

Sincopa e blocco bifascicolare: novità?

Roberto Maggi

Centro Aritmologico e Syncope Unit – Lavagna, Italia





2021 ESC Guidelines on cardiac pacing and cardiac resynchronization therapy

Cardiac pacing in syncope:

- Pacing for cardiac syncope:
 - Sinus node dysfunction
 - Atrioventricular block
 - Bifascicular block
- Pacing for CI reflex syncope

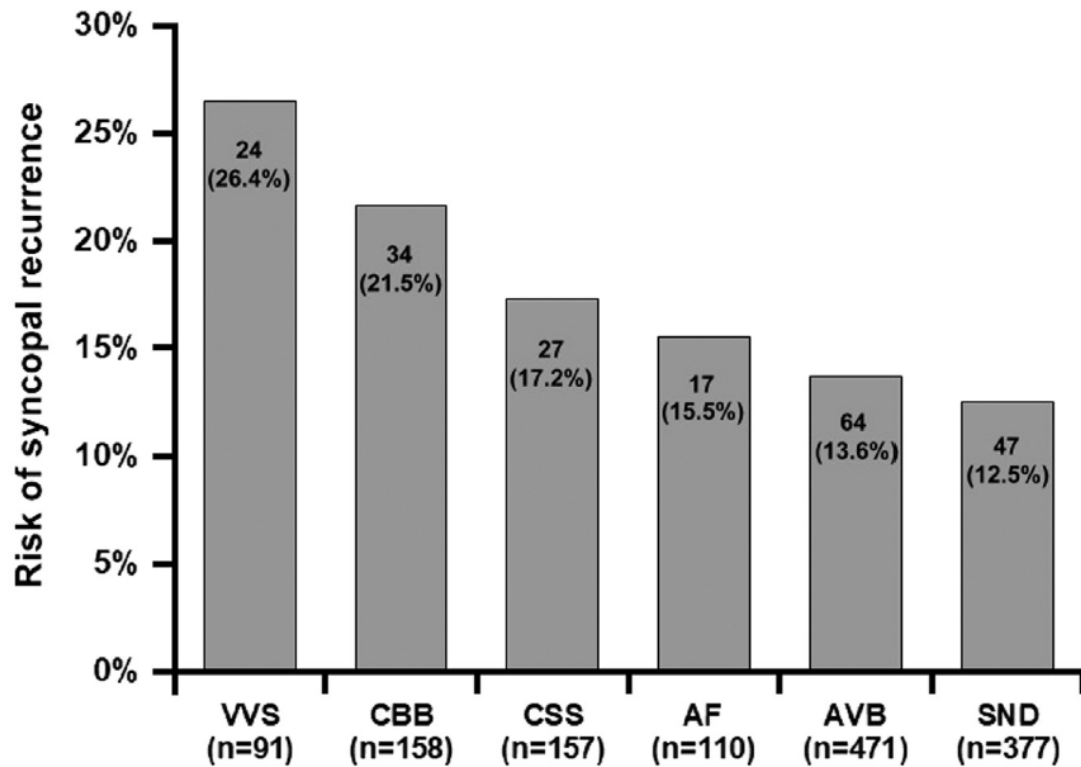
PM is the most efficient weapon against bradycardia

Causes of syncopal recurrences in patients treated with permanent pacing for bradyarrhythmic syncope: Findings from the SYNCOPACED registry

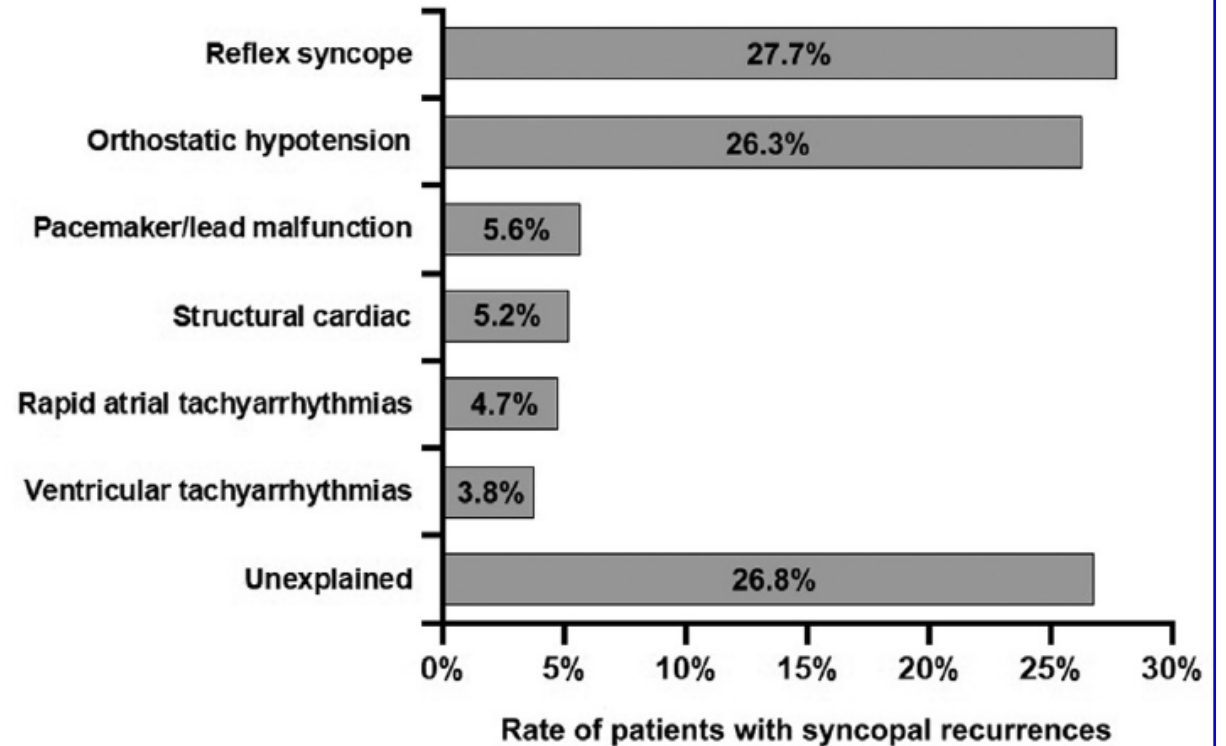
Palmisano P et al. Heart Rhythm 2021; 18: 770-777

Recurrence after Pm according to etiology

(total 1364 patients, median FU 50 months)



