



57° Congresso SIGG

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21/11/2012 - 24/11/2012



MINI SIMPOSIO SIGG-SINeG VALUTAZIONE E TRATTAMENTO DELLE TRANSITORIE PERDITE DI COSCIENZA NELL'ANZIANO

Il ruolo delle “Syncope Units” geriatriche

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Università di Napoli Federico II



Il ruolo delle “Syncope Units” geriatriche

- **Syncope Unit definition**
- **Effectiveness**
- **ESC and GIMSI guidelines**
- **Geriatric patient**
- **Syncope or Fall units?**



Il ruolo delle “Syncope Units” geriatriche

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SYNCOPE UNIT “definition”

- Syncope Unit is a functional facility ***located inside a general hospital*** endowed with 24 h emergency department and a cardiology ward with a coronary care unit.
- Patients are referred from the ***emergency room*** and from ***in-hospital and out-of-hospital*** services.
- Hospitalized patients ***are directly managed*** by the “Syncope Unit” during hospitalization.

SYNCOPE UNIT “pathway”

- Patients ***at low risk*** admitted to the emergency room have a delayed referral (so-called ‘protected discharge’ with an appointment for early assessment), in order to reduce hospitalization rate.
- The patients evaluated in the syncope facility benefit by formalized procedures for a preferential access to other investigations, therapies, and ***specialists’ consultancies*** that are needed.

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tests
sits.

SYNCOPE UNIT “access”

(ii) on-site access to the usual investigations:

- echocardiography
- invasive electrophysiological testing
- stress testing
- cardiac imaging
- computed tomography or Mr imaging
- electroencephalography

on-site access to any therapy that may be required for syncope:

- pacemaker
- implantable cardioverter-defibrillator (ICD)
- catheter ablation of arrhythmias

SYNCOPE UNIT “leader”

- The Unit is led by the ***syncope expert/s***, formally appointed by the director of the department or by the director of the hospital.
- The syncope expert ***is a single physician or a team of physicians*** who lead/s the comprehensive management of the patient from risk stratification to diagnosis, therapy, and follow-up.

SYNCOPE UNIT: leader





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Management of syncope referred urgently to general hospitals with and without syncope units

**M. Brignole¹, M. Disertori², C. Menozzi³, A. Raviele⁴, P. Alboni⁵,
M. V. Pitzalis⁶, P. Delise⁷, E. Puggioni¹, M. Del Greco², V. Malavasi⁸,
M. Lunati⁹, M. Pepe¹⁰ and D. Fabrizio¹⁰**

