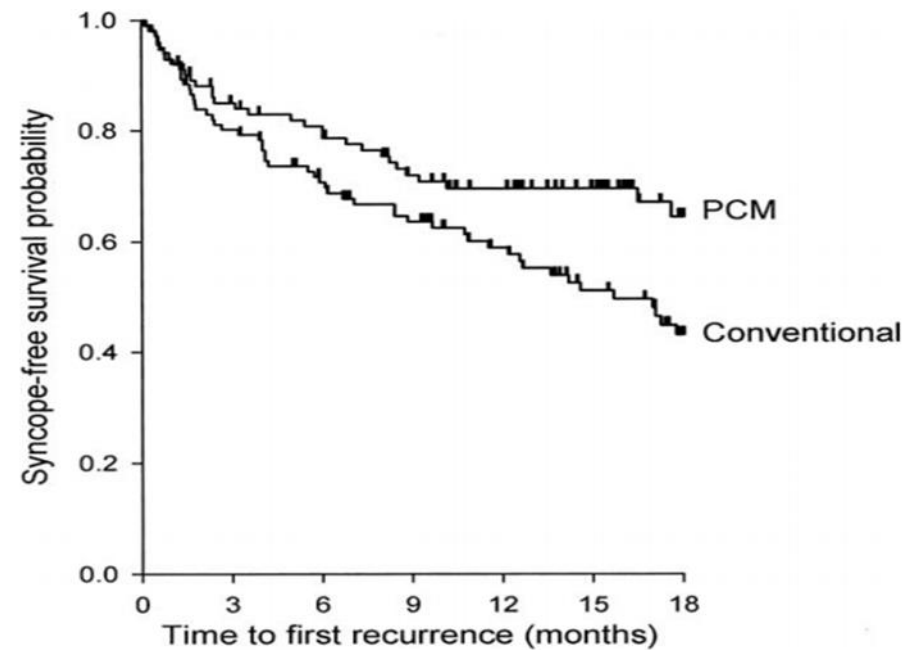
The Physical Counterpressure Manoeuvres Trial (PC-Trial)

Nynke van Dijk, MD,* Fabio Quartieri, MD,† Jean-Jaques Blanc, MD,‡ Roberto Garcia-Civera, MD,§ Michele Brignole, MD,|| Angel Moya, MD,¶ Wouter Wieling, MD, PhD,*
on behalf of the PC-Trial Investigators

(J Am Coll Cardiol 2006;48:1652–7)

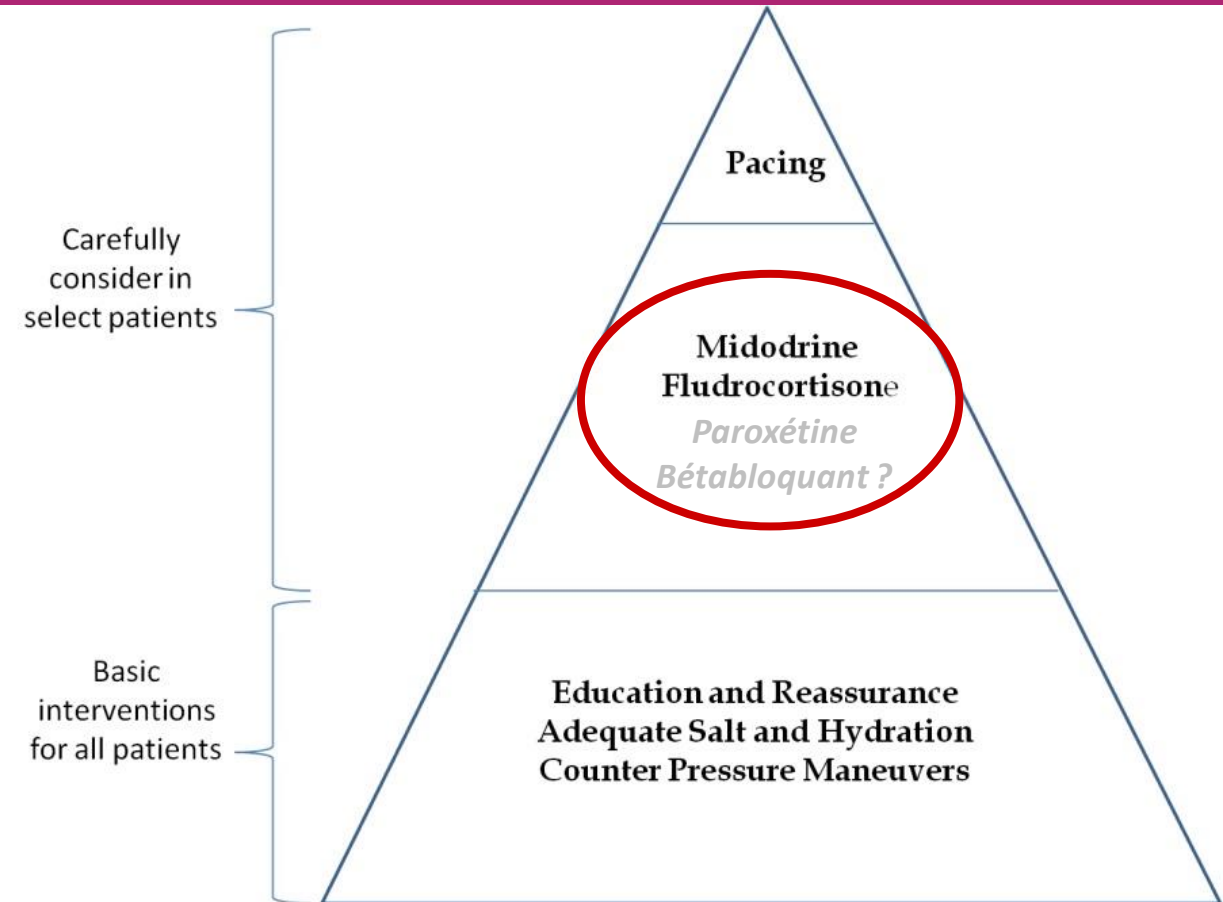


- Etude multicentrique randomisée incluant **223 pts** avec **S récidivantes** précédées de prodromes



Kaplan-Meier syncope-free survival curve of time to first syncopal recurrence. Log-rank statistic $p = 0.018$; hazard ratio 0.59 (0.38 to 0.92). PCM = physical counterpressure maneuvers.

- 51% de pts du groupe conventionnel vs 32% de pts du groupe CMI ont récidivé une syncope ($p = 0.005$)
- Réduction de 39% du risque de récurrence de S dans le groupe CMI ($p = 0.018$)