Recurrence after Pm according to the mechanism



Pacing in cardiac syncope

Setting/ condition	Diagnostic tool	Bradycardic mechanism of syncope	Recurrence of syncope with pacing	Reference
Documented paroxysmal AVB	ECG monitoring (external or ILR)	Established	0% at 3.5 yrs 0% at 4 yrs 1% at 5 yrs 7% at 5 yrs	<i>Sud</i> <i>Brignole</i> <i>Aste</i> <i>Langenfeld H</i>
BBB-positive EPS	Positive EPS	Likely	≈ 7% at 2 yrs	<i>B4</i>
BBB-empirical pacing	Clinical evaluation	Suspected	13.5% at 2 yrs 14% at 5 yrs 29% at 5 yrs	<i>PRESS</i> <i>Aste</i> <i>Spritely</i>
Sick sinus syndrome	Clinical evaluation	Suspected	15% at 5 yrs 22% at 5 yrs 28% at 5 yrs	<i>Sgarbossa</i> <i>DANPACE</i> <i>Langenfeld</i>

A standardized conventional evaluation of the mechanism of syncope in patients with bundle branch block

P. Donateo¹, M. Brignole¹, P. Alboni², C. Menozzi³, A. Raviele⁴, A. Del Rosso⁵,
M. Dinelli², A. Solano¹, N. Bottoni³ and F. Croci¹

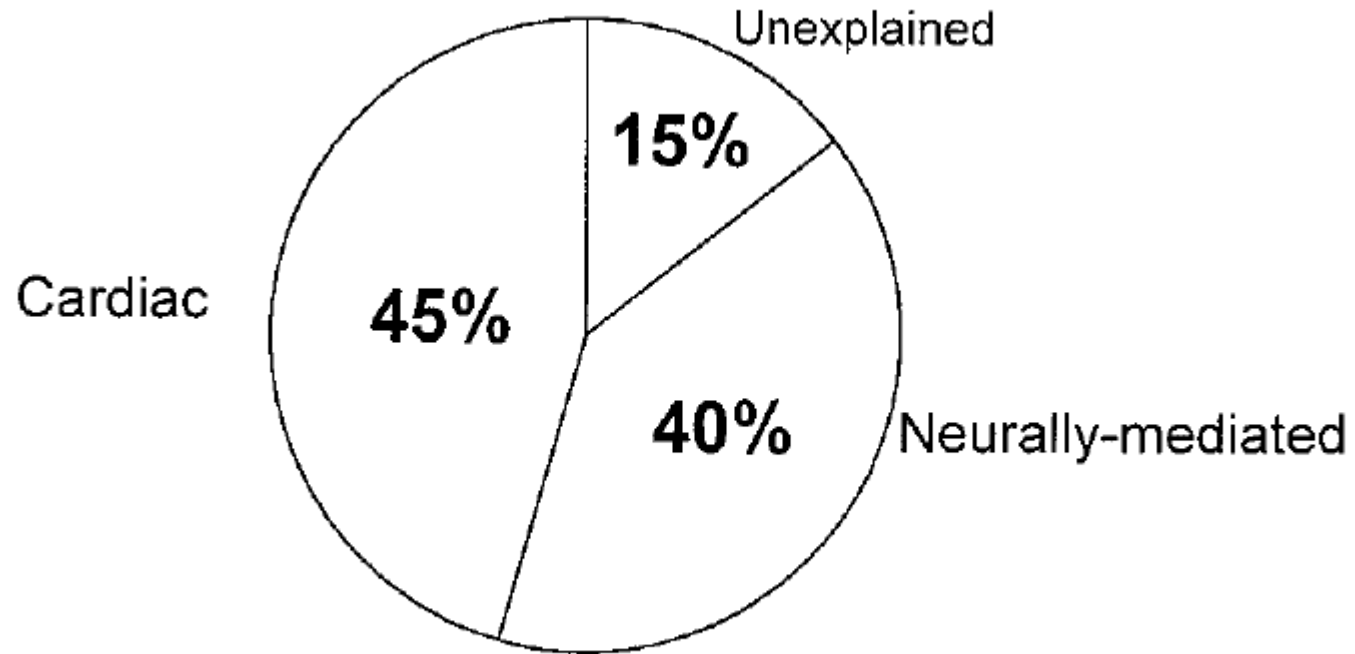


Figure 1 Final diagnosis.

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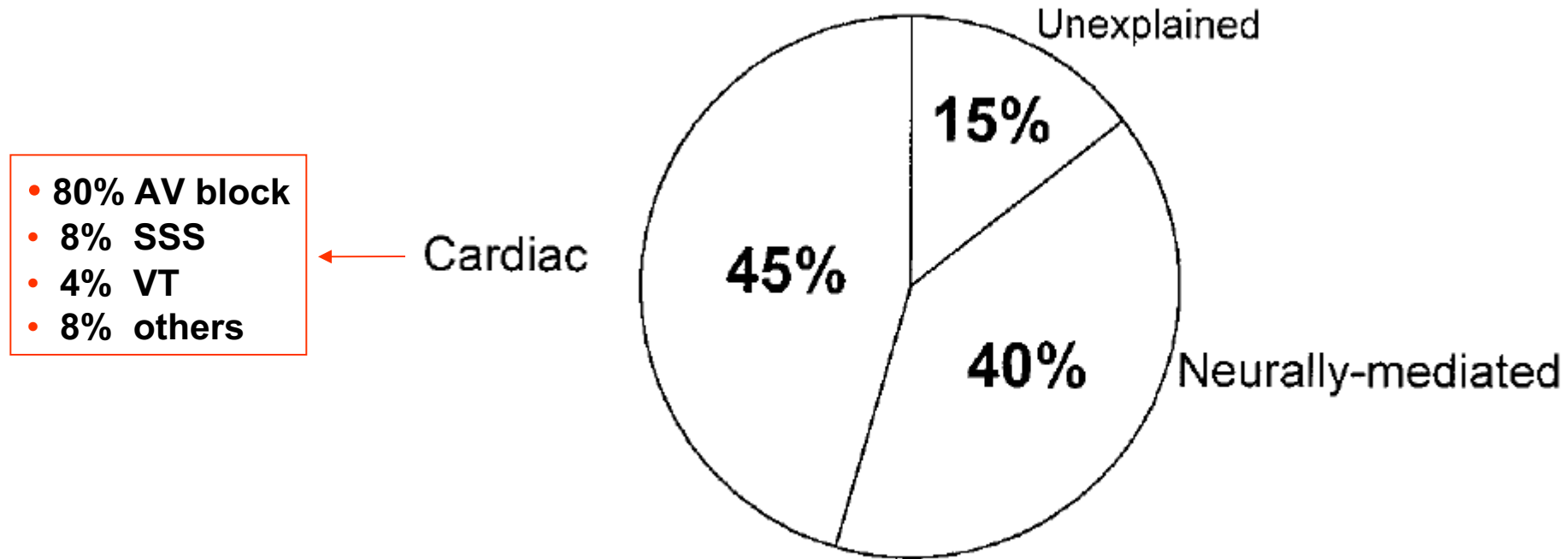


Figure 1 Final diagnosis.