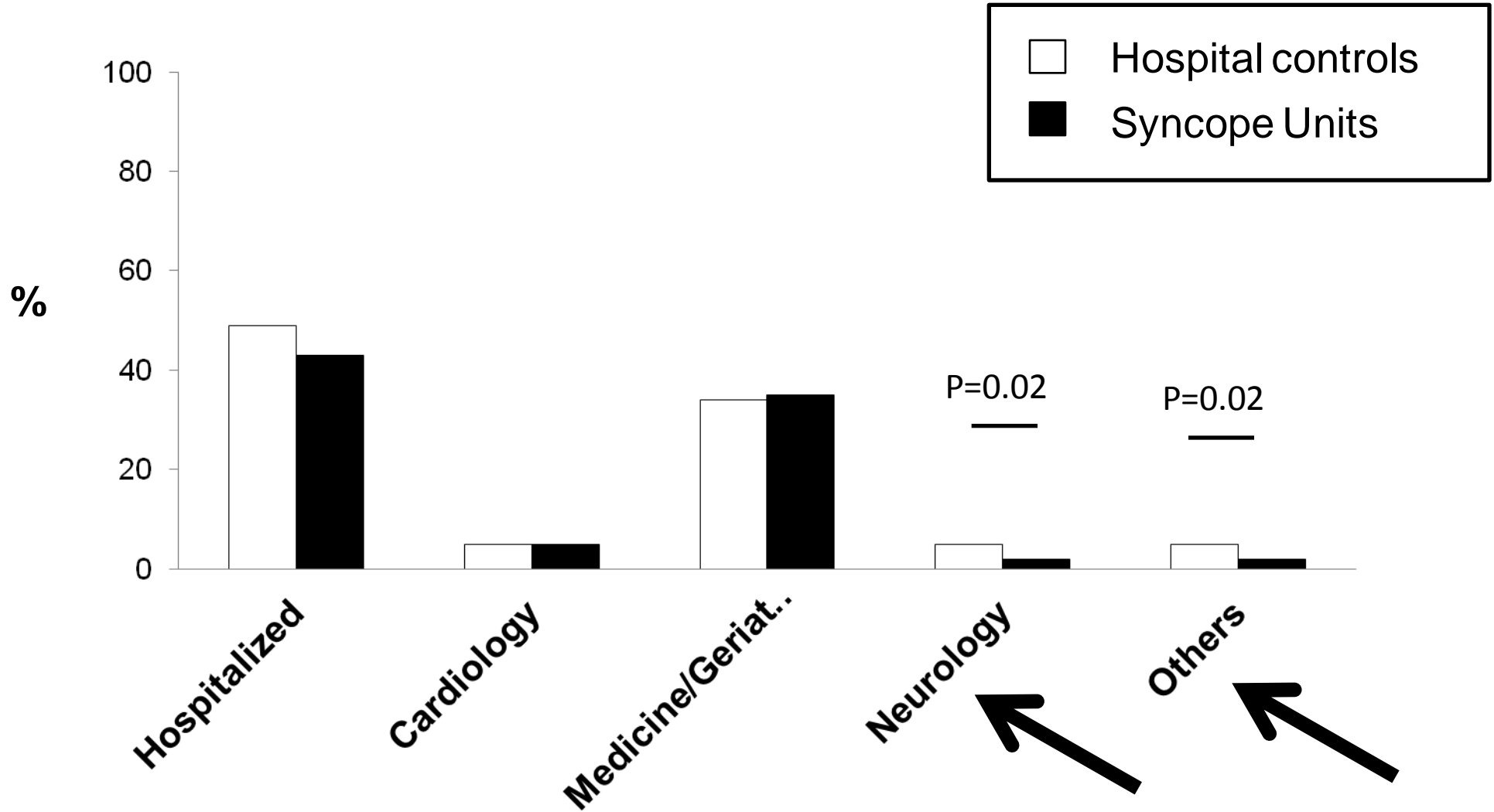
On behalf of the Evaluation of Guidelines in Syncope Study (EGSYS) group*

¹*Department of Cardiology, Ospedale del Tigullio, Lavagna, Italy;* ²*Department of Cardiology, Ospedale S Chiara, Trento, Italy;* ³*Department of Cardiology, Ospedale S Maria Nuova, Reggio Emilia, Italy;* ⁴*Department of Cardiology, Ospedale Umberto I, Mestre, Italy;* ⁵*Department of Cardiology, Ospedale Civile, Cento, Italy;* ⁶*Department of Cardiology, Ospedale Policlinico Universitario, Bari, Italy;* ⁷*Department of Cardiology, Ospedale S Maria dei Battuti, Conegliano Veneto, Italy;* ⁸*Department of Cardiology, Ospedale Policlinico Universitario, Modena, Italy;* ⁹*Department of Cardiology, Ospedale Niguarda, Milan, Italy;* and ¹⁰*Medtronic Italia SpA, Milan, Italy*