Syncope

Traitement des syncopes réflexes

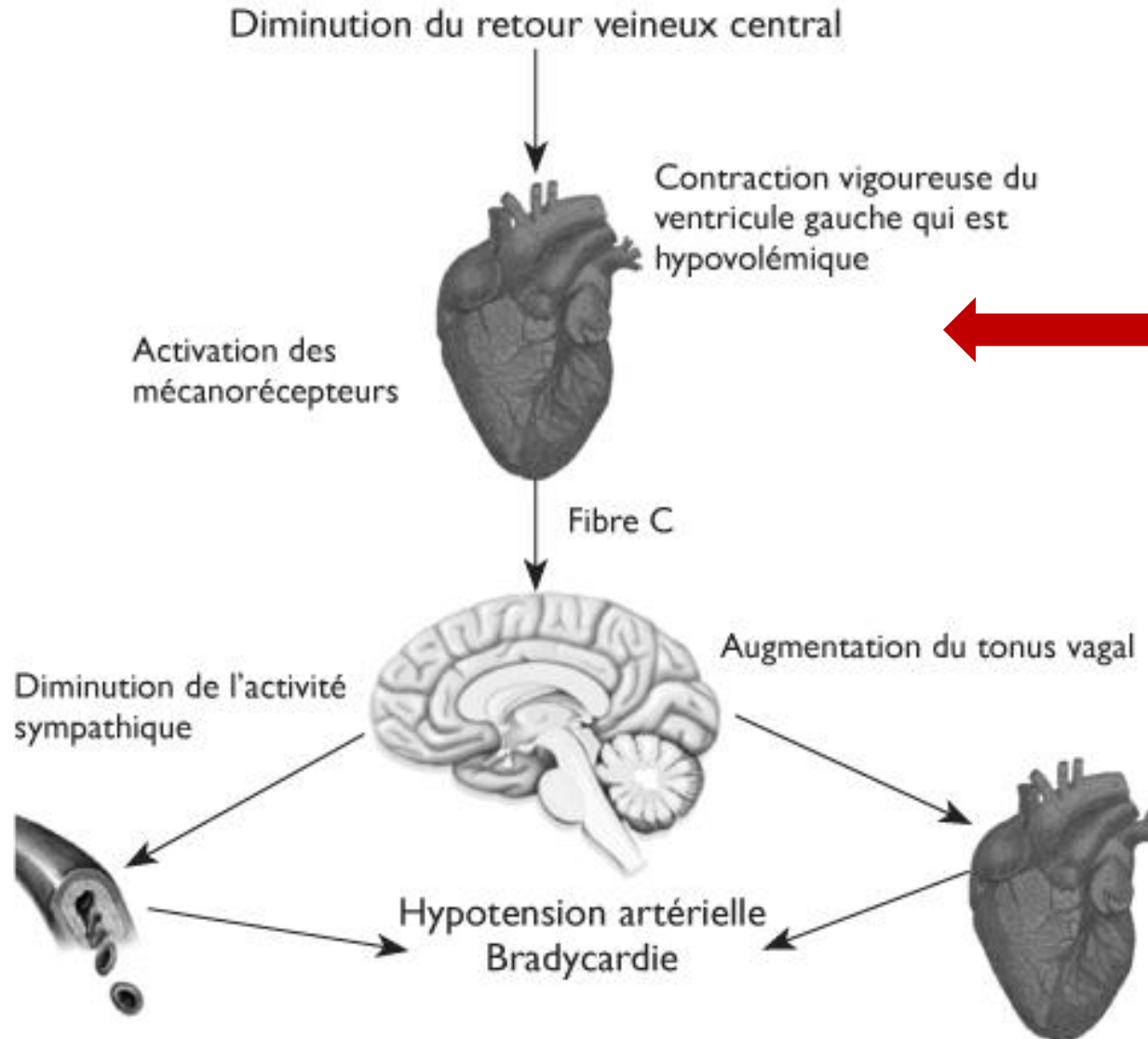
TRAITEMENTS PHARMACOLOGIQUES

- Alpha agoniste vasoconstricteur (etilefrine et **midodrine**)
- **Fludrocortisone**
- Bétabloquant?
- Paroxétine
- Autres : scopalamine, disopyramide, théophylline, clonidine, éphédrine...



Recommendations	Class ^a	Level ^b
Pharmacological therapy		
Fludrocortisone may be considered in young patients with the orthostatic form of VVS, low-normal values of arterial BP, and the absence of contraindication to the drug. ²⁷⁵	IIb	B
Midodrine may be considered in patients with the orthostatic form of VVS. ²⁷⁸	IIb	B
Beta-adrenergic blocking drugs are not indicated. ^{279,280}	III	A

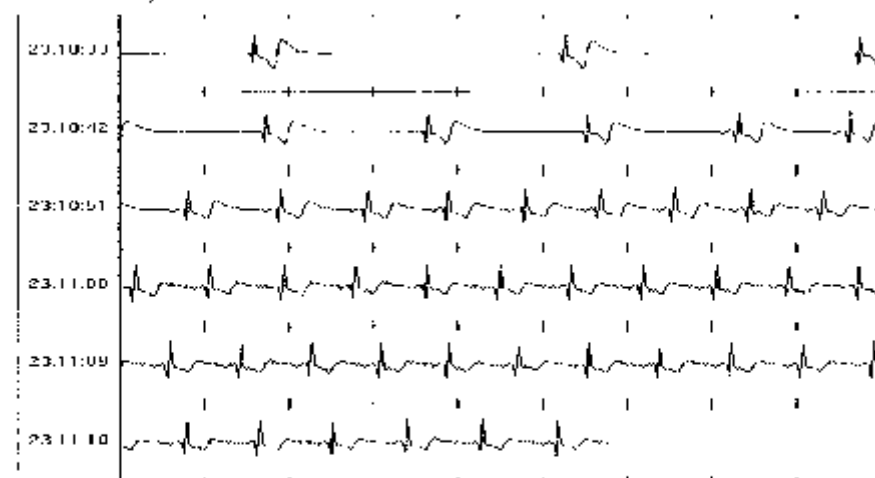
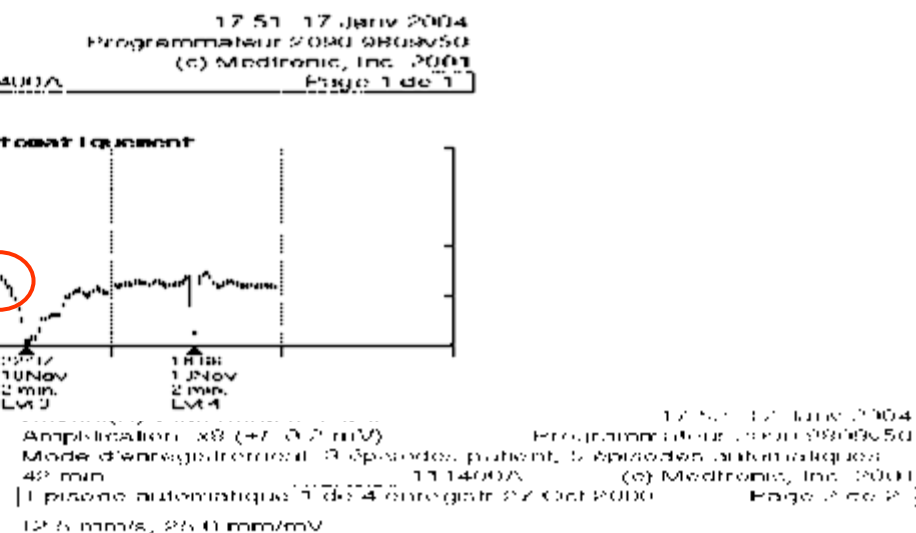
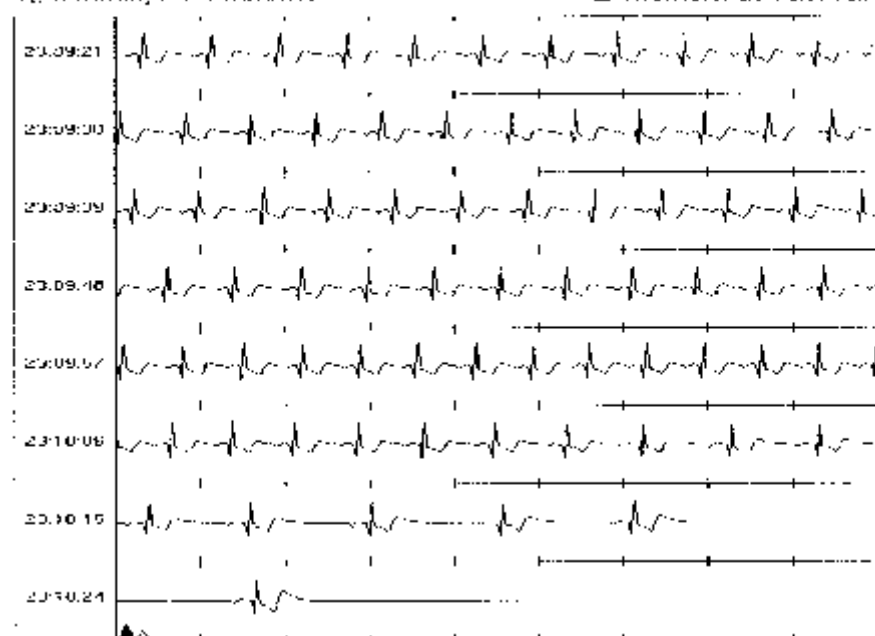
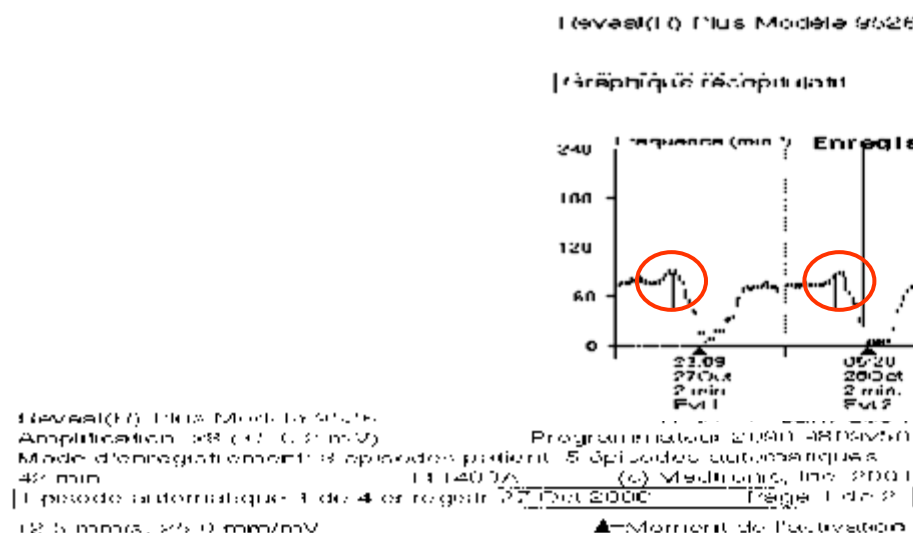
Quid des bêtabloquants ?



