Μετεμφραγματικός ασθενής με διατηρημένο κλάσμα εξώθησης και παύσεις στο Holter:

ηλεκτροφυσιογικός έλεγχος, βηματοδότης ή απινιδωτής

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- Ασυμπτωματικός ασθενής?
- Συγκοπτικά συμβάματα?
- Αίσθημα παλμών?
- ΗΚΓ με διαταραχές αγωγής?
- Συμπτωματικές παύσεις?

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Population-Based Analysis of Sudden Cardiac Death With and Without Left Ventricular Systolic Dysfunction

Two-Year Findings from the Oregon Sudden Unexpected Death Study

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Table 2. Clinical Characteristics of SCD Cases That Underwent Evaluation of LV Function

	Reduced EF			
	Severe (n = 36)	Mild/Moderate (n = 27)	Normal EF (n = 58)	p Value*
Age (yrs)	74 ± 11	73 ± 9.1	66 ± 15	<0.01
Female	9 (25%)	8 (30%)	27 (47%)	0.03
Attempted resuscitation	23 (64%)	19 (70%)	38 (66%)	1
CAD	27 (75%)	24 (89%)	29 (50%)	<0.01
Prior SCD	2 (6%)	1 (4%)	3 (5%)	1
DM	11 (31%)	9 (33%)	19 (33%)	1
Hypertension	25 (69%)	19 (70%)	35 (60%)	0.27
Hyperlipidemia	21 (58%)	15 (56%)	23 (40%)	0.06
Seizure disorder	0	0	8 (14%)	<0.01
Prior CVA	4 (11%)	5 (19%)	9 (16%)	0.85
Sleep apnea	4 (11%)	3 (11%)	6 (10%)	0.89

*p value for difference between any reduction in EF and normal EF.
CAD = obstructive coronary artery disease; CVA = cerebrovascular accident; DM = diabetes mellitus; EF = ejection fraction; LV = left ventricular; SCD = sudden cardiac death.

Out-of-hospital cardiac arrest-the relevance of heart failure. The Maastricht Circulatory Arrest Registry

Anton P.M. Gorgels*, Claudia Gijsbers, Jacqueline de Vreede-Swagemakers, Aimee Lousberg, Hein J.J. Wellens

Table 3 SCA rate related to LVEF

	n=9258	n=200[a]	%*	p	n=81[b]	%*	p
LVEF							
0–30	508	38	7.5	.000	26	5.1	.000
31–40	628	32	5.1		14	2.2	
41–50	1050	29	2.8		12	1.2	
>50	7072	101	1.4		29	0.41	

*% of SCA cases per LVEF class is presented.
[a]n=200 all SCA cases with echo data on LVEF.
[b]n=81 SCA cases, with echo taken between 1997–2000.

2015 ESC Guidelines for the management of patients with ventricular arrhythmias and the prevention of sudden cardiac death

Electrophysiological study			
Electrophysiological study in patients with CAD is recommended for diagnostic evaluation of patients with remote myocardial infarction with symptoms suggestive of ventricular tachyarrhythmias, including palpitations, presyncope and syncope.	I	B	105
Electrophysiological study in patients with syncope is recommended when bradyarrhythmias or tachyarrhythmias are suspected, based on symptoms (e.g. palpitations) or the results of non-invasive assessment, especially in patients with structural heart disease.	I	C	106
Electrophysiological study may be considered for the differential diagnosis of ARVC and benign RVOT tachycardia or sarcoidosis.	IIb	B	107

2015 ESC Guidelines for the management of patients with ventricular arrhythmias and the prevention of sudden cardiac death

Risk stratification in patients with stable coronary artery disease after myocardial infarction with preserved ejection fraction

Recommendations	Class[a]	Level[b]	Ref.[c]
PVS should be considered in survivors of a myocardial infarction with preserved LV function and otherwise unexplained syncope.	IIa	C	280–282

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Letters to the Editor

Prognostic value of programmed ventricular stimulation for sudden death in selected high risk patients with structural heart disease and preserved systolic function

Konstantinos A. Gatzoulis [a,*,1], Dimitris Tsiachris [a,1], Petros Arsenos [a,1], Stefanos Archontakis [a,1], Polychronis Dilaveris [a,1], Apostolis Vouliotis [a,1], Skevos Sideris [b,1], Ioannis Skiadas [b,1], Ioannis Kallikazaros [b,1], Christodoulos Stefanadis [a,1]