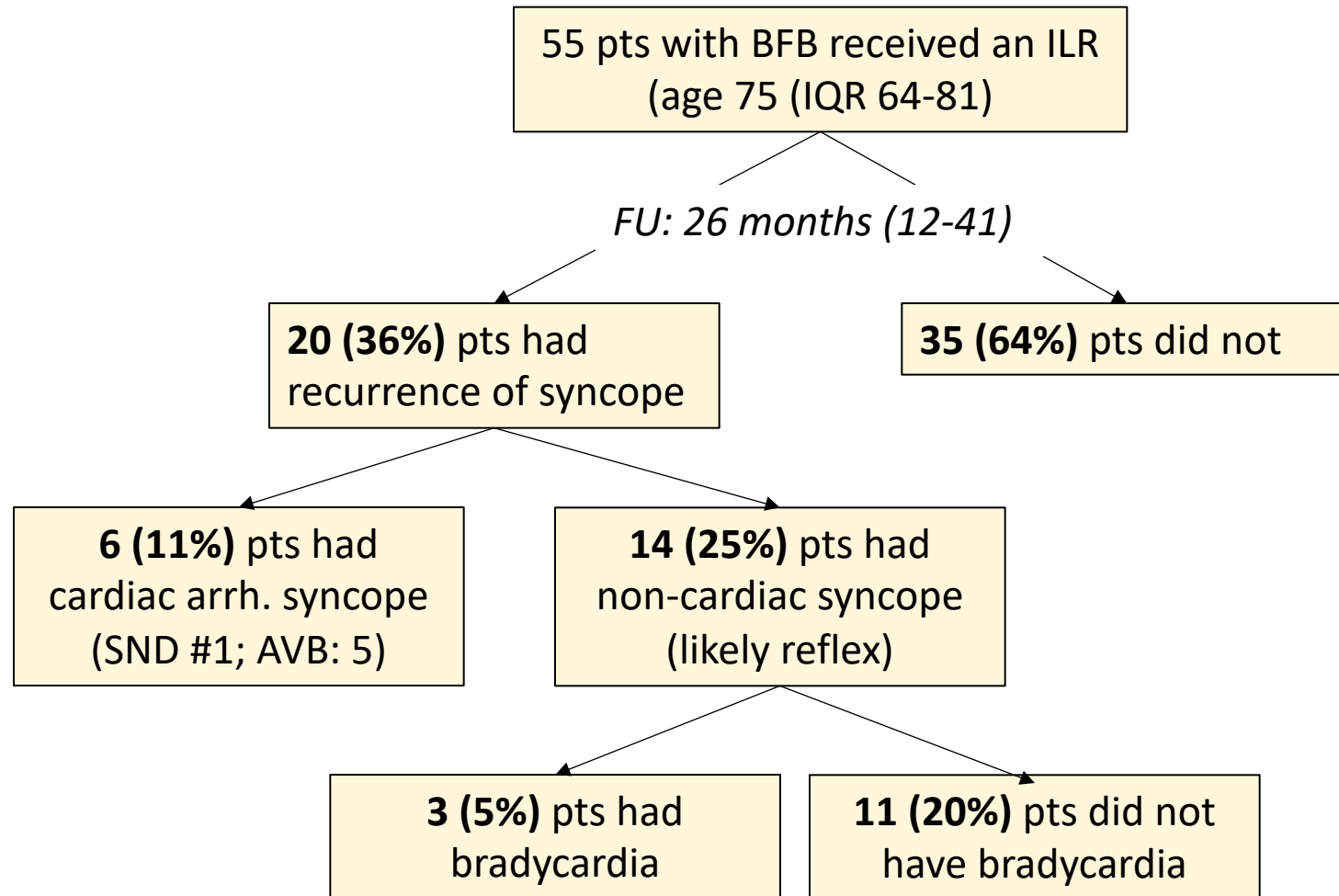
Syncope and BBB: Diagnostic value of history taking

Predicts cardiac syncope	<ul style="list-style-type: none">• Syncope during effort• Blurred vision• >2 syncopes last year• Left BBB
Predicts reflex syncope	<ul style="list-style-type: none">• History of syncope >3 yrs• Nausea and vomiting• Right BBB

Low incidence of arrhythmic syncope and pacemaker implantation in older patients with bifascicular block and implantable cardiac monitor

Carlo Fumagalli^{a,*}, Martina Rafanelli^{a,1}, Michele Brignole^{a,b}, Caterina Guarducci^a, Niccolò Bettoni^a, Giulia Rivasi^a, Paolo Pieragnoli^c, Giuseppe Ricciardi^c, Luca Checchi^c, Marco Gambardella^c, Flavia Casolaro^d, Giuseppe Paolisso^{d,e}, Raffaele Marfella^{d,e}, Giuseppe Signoriello^f, Niccolò Marchionni^a, Andrea Ungar^a, Celestino Sardu^d