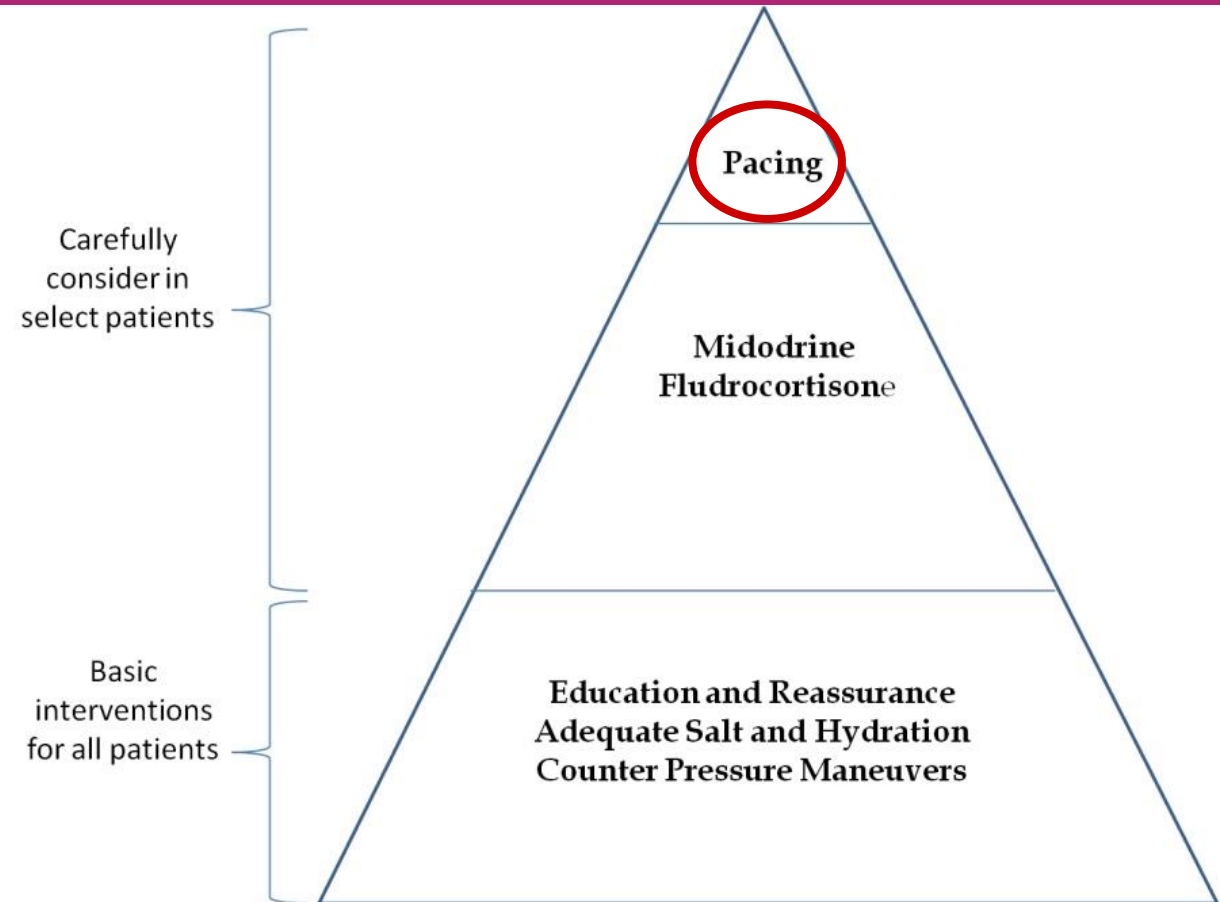
- Diminution du degré d'activation des mécanorécepteurs ventriculaires
- Effet inotrope négatif dans la syncope reflexe

Pt 43 yrs, recurrent unexplained syncope and preS

Preceding palpitations, 2 minor criteria of ARVD



« Répondeur » aux bêtabloquants ?



Randomized Trials of Pacing for NCS

Trial	Study design	Control group	Pts (n)	Outcome measure	FU	Results (S recurrence)
VPS I <i>JACC 1999</i>	RCT, unblind	No TTT	54	Time to 1 st S	Not stated	22% vs 70% (p=0.00002)
VASIS <i>Circulation 2000</i>	RCT, unblind	No TTT	42	Time to 1 st S	3.7 ± 2.2 yrs	5% vs 61% (p=0.0006)
SYDIT <i>Circulation 2001</i>	RCT, unblind	Atenolol	93	Time to 1 st S	520 ± 266 days	4% vs 25% (P=0.004)
VPS II <i>JAMA 2003</i>	RCT, double-blind	PM off	100	Time to 1 st S	≤ 6 months	33% vs 42% (p=NS)
SYNPACE <i>Eur Heart J 2004</i>	RCT, double-blind	PM off	29	Time to 1 st S	715 days	50% vs 38% (p=NS)



An Implantable Loop Recorder Study of Highly Symptomatic Vasovagal Patients

The Heart Rhythm Observed During a Spontaneous Syncope Is Identical to the Recurrent Syncope But Not Correlated With the Head-Up Tilt Test or Adenosine Triphosphate Test

Jean-Claude Deharo, MD,* Christophe Jegu, MD,* André Lanteaume, MD,† Pierre Djiane, MD*
Marseille, France