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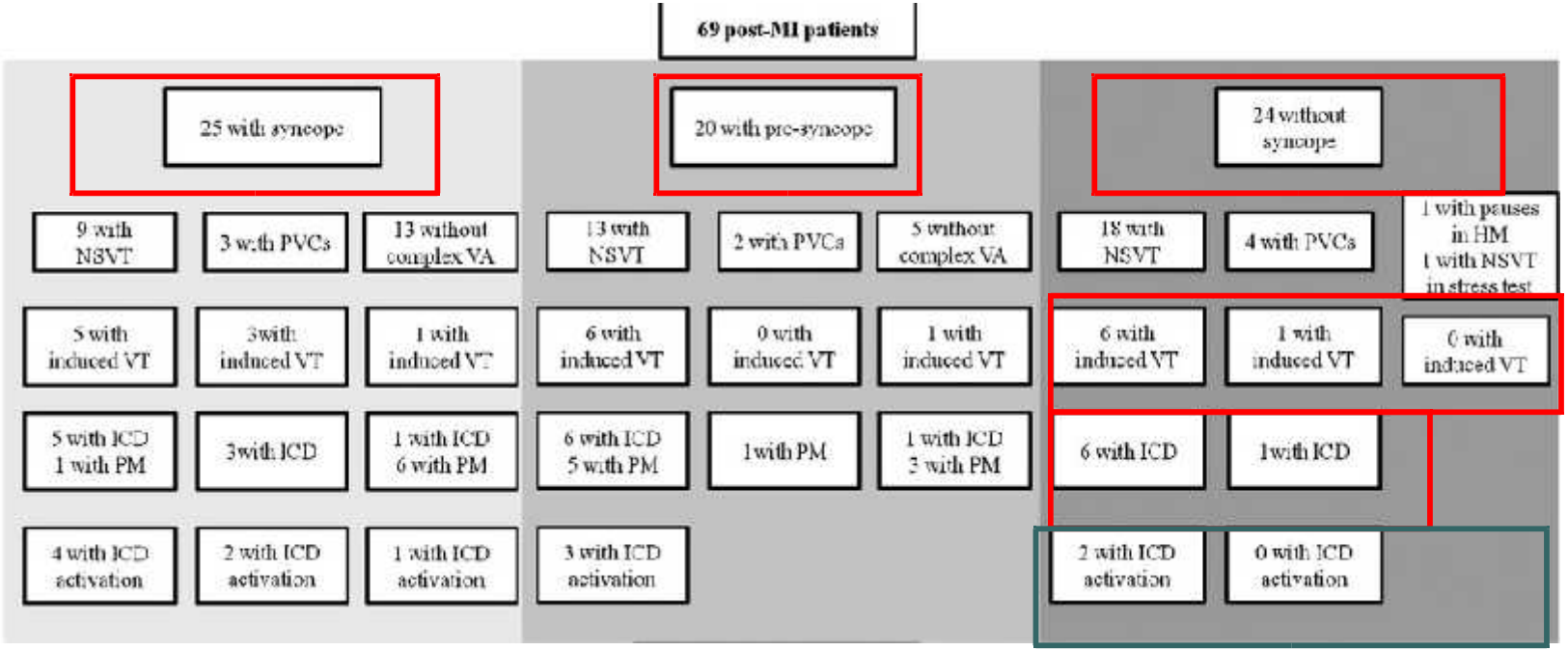

K. Gatzoulis et al, IJC, 2014

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Prognostic value of programmed ventricular stimulation for sudden death in selected high risk patients with structural heart disease and preserved systolic function

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[a] First Cardiology Division, University of Athens Medical School, Hippokration Hospital, Athens, Greece
[b] State Department of Cardiology, Hippokration Hospital, Athens, Greece

Predictive value of ventricular arrhythmia induction in the total study population and separately in post-MI and DCM patients. Positive predictive value is estimated on the basis of appropriate ICD activation.