Int J Cardiol 2023; 370: 215-218



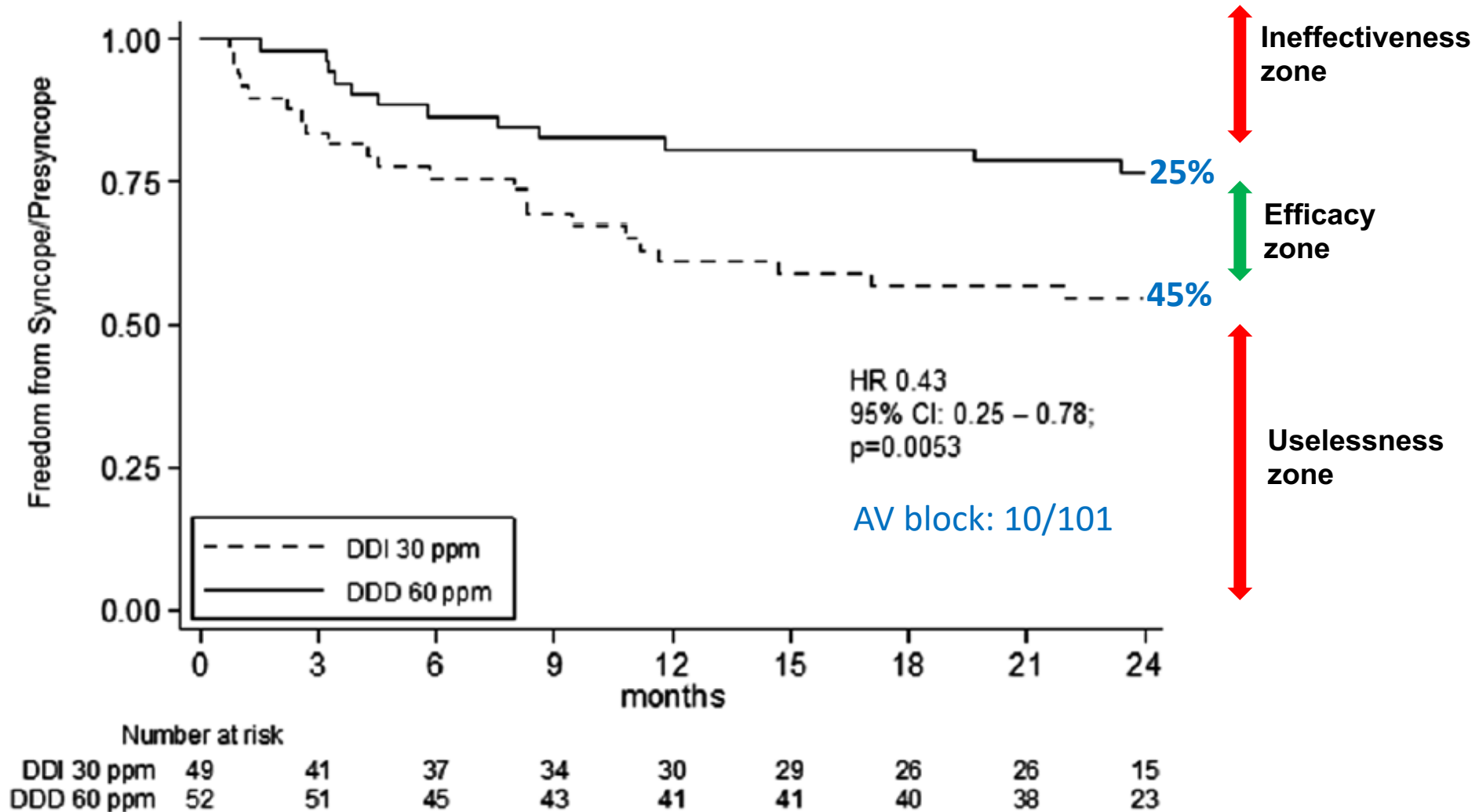
**Cardiac pacing in patients with bifascicular block and unexplained syncope:
the PRESS trial**

Santini M et al Circ Arrhythm Electrophysiol. 2013;6:101-107

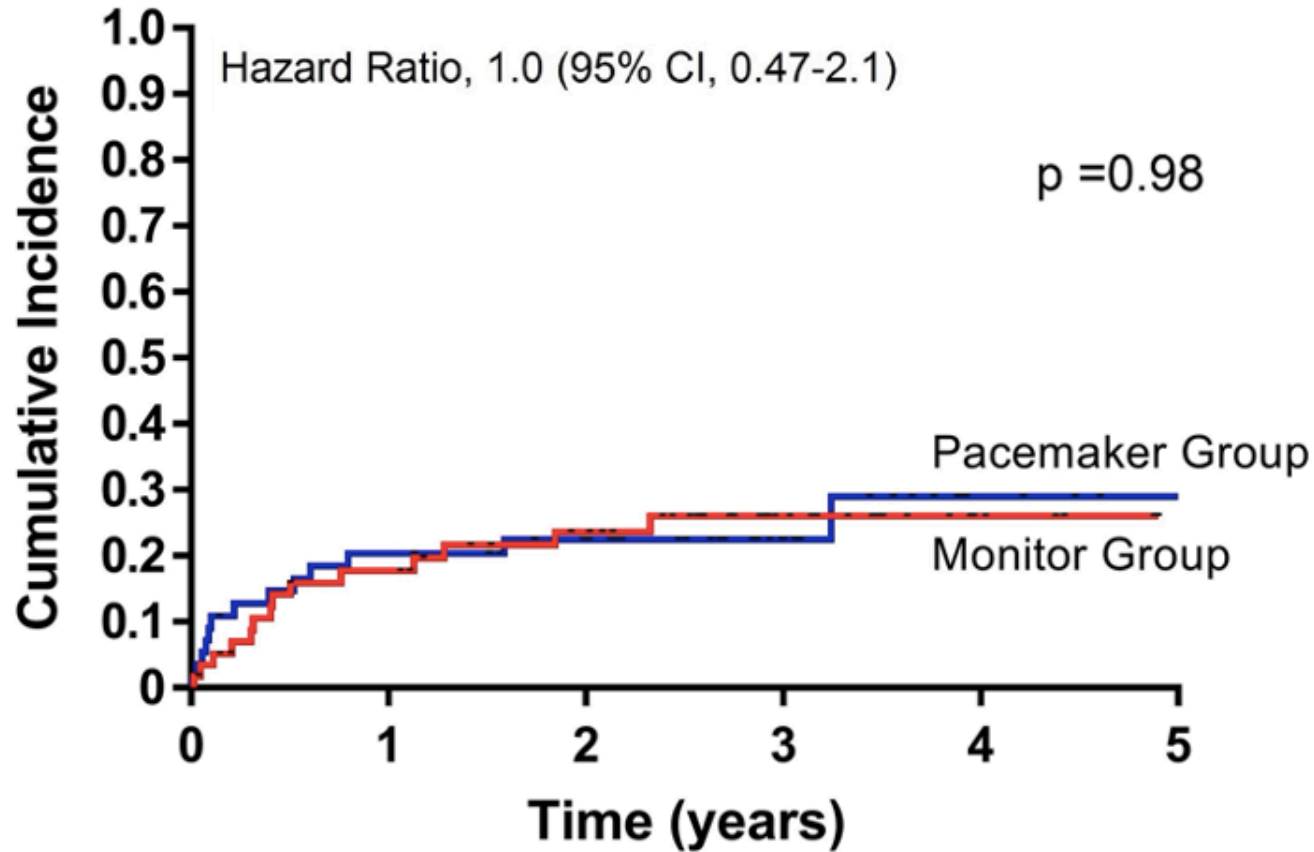
- 101 patients with syncope and BBB
- CSM, tilt test and EPS negative
- Patients with EF < 40% excluded
- Empirical pacemaker implantation
- Randomised to DDD 60 versus DDI 30

Cardiac pacing in patients with bifascicular block and unexplained syncope: the PRESS trial

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Spritely trial: empiric PM versus ILR in syncope and bifascicular block