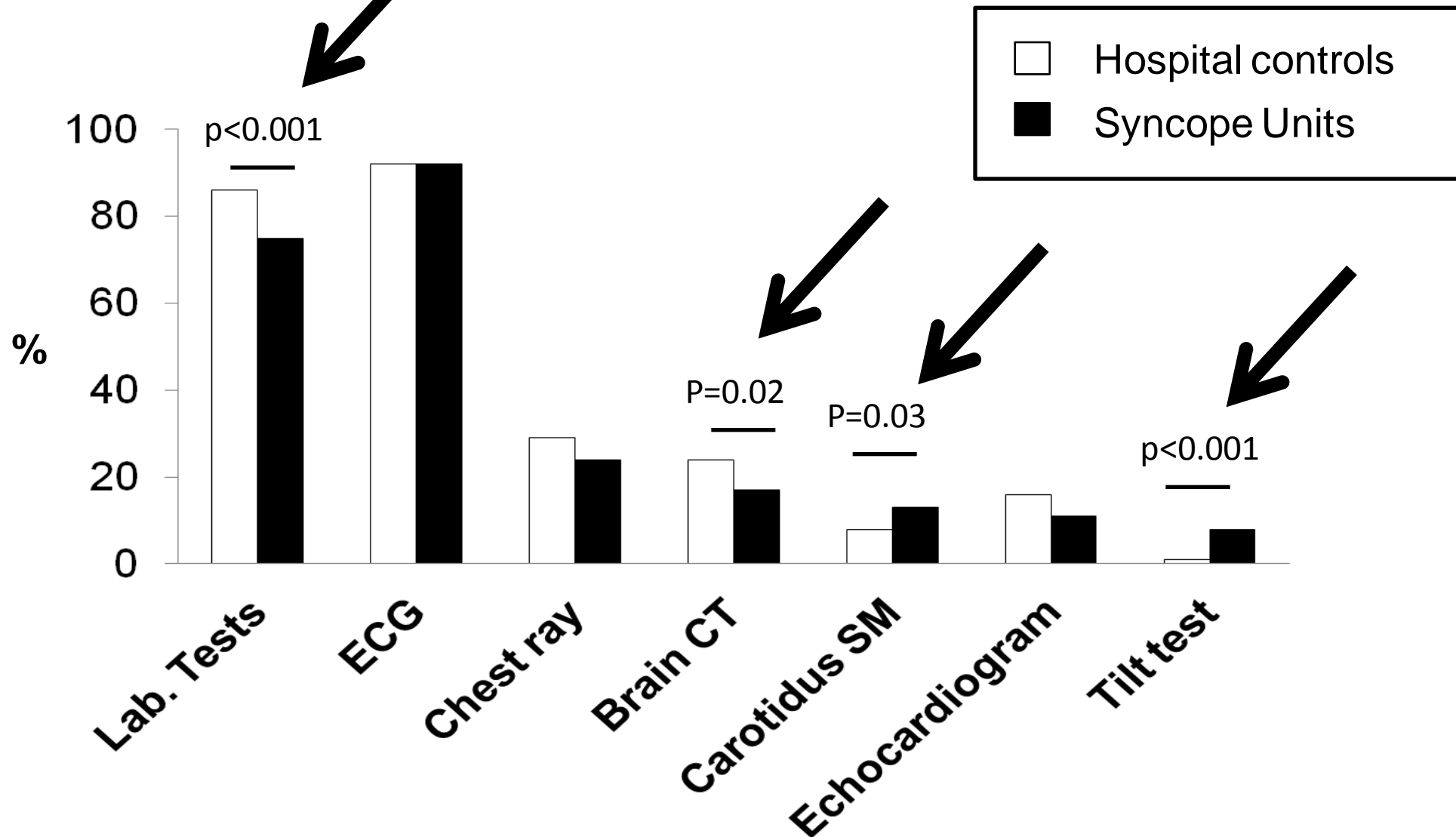
Characteristics of patients with loss of consciousness

	Syncope unit hospitals	Control hospitals
Patients with loss of consciousness admitted to ER	279	274
Admission within 6 h of loss of consciousness (%)	81%	85%
<u>Mean age, years</u>	61 ± 23	60 ± 23
Females (%)	161 (58%)	140 (51%)
<u>Co-morbidities</u>		
Hypertension	97/271 (36%)	108/270 (40%)
Structural heart disease	89/279 (32%)	94/274 (35%)
Neurological diseases	55/274 (20%)	61/269 (23%)
Diabetes	20/266 (8%)	23/269 (9%)