	Positive predictive value (%)	Negative predictive value (%)
All study patients	(n = 33) 60.6	(n = 111) 100
All post-MI patients	(n = 23) 52.2	(n = 69) 100
Syncope	(n = 9) 77.8	(n = 25) 100
Presyncope	(n = 7) 37.5	(n = 20) 100
Asymptomatic	(n = 7) 33.2	(n = 24) 100

Hellenic J Cardiol 2014; 55: 361-368

Original Research

Post Myocardial Infarction Risk Stratification for Sudden Cardiac Death in Patients with Preserved Ejection Fraction: PRESERVE-EF Study Design

Konstantinos A. Gatzoulis[2], Dimitris Tsiachris[2], Petros Arsenos[1], Polychronis Dilaveris[1], Skevos Sideris[2], Emmanouil Simantirakis[3], Michalis Efremidis[4], Nikolaos Dagres[1], Panagiotis Korantzopoulos[5], Nikolaos Tragakis[1], Konstantinos Letsas[4], Panagiota Tlevari[1], Vasilis Vasilikos[1], Antonis Sideris[4], Efstratios Iliodromitis[3], Ioannis Goudevenos[6], Ioannis Lekakis[3], Panos Vardas[7], Ioannis Kallikazaros[2], Christodoulos Stefanadis[1]

1. Asymptomatic patients with revascularized MI (remaining stenoses in non-culprit vessels <70%) at 40 days post-MI (when LVEF>40% will be re-assessed);
2. Asymptomatic patients late (until 3 years) after MI (initially STEMI-NSTEMI and at discharge Q-non Q) with LVEF>40% immediately after a negative stress test or a coronary catheterization examination negative for stenoses. In the case of preceding revascularization (PCI or coronary artery bypass grafting [CABG]), the risk stratification process will take place at least 1 month after PCI and 3 months after CABG.

European Heart Journal (2009) 30, 2631–2671
doi:10.1093/eurheartj/ehp298

Guidelines for the diagnosis and management of syncope (version 2009)

The Task Force for the Diagnosis and Management of Syncope of the European Society of Cardiology (ESC)

Recommendations: electrophysiological study

Recommendations	Class[a]	Level[b]
Indications		
• In patients with ischaemic heart disease EPS is indicated when initial evaluation suggests an arrhythmic cause of syncope (listed in *Table 10*) unless there is already an established indication for ICD	I	B
• In patients with BBB, EPS should be considered when non-invasive tests have failed to make the diagnosis	IIa	B
• In patients with syncope preceded by sudden and brief palpitations, EPS may be performed when other non-invasive tests have failed to make the diagnosis	IIb	B
• In patients with Brugada syndrome, ARVC and hypertrophic cardiomyopathy an EPS may be performed in selected cases	IIb	C
• In patients with high-risk occupations, in whom every effort to exclude a cardiovascular cause of syncope is warranted, an EPS may be performed in selected cases	IIb	C
• EPS is not recommended in patients with normal ECG, no heart disease, and no palpitations	III	B

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Guidelines for the diagnosis and management of syncope (version 2009)

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Recommendations	Class[a]	Level[b]
• Syncope due to cardiac arrhythmias must receive treatment appropriate to the cause	I	B
Cardiac pacing		
• Pacing is indicated in patients with sinus node disease in whom syncope is demonstrated to be due to sinus arrest (symptom–ECG correlation) without a correctable cause	I	C
• Pacing is indicated in sinus node disease patients with syncope and abnormal CSNRT	I	C
• Pacing is indicated in sinus node disease patients with syncope and asymptomatic pauses ≥3 s (with the possible exceptions of young trained persons, during sleep, and in medicated patients)	I	C
• Pacing is indicated in patients with syncope and second degree Mobitz II, advanced or complete AV block	I	B
• Pacing is indicated in patients with syncope, BBB, and positive EPS	I	B
• Pacing should be considered in patients with unexplained syncope and BBB	IIa	C
• Pacing may be indicated in patients with unexplained syncope and sinus node disease with persistent sinus bradycardia itself asymptomatic	IIb	C
• Pacing is not indicated in patients with unexplained syncope without evidence of any conduction disturbance	III	C

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Guidelines for the diagnosis and management of syncope (version 2009)

The Task Force for the Diagnosis and Management of Syncope of the European Society of Cardiology (ESC)

Recommendations: indications for ICD in patients with unexplained syncope and a high risk of SCD