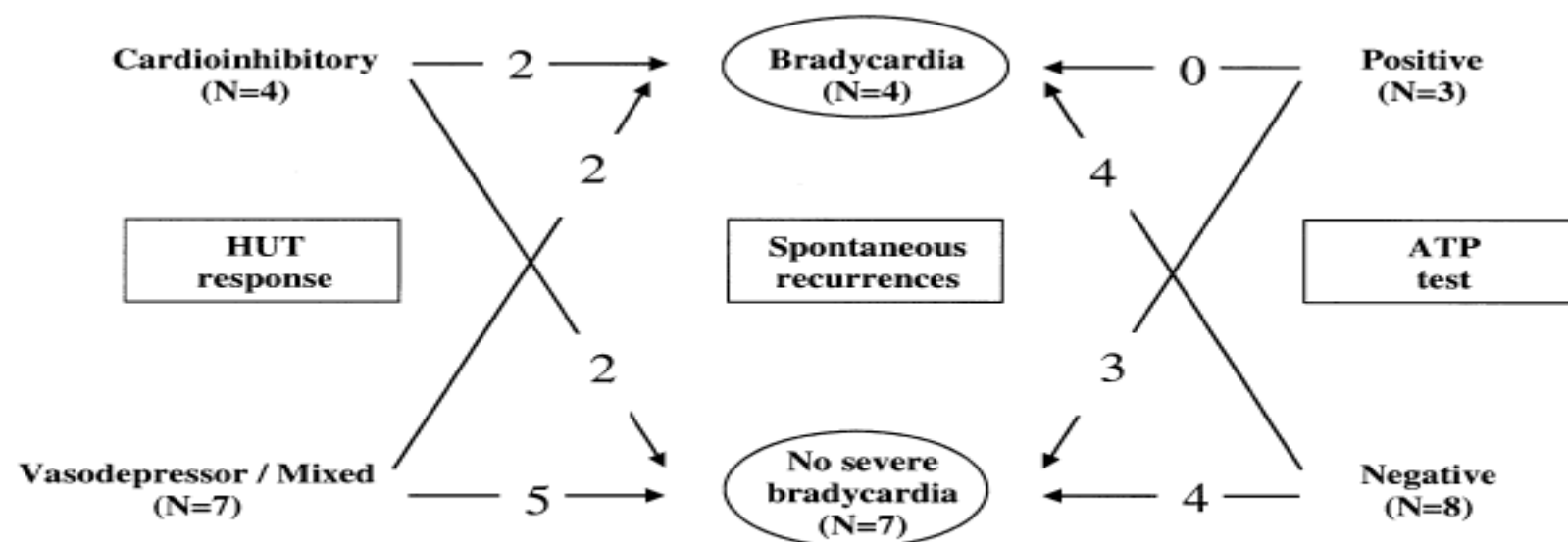


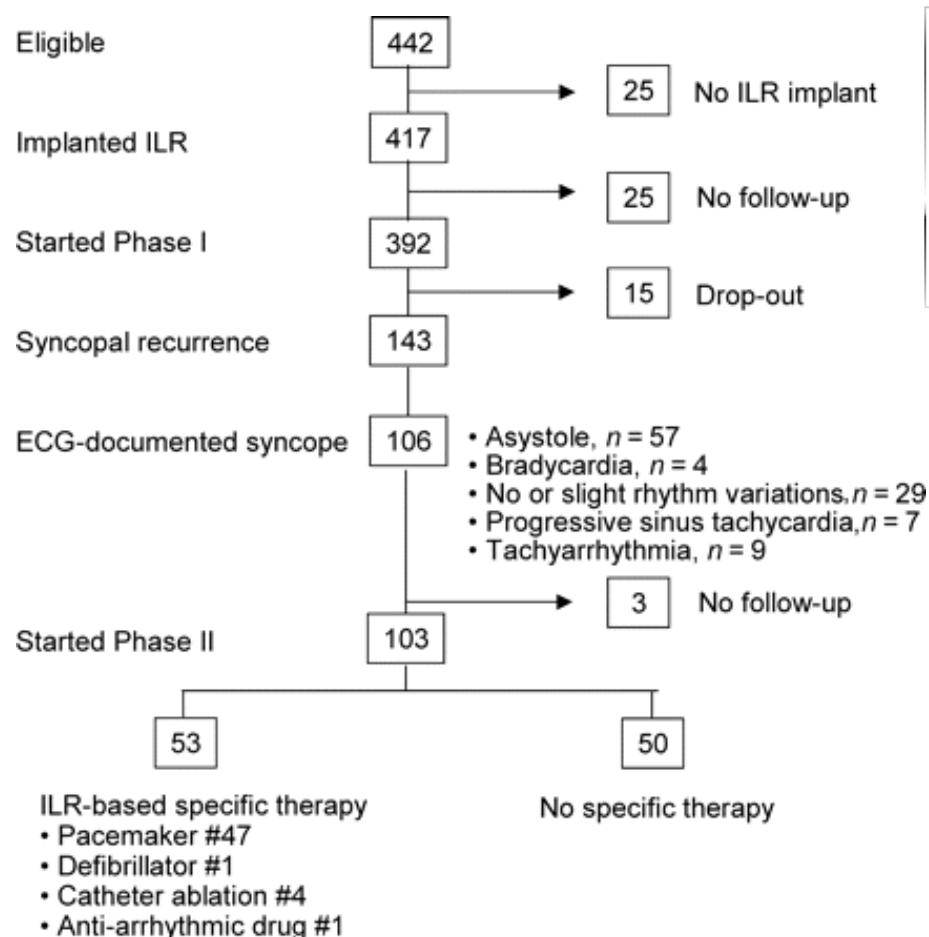
Figure 2. Nature of the heart rhythm during spontaneous recurrences, in relation to the head-up tilt test (HUT) and adenosine triphosphate (ATP) test results.

CONCLUSIONS In highly symptomatic patients with VVS, the heart rhythm observed during spontaneous syncope does not correlate with the HUT. The heart rhythm during the first spontaneous syncope is identical to the recurrent syncope. (J Am Coll Cardiol 2006;47:587–93) © 2006 by the American College of Cardiology Foundation

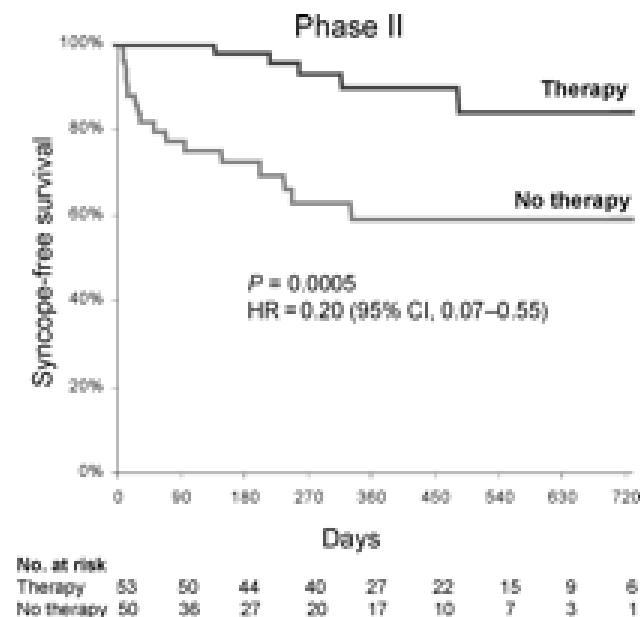
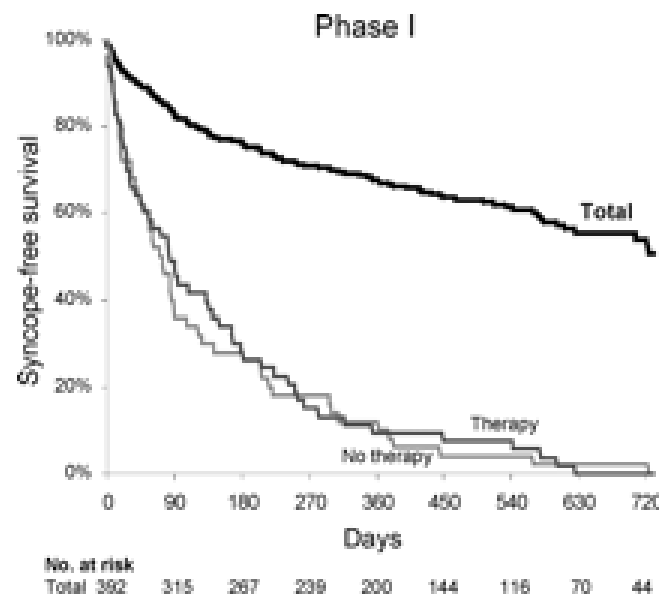
Early application of an implantable loop recorder allows effective specific therapy in patients with recurrent suspected neurally mediated syncope

Michele Brignole^{1*}, Richard Sutton², Carlo Menozzi³, Roberto Garcia-Civera⁴, Angel Moya⁵, Wouter Wieling⁶, Dietrich Andresen⁷, David G. Benditt⁸, and Panos Vardas⁹ for the International Study on Syncope of Uncertain Etiology 2 (ISSUE 2) Group

European Heart Journal (2006) 27, 1085–1092



- 392 ILR-pts aged 66 ± 14 yrs, ≥ 3 suspected VVS, 88% HUT (rate of positivity 50%, 1/3 CI or mixed)
- **Phase 1 : observational study**
- **Phase 2 : ILR-base specific therapy**