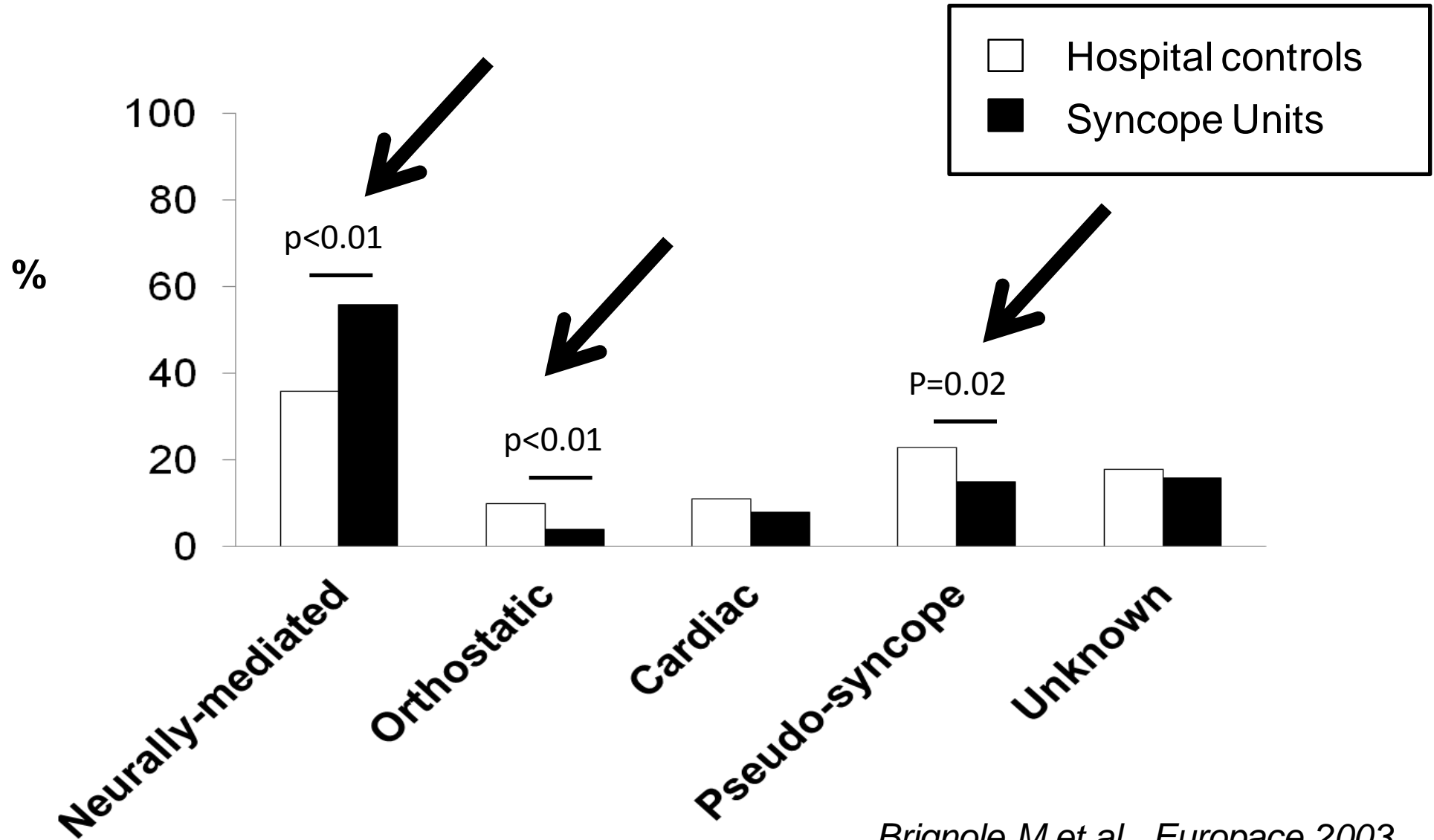
In-hospital pathways



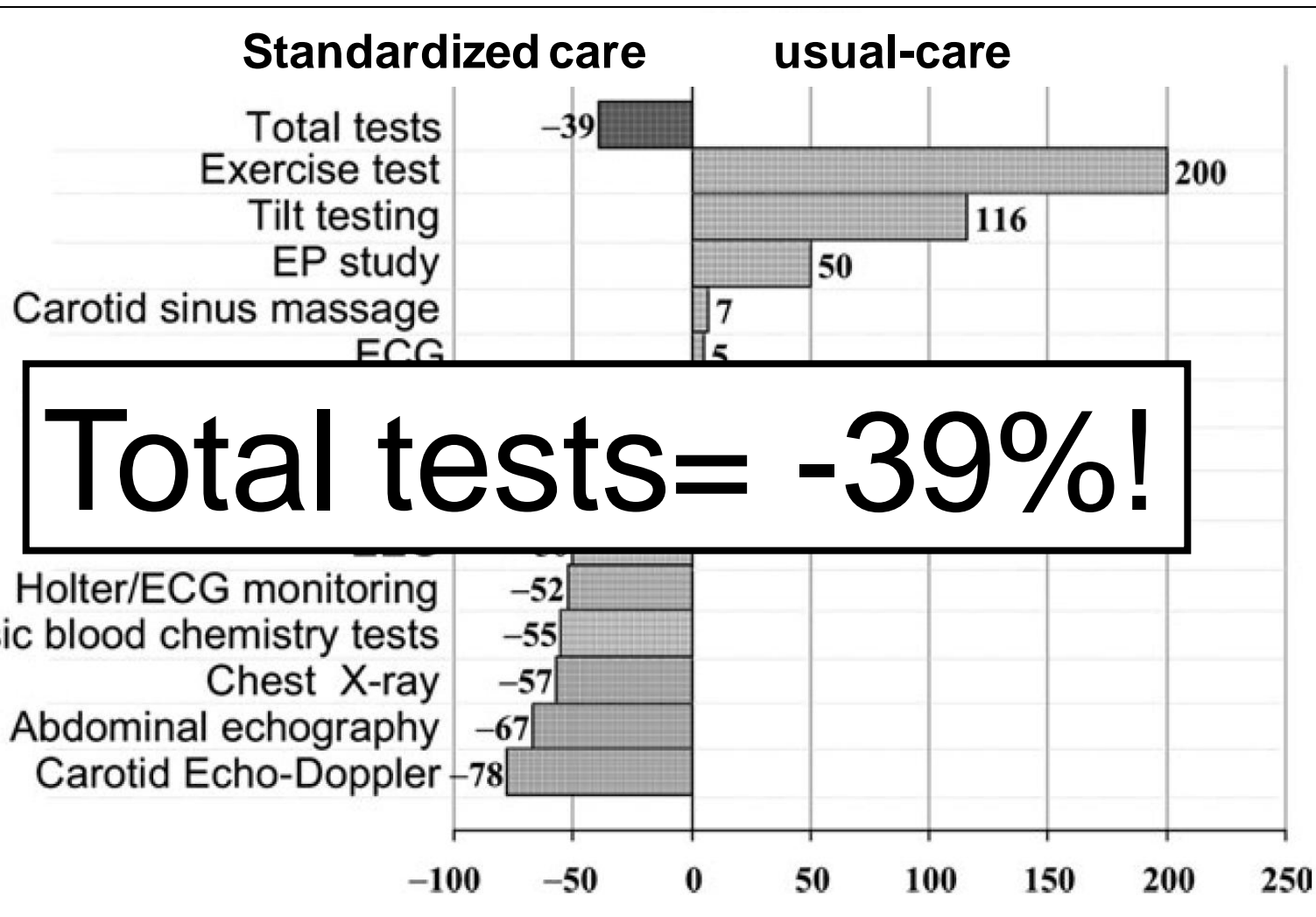
Test performed



“Final” diagnosis



% change of tests utilization in standardized-care vs. usual management of syncope patients presenting as emergencies at general hospitals