Clinical situation	Class[a]	Level[b]	Comments
• In patients with ischaemic cardiomyopathy with severely depressed LVEF or HF, ICD therapy is indicated according to current guidelines for ICD–cardiac resynchronization therapy implantation	I	A	
• In patients with non-ischaemic cardiomyopathy with severely depressed LVEF or HF, ICD therapy is indicated according to current guidelines for ICD–cardiac resynchronization therapy implantation	I	A	
• In hypertrophic cardiomyopathy ICD therapy should be considered in patients at high risk (see text)	IIa	C	In non-high risk, consider ILR
• In right ventricular cardiomyopathy ICD therapy should be considered in patients at high risk (see text)	IIa	C	In non-high risk, consider ILR
• In Brugada syndrome ICD therapy should be considered in patients with spontaneous type I ECG	IIa	B	In the absence of spontaneous type I pattern, consider ILR
• In long QT syndrome, ICD therapy, in conjunction with β-blockers, should be considered in patients at risk	IIa	B	In non-high risk, consider ILR
• In patients with ischaemic cardiomyopathy without severely depressed LVEF or HF and negative programmed electrical stimulation ICD therapy may be considered	IIb	C	Consider ILR to help define the nature of unexplained syncope
• In patients with non-ischaemic cardiomyopathy without severely depressed LVEF or HF ICD therapy may be considered	IIb	C	Consider ILR to help define the nature of unexplained syncope

2012 ACCF/AHA/HRS Focused Update Incorporated Into the ACCF/AHA/HRS 2008 Guidelines for Device-Based Therapy of Cardiac Rhythm Abnormalities

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

2008 WRITING COMMITTEE MEMBERS
Developed in Collaboration With the American Association for Thoracic Surgery and Society of Thoracic Surgeons

Recommendations for Permanent Pacing in Sinus Node Dysfunction

Class I

1. Permanent pacemaker implantation is indicated for SND with documented symptomatic bradycardia, including frequent sinus pauses that produce symptoms. (*Level of Evidence: C*)[53–55]

Class IIa

2. Permanent pacemaker implantation is reasonable for syncope of unexplained origin when clinically significant abnormalities of sinus node function are discovered or provoked in electrophysiological studies. (*Level of Evidence: C*)[61,62]

Recommendations for Acquired Atrioventricular Block in Adults

Class I

3. Permanent pacemaker implantation is indicated for third-degree and advanced second-degree AV block at any anatomic level in awake, symptom-free patients in sinus rhythm, with documented periods of asystole greater than or equal to 3.0 seconds[86] or any escape rate less than 40 bpm, or with an escape rhythm that is below the AV node. (*Level of Evidence: C*)[53,58]
4. Permanent pacemaker implantation is indicated for third-degree and advanced second-degree AV block at any anatomic level in awake, symptom-free patients with AF and bradycardia with 1 or more pauses of at least 5 seconds or longer. (*Level of Evidence: C*)

2012 ACCF/AHA/HRS Focused Update Incorporated Into the ACCF/AHA/HRS 2008 Guidelines for Device-Based Therapy of Cardiac Rhythm Abnormalities

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2008 WRITING COMMITTEE MEMBERS

Developed in Collaboration With the American Association for Thoracic Surgery and Society of Thoracic Surgeons

Recommendations for Permanent Pacing in Chronic Bifascicular Block

Class IIa

2. Permanent pacemaker implantation is reasonable for an incidental finding at electrophysiological study of a markedly prolonged HV interval (greater than or equal to 100 milliseconds) in asymptomatic patients. (*Level of Evidence: B*)[109]
3. Permanent pacemaker implantation is reasonable for an incidental finding at electrophysiological study of pacing-induced infra-His block that is not physiological. (*Level of Evidence: B*)[118]

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ΣΥΜΠΕΡΑΣΜΑΤΑ

- ΗΦΕ επί συμπτωμάτων χωρίς εμφανή διαταραχή αγωγής (συγκοπή, αίσθημα παλμών)
- ΗΦΕ στα πλαίσια διαστρωμάτωσης κινδύνου για ΑΘ?
- ΒΗΜΑΤΟΔΟΤΗΣΗ επί συμπτωμάτων (συγκοπή) και διαταραχή λειτουργίας φλεβοκόμβου(holter – EPS) ή Κ/Κ -ενδοκοιλιακής αγωγής (BBB)
- ΒΗΜΑΤΟΔΟΤΗΣΗ επί ασυμπτωματικών παύσεων > 3 sec και σοβαρή διαταραχή κ/κ & ενδοκοιλιακής αγωγής
- Δεν προκύπτει ισχυρή ένδειξη για εμφύτευση ΑΠΙΝΙΔΩΤΗ επί απουσίας συμπτωμάτων(επί θετικής ΗΦΕ ?)