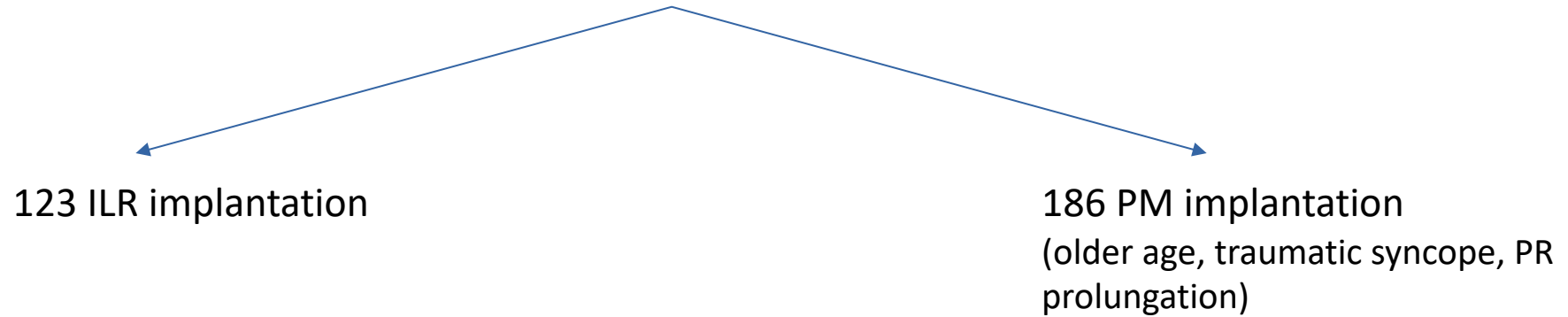
Syncope was as likely in the groups randomized to receive a pacemaker or ICM (29% vs 26%)


Number at risk

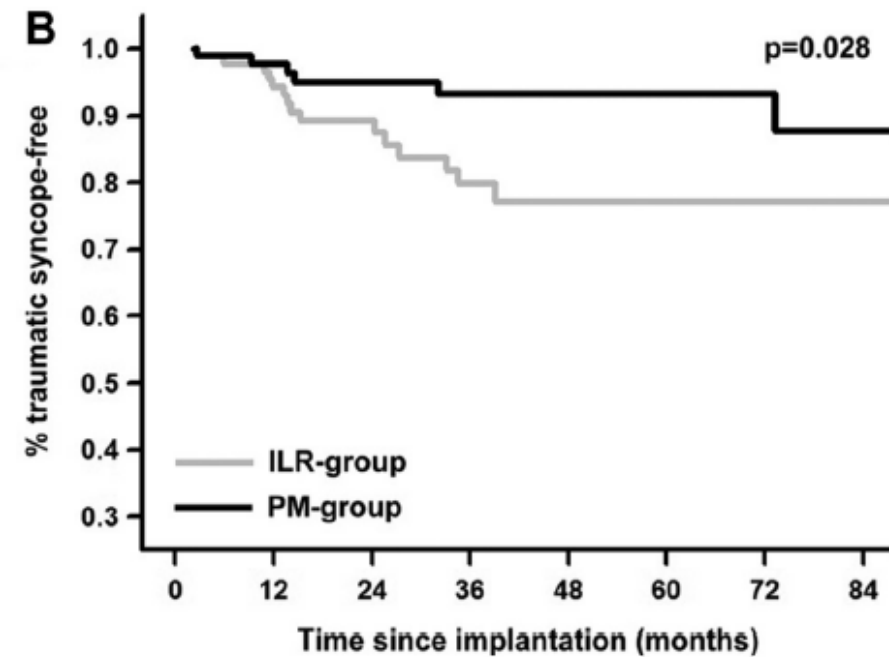
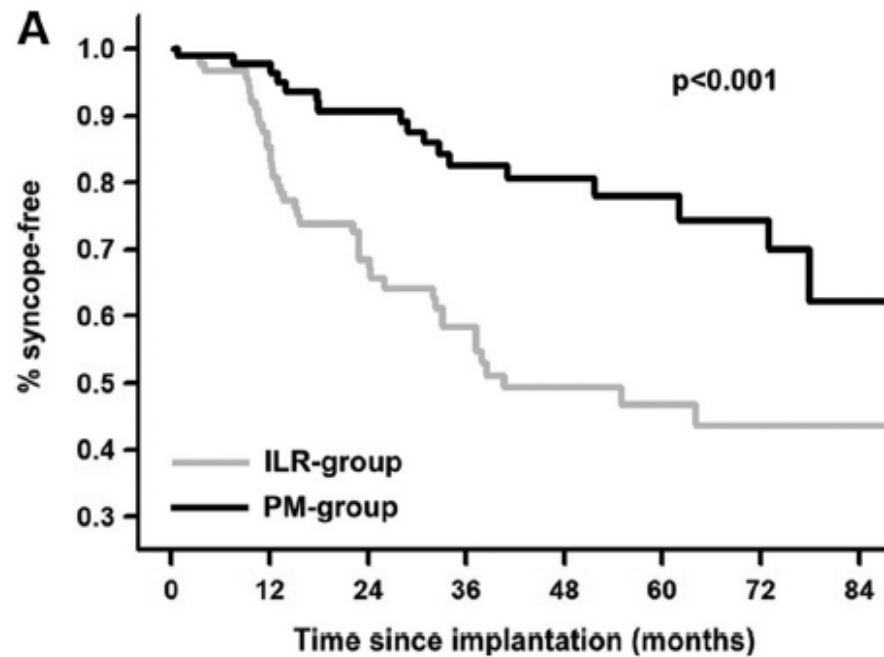
Pacemaker	57	43	36	18	5	2
Monitor	58	46	36	19	8	1

Management of older patients with unexplained, recurrent, traumatic syncope and bifascicular block: Implantable loop recorder versus empiric pacemaker implantation—Results of a propensity-matched analysis 