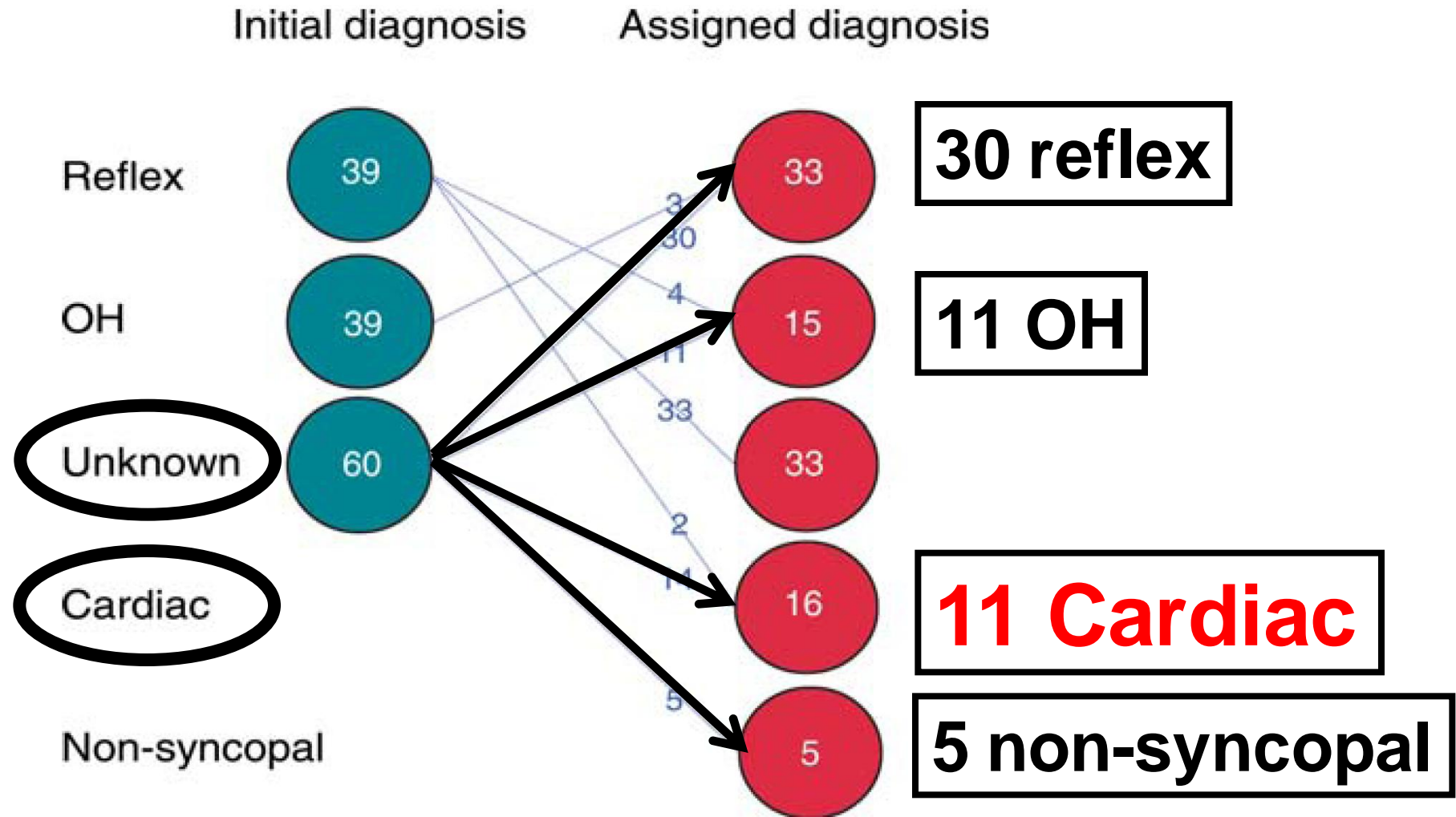


Prospective multicentre systematic guideline-based management of patients referred to the Syncope Units of general hospitals[†]

Michele Brignole^{1*}, Andrea Ungar², Ivo Casagrande³, Michele Gulizia⁴, Maurizio Lunati⁵, Fabrizio Ammirati⁶, Attilio Del Rosso⁷, Massimo Sasdelli⁸, Massimo Santini⁹, Roberto Maggi¹, Elena Vitale³, Alessandro Morrione², Giuseppina Maura Francese⁴, Maria Rita Vecchi⁵, and Franco Giada¹⁰ for the Syncope Unit Project (SUP) investigators[‡]

¹Department of Cardiology, Arrhythmologic Centre, Ospedali del Tigullio, Via don Bobbio 24, 16033 Lavagna, Italy; ²Department of Geriatrics, Ospedale Careggi and University of Firenze, Florence, Italy; ³Department of Emergency, Ospedale Antonio, Biagio e Cesare Arrigo, Alessandria, Italy; ⁴Department of Cardiology, Ospedale Garibaldi-Nesima, Catania, Italy; ⁵Department of Cardiology, Ospedale Niguarda, Milano, Italy; ⁶Department of Cardiology, Ospedale Grassi, Ostia, Italy; ⁷Department of Cardiology, Ospedale S Giuseppe, Empoli, Italy; ⁸Department of Cardiology, Ospedale Pertini, Rome, Italy; ⁹Department of Cardiology, Ospedale S. Filippo Neri, Rome, Italy; and ¹⁰Cardiovascular Department, Ospedale dell'Angelo, Mestre, Italy

Distribution of contrasting diagnoses among 102 (11%) of the 891 patients.



Prospective multicentre systematic guideline-based management of patients referred to the Syncope Units of general hospitals[†]

The patients with **unexplained syncope** were **older**, more frequently had **structural heart disease or ECG abnormalities**, and unpredictable onset of syncope due to the **lack of prodromes** than the other groups of patients.