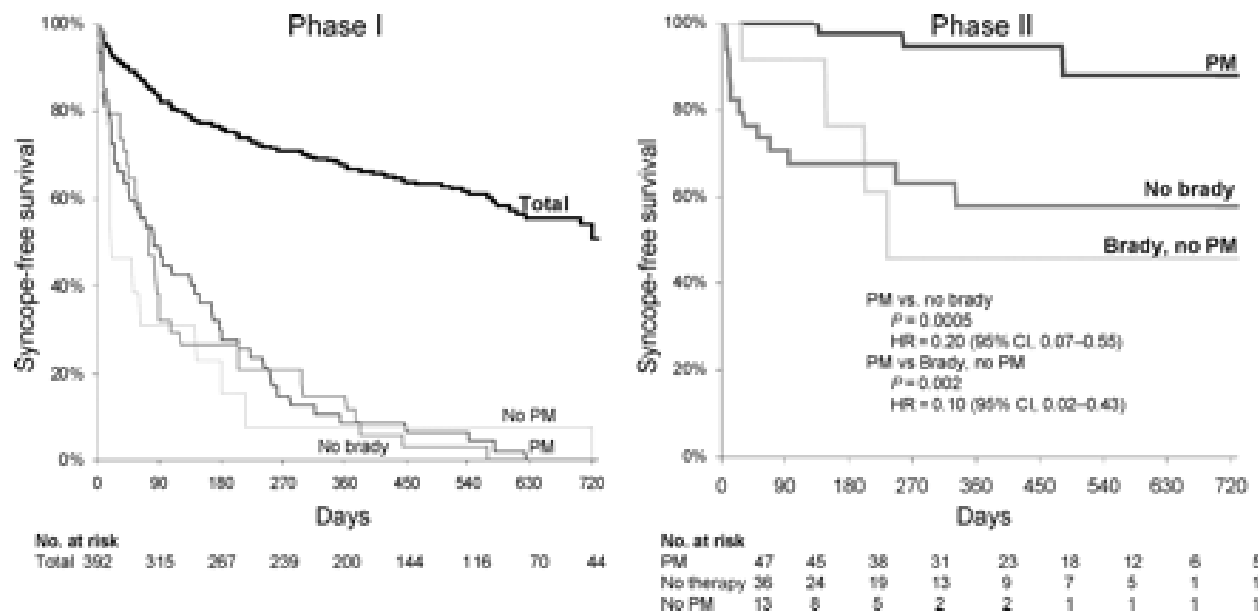


Early application of an implantable loop recorder allows effective specific therapy in patients with recurrent suspected neurally mediated syncope

Michele Brignole^{1*}, Richard Sutton², Carlo Menozzi³, Roberto Garcia-Civera⁴, Angel Moya⁵, Wouter Wieling⁶, Dietrich Andresen⁷, David G. Benditt⁸, and Panos Vardas⁹ for the International Study on Syncope of Uncertain Etiology 2 (ISSUE 2) Group

European Heart Journal (2006) 27, 1085–1092

- 392 ILR-pts aged 66 ± 14 yrs, ≥ 3 suspected VVS, 88% HUT (rate of positivity 50%, 1/3 CI or mixed)
- **47 PM-pts with asystole of median 11.5 sec; 4 (8%) with recurrent S**
- A strategy based on early ILR diagnostic allows a safe, specific and effective therapy in NMS patients



Syncope

Traitement des syncopes réflexes

QUELLE PLACE POUR LA STIMULATION CARDIAQUE?

There is sufficient evidence that dual-chamber cardiac pacing should be considered to reduce recurrence of syncope when the correlation between symptoms and ECG is established in patients ≥ 40 years of age with the clinical features of those in the ISSUE studies.

Pacemaker Therapy in Patients With Neurally Mediated Syncope and Documented Asystole

Third International Study on Syncope of Uncertain Etiology (ISSUE-3) A Randomized Trial

Michele Brignole, MD; Carlo Menozzi, MD; Angel Moya, MD; Dietrich Andresen, MD; Jean Jacques Blanc, MD; Andrew D. Krahn, MD; Wouter Wieling, MD; Xulio Beiras, MD; Jean Claude Deharo, MD; Vitantonio Russo, MD; Marco Tomaino, MD; Richard Sutton, DSc; on behalf of the International Study on Syncope of Uncertain Etiology 3 (ISSUE-3) Investigators

- **511 pts $\geq$ 40 years**
- **$\geq$ 3 episodes of likely NMS**
- **etiology with exception of CSS**
- **Clinical history consistent with NMS**
- **Severe presentation** (high frequency and/or high risk profile) to warrant TTT
- **Positive or negative HUT**
- **IRL documented recurrent S**
- **with $\geq$ 3 sec asystole or $\geq$ 6 sec asystole without S**

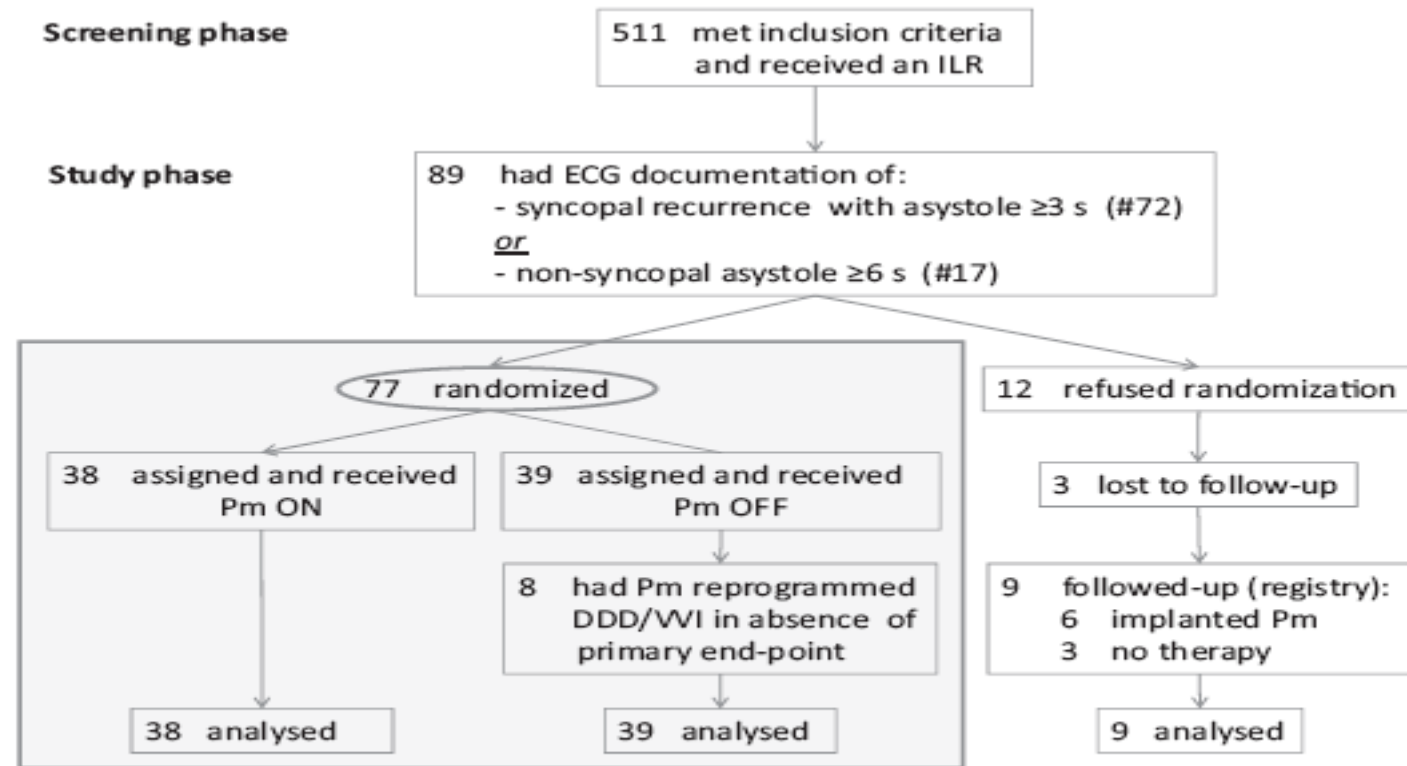
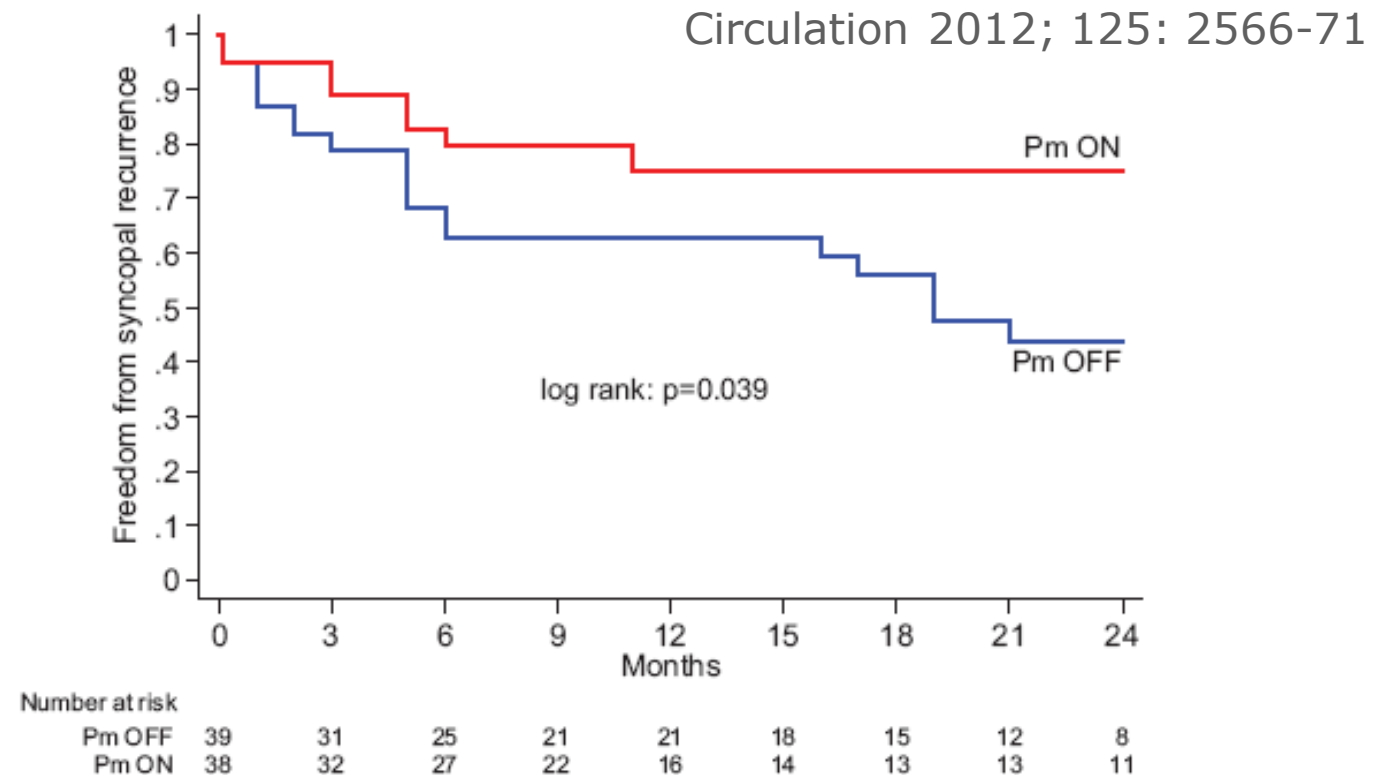