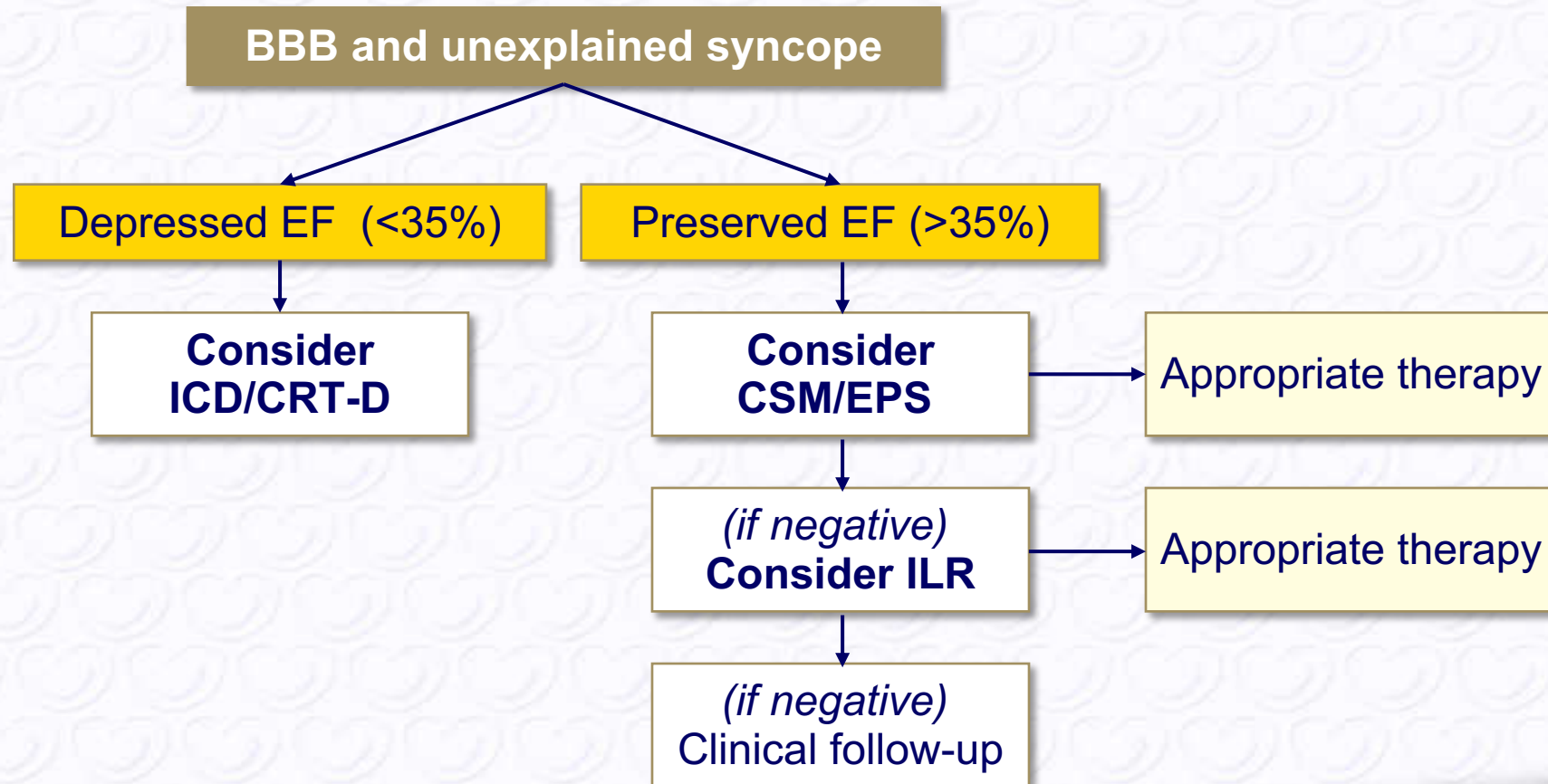
309 consecutive pts with unexplained, recurrent, traumatic syncope and BFB
(TRAUMA registry, prospective, multicenter observational study)



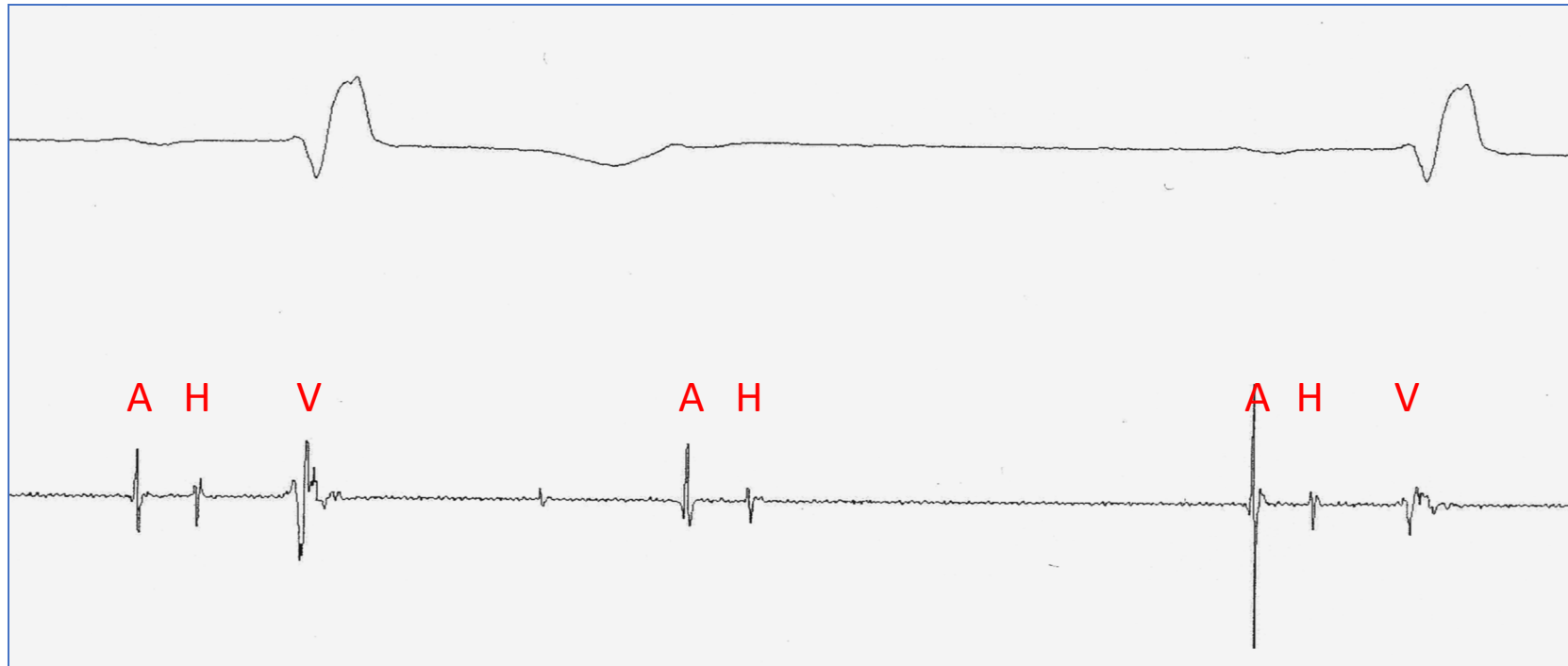
Management of older patients with unexplained, recurrent, traumatic syncope and bifascicular block: Implantable loop recorder versus empiric pacemaker implantation—Results of a propensity-matched analysis 