The patients with unexplained syncope were at **higher risk of death and cardiac syncope** than the others, as predicted by their significantly higher **OESIL** and **EGSYS** risk scores



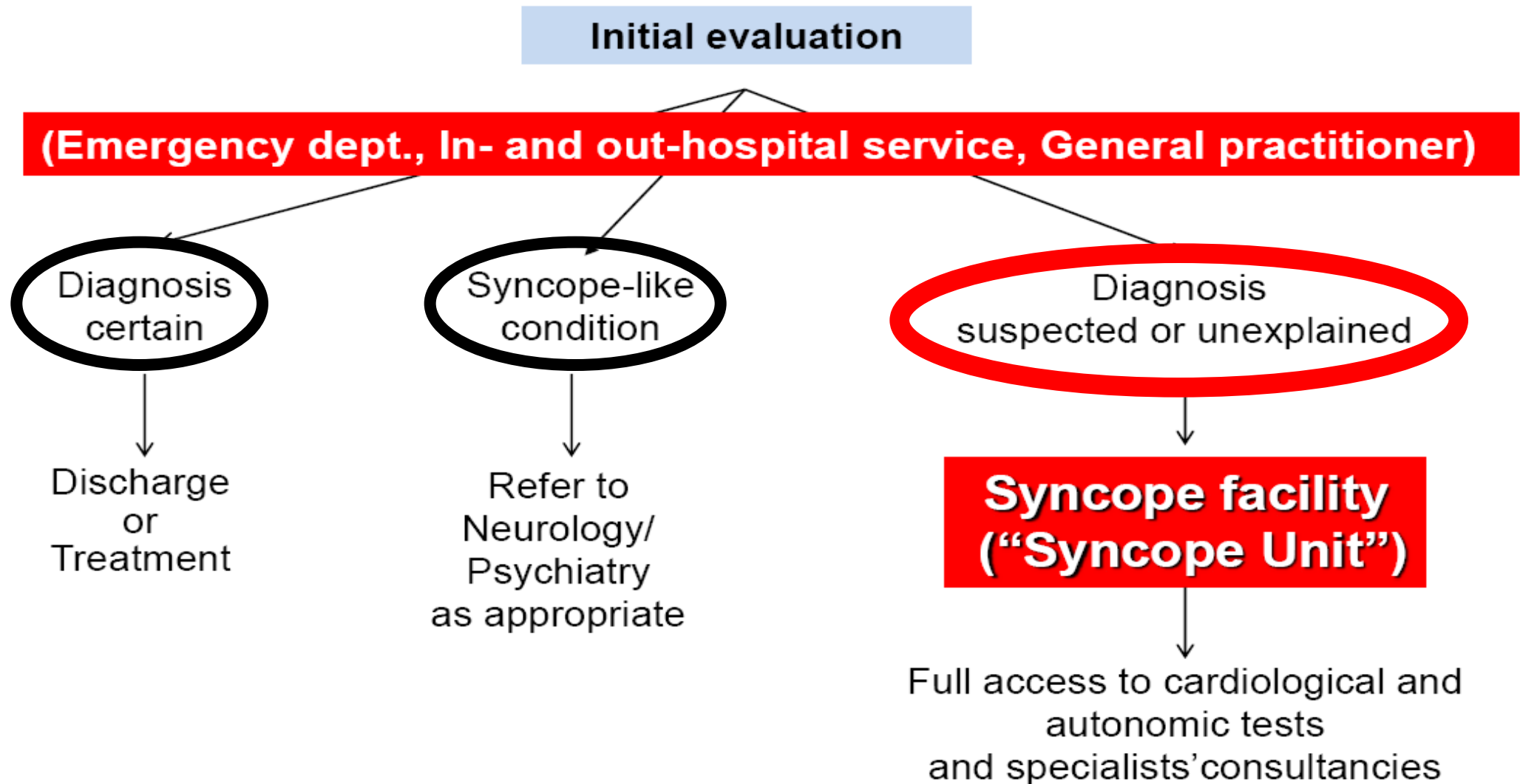
Il ruolo delle “Syncope Units” geriatriche

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The most relevant changes of 2009 guidelines are:

- An update of the definition and classification of syncope in the **larger framework** of transient loss of consciousness (T-LOC)
- New data on epidemiology
- A new diagnostic approach focusing on risk stratification
- Emphasis on the role of prolonged monitoring
- **An update of evidence-based therapy**
- **Syncope in special populations (elderly and pediatric)**
- New data on orthostatic hypotension syndromes
- **Syncope management Unit**