Figure 1. Patients' flow. ILR indicates implantable loop recorder; Pm, pacemaker.

Table. Patients' Characteristics

Characteristics	Pm ON n=38	Pm OFF n=39	Registry n=12
Age, mean (SD), y	63 (14)	63 (12)	63 (12)
Men, n (%)	20 (53)	16 (41)	7 (58)
Syncope events			
Total events, median (IQR)	7 (4–12)	8 (5–10)	7 (5–13)
Events in the last 2 y, median (IQR)	4 (3–5)	5 (3–6)	4 (3–5)
Events in the last 2 y without prodrome, median (IQR)	3 (1–4)	3 (0–5)	1 (0–2)
Age at first syncope, mean (SD), y	48 (25)	45 (23)	41 (23)
Interval between first and last episode, median (IQR), y	8 (3–29)	8 (3–24)	17 (7–43)
History of presyncope, n (%)	19 (50)	22 (56)	9 (75)
Hospitalization for syncope, n (%)	24 (63)	25 (64)	7 (58)
Injuries related to fainting, n (%)			
Major injuries (fractures, brain concussion)	2 (5)	4 (10)	2 (17)
Minor injuries (bruises, contusion, hematoma)	15 (39)	18 (46)	6 (50)
Typical vasovagal/situational presentation, n (%)	18 (47)	16 (41)	7 (58)
Atypical presentation (uncertain), n (%)	20 (53)	23 (59)	5 (42)
ILR documentation (eligibility criteria)			
Syncope and asystole ≥ 3 s, n (%)	30 (79)	32 (82)	10 (77)
Nonsyncopeal pause ≥ 6 s, n (%)	8 (21)	7 (18)	2 (17)
Length of asystole, mean (SD)	10 (9)	12 (9)	12 (12)
Tilt testing: performed, n (%)	33 (87)	32 (82)	10 (83)
Positive of those performed, n (%)	14 (42)	23 (72)	6 (50)

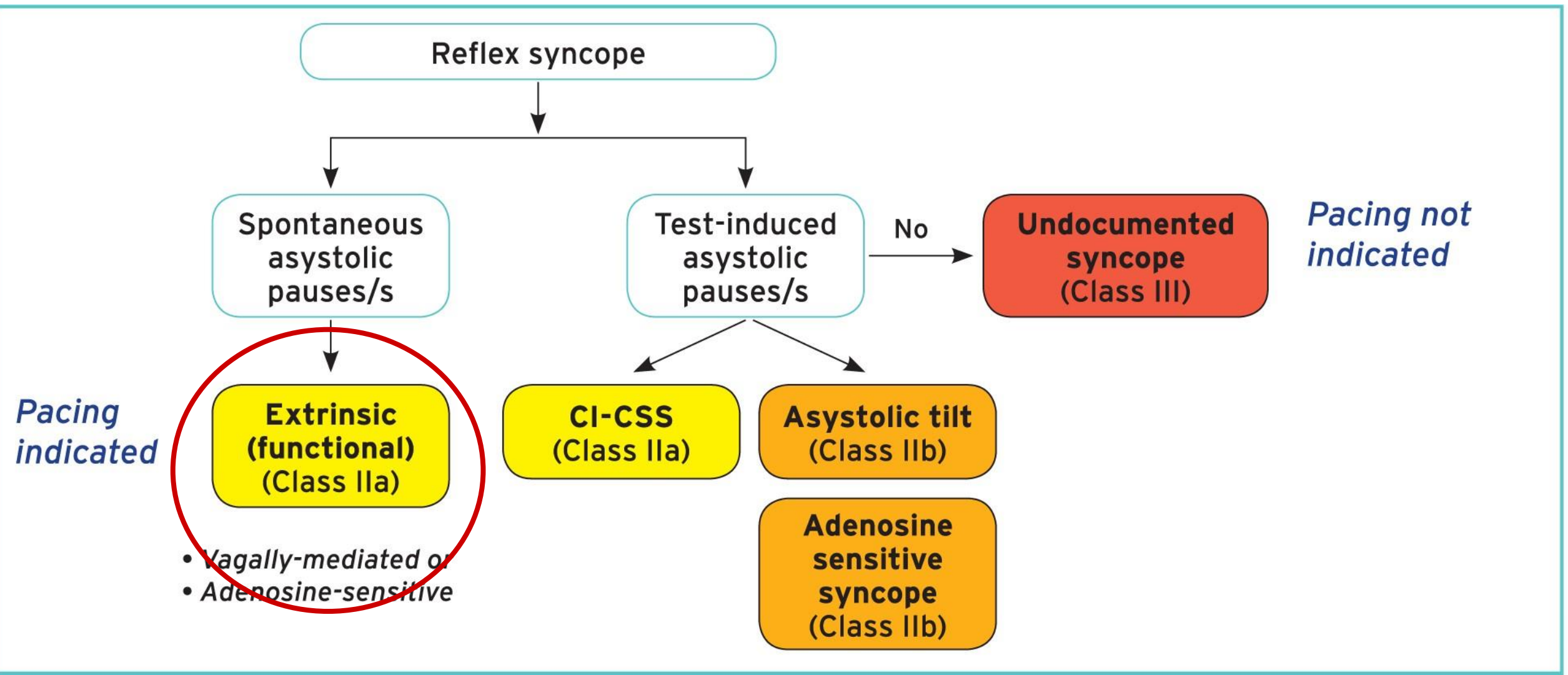
Pm indicates pacemaker; IQR, interquartile range; and ILR, implantable loop recorder.