Algorithm for patients with unexplained syncope and BBB

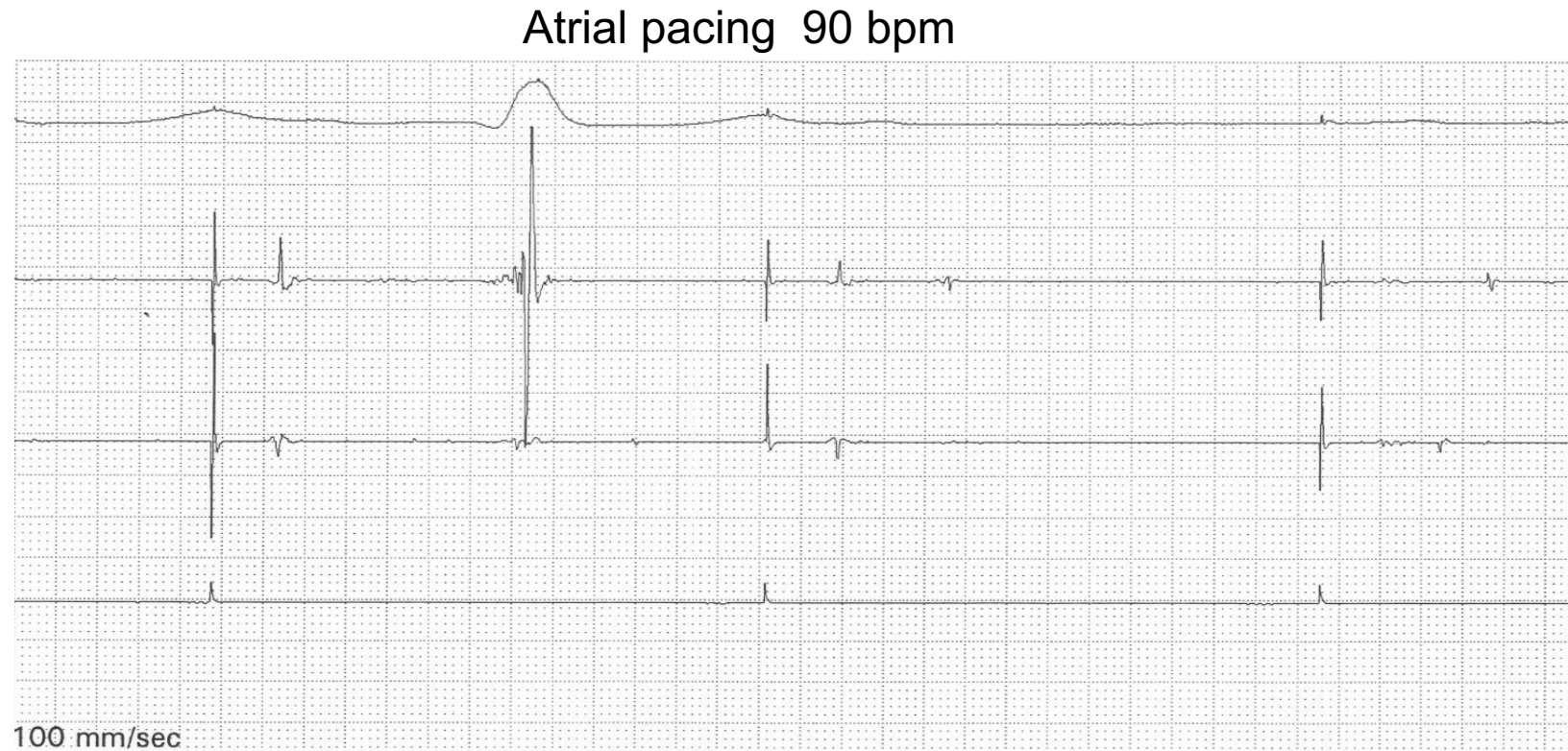


Intrinsic AV block (His-Purkinje disease)



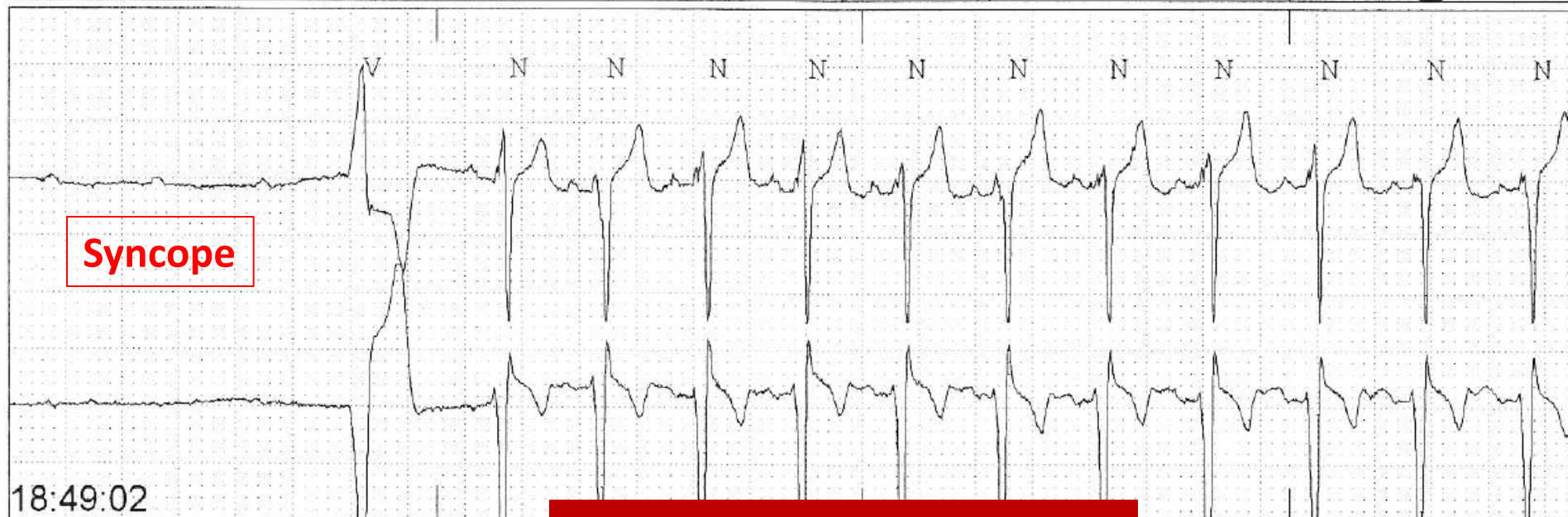
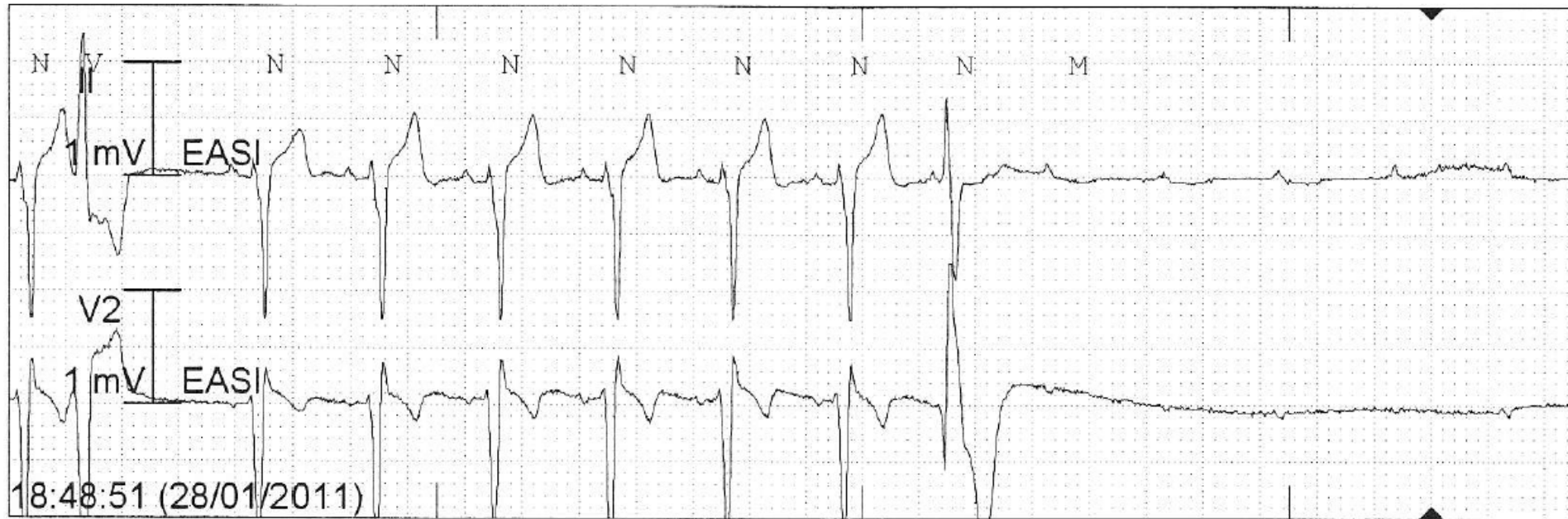
BRF f 71, Mar 3, 2011