- **19 pts with S recurrence in PM-off arm vs 8 pts in PM-on**
- **57% 2-year estimated S recurrence rate (95% CI, 40–74) with PM-off and 25% (95% CI, 13–45) with PM-on**
- **Risk of S recurrence reduced by 57% (95% CI, 4–81)**
- **5 pts with procedural complications (lead dislodgment in 4 and subclavian vein thrombosis in 1 pt)**

Syncope

Indications du PM dans les syncopes réflexes

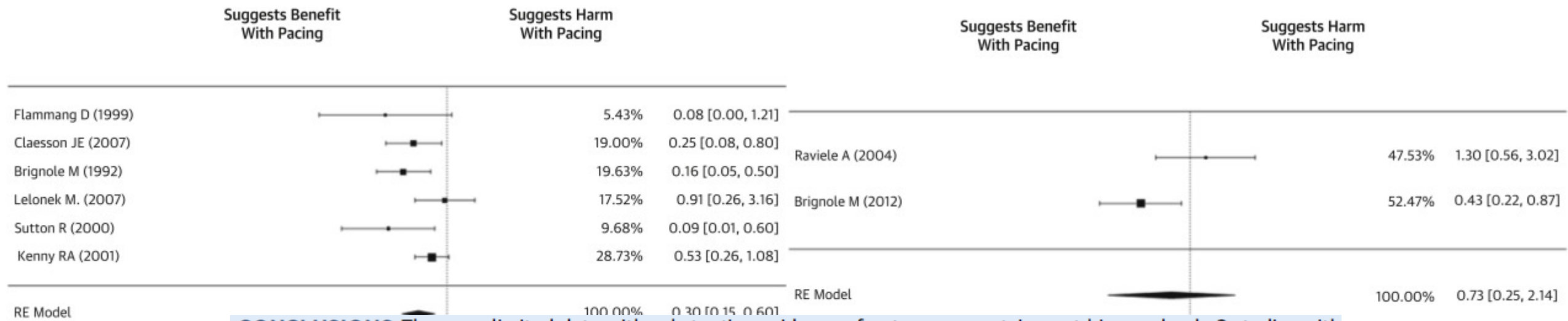


Pacing as a Treatment for Reflex-Mediated (Vasovagal, Situational, or Carotid Sinus Hypersensitivity) Syncope: A Systematic Review for the 2017 ACC/AHA/HRS Guideline for the Evaluation and Management of Patients With Syncope



A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines and the Heart Rhythm Society

VOL. 70, NO. 5, 2017



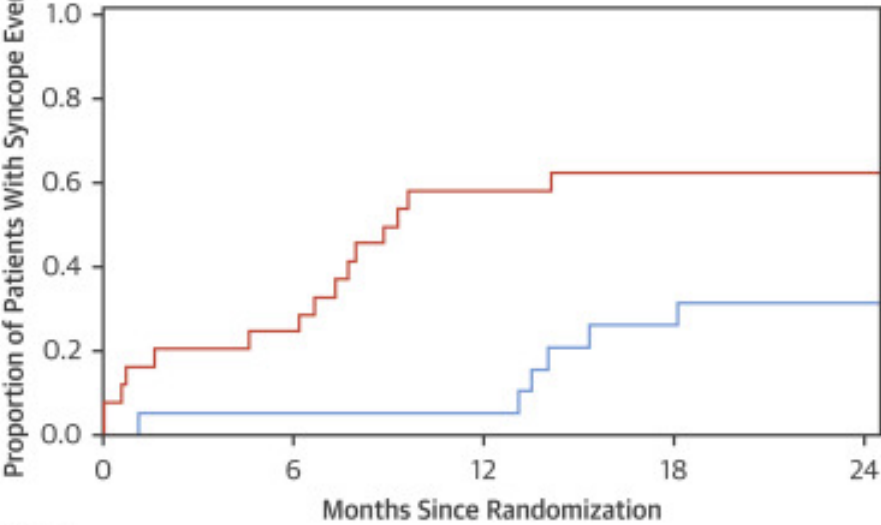
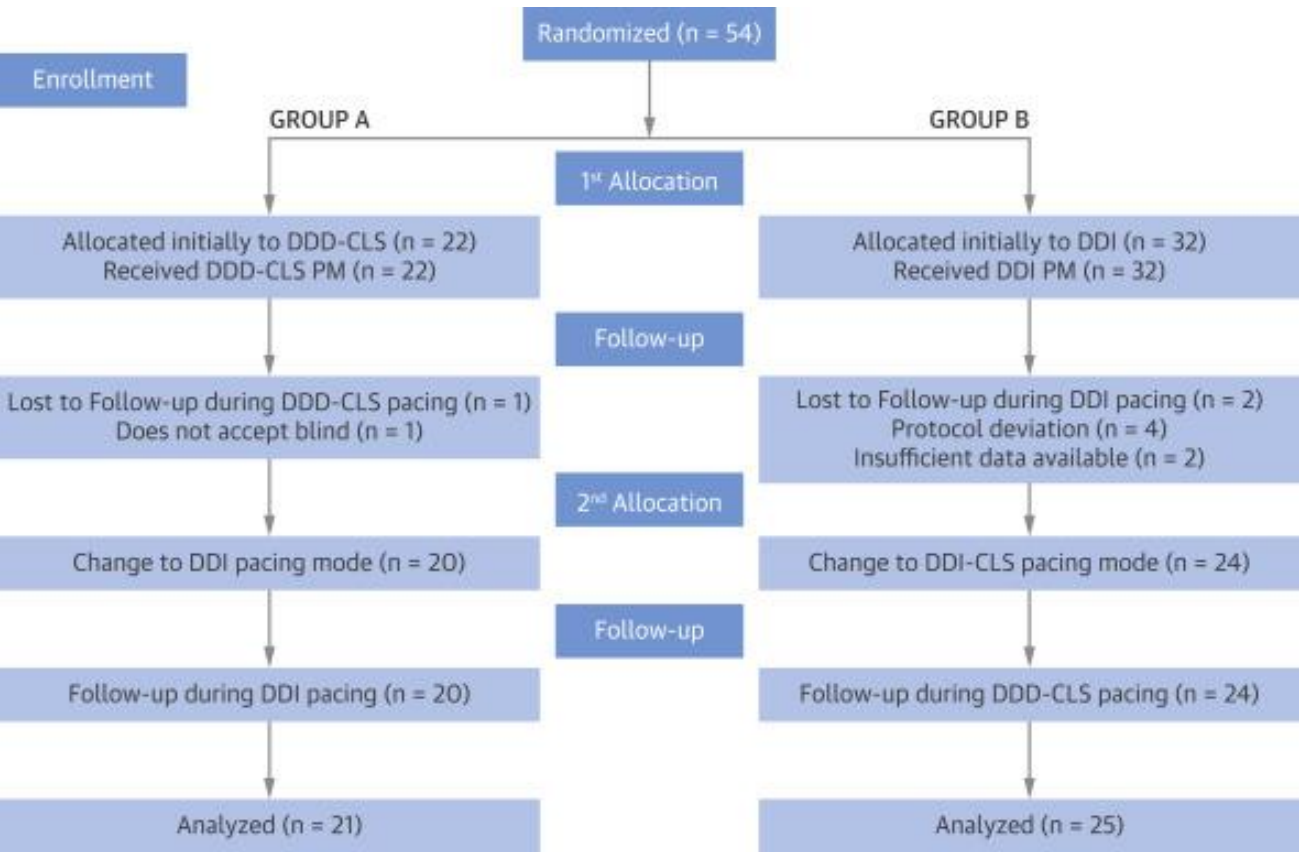
CONCLUSIONS There are limited data with substantive evidence of outcome ascertainment bias, and only 2 studies with a double-blinded study design have been conducted. The evidence does not support the use of pacing for reflex-mediated syncope beyond patients with recurrent vasovagal syncope and asystole documented by implantable loop recorder.

Dual-Chamber Pacing With Closed Loop Stimulation in Recurrent Reflex Vasovagal Syncope

The SPAIN Study

(J Am Coll Cardiol 2017;70:1720-8)

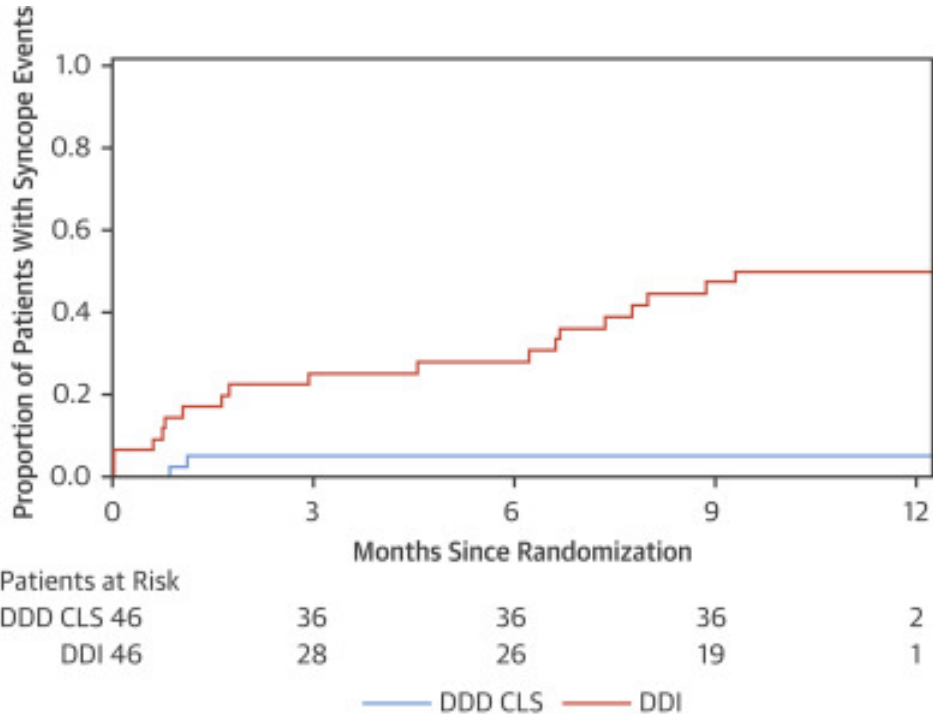
Gonzalo Baron-Esquivias, MD, PhD,^{a,b} Carlos A. Morillo, MD,^c Angel Moya-Mitjans, MD, PhD,^{b,d}
Jesus Martinez-Alday, MD, PhD,^{b,e,f} Ricardo Ruiz-Granell, MD, PhD,^{b,g} Javier Lacunza-Ruiz, MD,^{b,h}
Roberto Garcia-Civera, MD, PhD,^{b,g} Encarnacion Gutierrez-Carretero, MD, PhD,^{a,i} Rafael Romero-Garrido, MD^{a,b,j}



Patients at Risk

DDI → DDD-CLS	21	18	18	14	1
DDI → DDD-CLS	25	18	10	9	4

Legend: DDD-CLS → DDI (blue line), DDI → DDD-CLS (red line)



Patients at Risk

DDI	46	36	36	36	2
DDI	46	28	26	19	1

Legend: DDD CLS (blue line), DDI (red line)

Candidat « idéal » à la stimulation cardiaque

- **Patient > 40 ans**, très symptomatique, survenue tardive
- **Syncopes sévères (trauma++) et/ou métiers à risque**
- **Absence ou prodromes brefs++**
- **Asystole spontanée documentée+++**



Cognitive behavioural therapy as a potential treatment for vasovagal/neurocardiogenic syncope—a pilot study

J. L. Newton¹, R. A. Kenny¹ and C. R. Baker²



- Entre Janvier 2001 et 2002
 - 9 patients inclus → sans trouble psychiatrique
 - Age moyen 37 ans
 - 171 consultations sur 147 mois de suivi
- Traite les croyances du patient le menant à des restrictions, peur
 - adaptation sur la capacité à gérer et à faire face

Traitement conventionnel des syncopes invalidantes

Take Home Messages

- ◎ **Syncope cardiaque → TTT le + souvent curatif**
- ◎ **SVV problème quotidien en cardiologie**
 - Education, réassurance, manœuvres CP, apports hydriques et régimes hypersodé → **pour tous**
 - Tilt-test pour le diagnostic mais ne prédit pas la réponse au traitement
 - TTT pour les patients les + symptomatiques
- ◎ **Bien définir le mécanisme pour adapter le TTT au cours d'une situation physiologique (MEI...)**



SYNCOPE

DIAGNOSTIC & TRAITEMENT

Le symptôme « syncope » se trouve au carrefour de pathologies très variées dont certaines peuvent avoir un pronostic sombre si elles ne sont pas reconnues. Par sa fréquence, le spectre très large des patients affectés et ses lourdes conséquences tant individuelles que collectives, la syncope constitue également un véritable problème de santé publique. Cependant, sa prise en charge souffre encore souvent d'une certaine hétérogénéité car elle relève de spécialités très diverses.

La connaissance dans le domaine a connu d'immenses progrès au cours des trois dernières décennies, notamment grâce à la mise à disposition de nouveaux outils diagnostiques.

La littérature sur le sujet étant essentiellement anglo-saxonne, il nous a semblé important que le lecteur francophone puisse disposer d'un ouvrage didactique de référence en français. Nous avons souhaité y intégrer les données les plus récentes épidémiologiques, diagnostiques et thérapeutiques. La pratique professionnelle tirera avantage de la large place donnée aux dernières recommandations des sociétés savantes.

Cet ouvrage est le fruit d'un travail collectif de collègues français et européens. Tous experts reconnus dans le domaine, ils ont apporté à la rédaction de ce précis leurs larges connaissances et leur expérience personnelle.

Cet ouvrage se veut d'une grande utilité dans la pratique clinique quotidienne des médecins issus de multiples spécialités et confrontés à la syncope.

Nous vous en souhaitons une lecture instructive autant qu'agréable.



Serge
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Deharo



Claude
Kouakam

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SYNCOPE
& TRAITEMENT

DIAGNOSTIC &

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SERGE BOVEDA • JEAN-CLAUDE DEHARO • CLAUDE KOUAKAM

SOUS L'ÉGIDE DU GROUPE DE RYTHMOLOGIE
DE LA SOCIÉTÉ FRANÇAISE DE CARDIOLOGIE



Société Française
de Cardiologie

Rythmologie - Stimulation cardiaque



Hemodynamic effects of leg crossing and skeletal muscle tensing during free standing in patients with vasovagal syncope

Nynke van Dijk,¹ Ivar G. J. M. de Bruin,¹ Janneke Gisolf,² H. A. C. M. Rianne de Bruin-Bon,³ Mark Linzer,⁴ Johannes J. van Lieshout,¹ and Wouter Wieling¹

Departments of ¹Internal Medicine, ²Physiology, and ³Cardiology, Academic Medical Center, Amsterdam, The Netherlands; and ⁴Department of Internal Medicine, University of Wisconsin, Madison, Wisconsin

Table 1. *Hemodynamic effects of leg crossing during standing in 88 patients with vasovagal syncope*

	Standing	Crossed Legs	% Change From Baseline
Systolic BP, mmHg	125.3 ± 16.1	130.9 ± 16.9	4.5%†
Mean arterial pressure, mmHg	89.9 ± 11.1	92.9 ± 11.6	3.3%†
Diastolic BP, mmHg	73.8 ± 10.3	75.0 ± 10.7	1.6%*
Pulse pressure, mmHg	51.5 ± 11.3	55.9 ± 11.9	8.5%†
Heart rate, beats/min	82.8 ± 15.3	82.2 ± 14.9	−0.7%
Stroke volume	100%		10.7%†
Cardiac output	100%		9.5%†
Total peripheral resistance	100%		−5.1%†