Intrinsic AV block (His-Purkinje disease)



BR 22/6/2017: f, 83 yrs, pre-syncope, no SHD, 30-day ELR negative, stress test negative

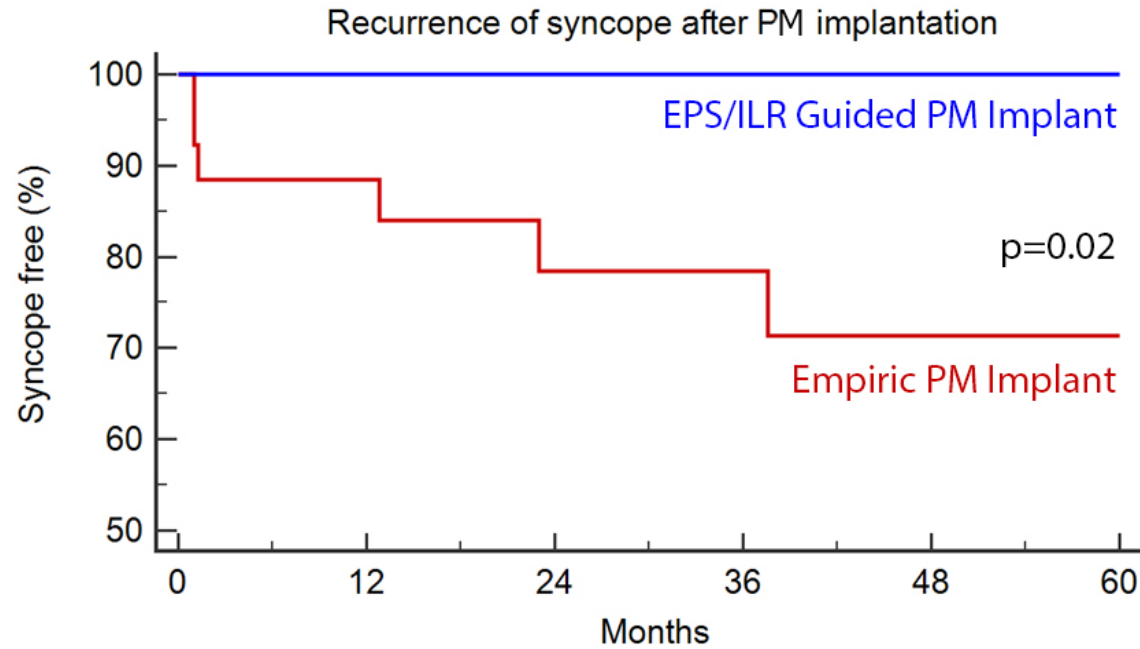
Intrinsic AV block (His-Purkinje disease)



BV m71, Jan 28, 2011

Intrinsic AV block

EP Study-ILR Guided Pacemaker Implantation versus Empiric Pacing in Patients with Bifascicular block and Syncope



Mean age: 72 ± 12

Mean age: 82 ± 11

Number at risk

	0	12	24	36	48	60
Empiric	26	20	14	11	6	3
EPS/ILR Guided	17	15	13	8	6	3

Indication for cardiac pacing in patients with BBB	Class	Level
1) BBB, unexplained syncope and abnormal EPS. Pacing is indicated in patients with syncope, BBB and positive EPS defined as HV interval of ≥ 70 ms, or second- or third-degree His-Purkinje block demonstrated during incremental atrial pacing or with pharmacological challenge	I	B
3) BBB, unexplained syncope with non-diagnostic investigations. Pacing may be considered in selected patients with unexplained syncope and BBB	IIb	B



Clinical perspectives:

Old patients with BBB and unexplained syncope after a reasonable work-up might benefit from empirical PM, especially if syncope is unpredictable (with no or short prodrome) or has occurred in supine position or during effort.

What is new in 2018 syncope guidelines ?

CHANGE IN RECOMMENDATIONS	
2009	2018
EPS-guided pacemaker: HV >70 ms	
Empiric pacing in bifascicular block	
Therapy of reflex syncope: PCM	
Therapy of OH: PCM	
Therapy of OH: abdominal binders	
Therapy of OH: head-up tilt sleeping	
Syncope & SVT/VT: AA drugs Expert opinion	

I

IIa

IIb

III

Taken out

Pacing in patients with cardiac syncope

Key messages

Before embarking in PM implantation:

- Document causal relationship between bradycardia and syncope
- Look for associated hypotensive mechanisms

Unexplained syncope and BFB: conclusions

- Patients with syncope and BFB are at higher risk of cardiovascular events and death
- EPS is suggested by guidelines but has limited diagnostic value
- ILR strategy implies long follow-up (risk of trauma)
- Empiric pacemaker implantation is a suboptimal therapy (syncope recurrences)
- Which is the best strategy is not yet proved (guidelines suggest EPS/ILR)
- Individualized approach can be considered