Organizing the Management of Syncope



Annuario 2011-2013

Annuario 2011-2013

delle Syncope Unit
certificate GIMSI

delle Syncope Unit
certificate GIMSI

certificate GIMSI

Gruppo Italiano Multidisciplinare per lo Studio della Sincope

**Documento di consenso
GIMSI 2009:**

**“Richiesta certificazione GIMSI
di un Centro Multidisciplinare
per la Sincope (Syncope Unit)”**



Gruppo Italiano Multidisciplinare per lo Studio della Sincope

Home

Menu Principale

Home

Chi Siamo

Lo Statuto

Direttivo del Gruppo

La Segreteria

Area Syncope Unit

Modello Organizzativo

Richiesta Certificazione

Syncope Unit certificate
GIMSI

Area Syncope Unit

Modello Organizzativo

Richiesta Certificazione

Syncope Unit certificate
GIMSI

EGSYS SCORE



EGSYS Score

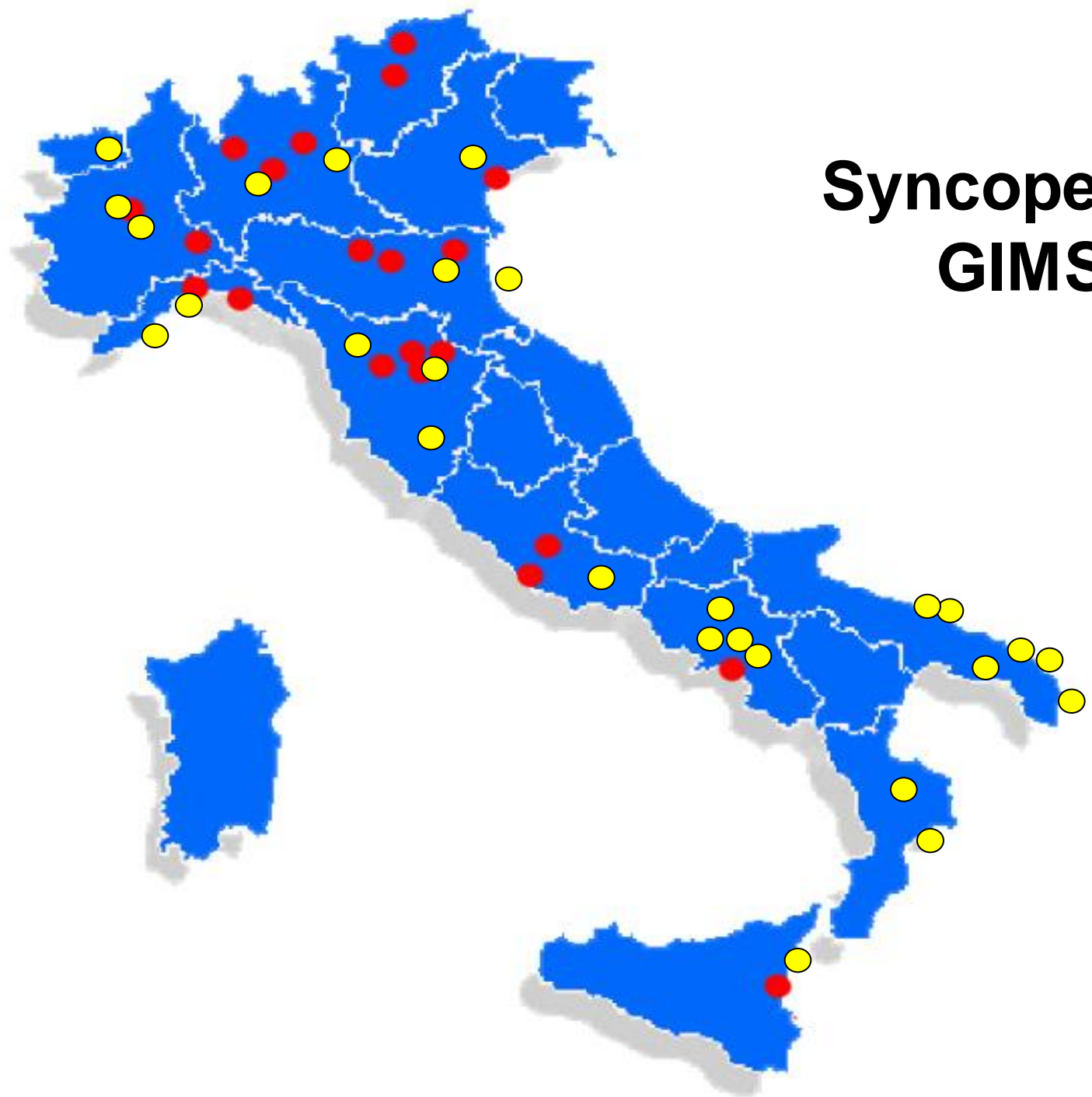
SOCIETA' COSTITUENTI IL GIMSI

AIAC

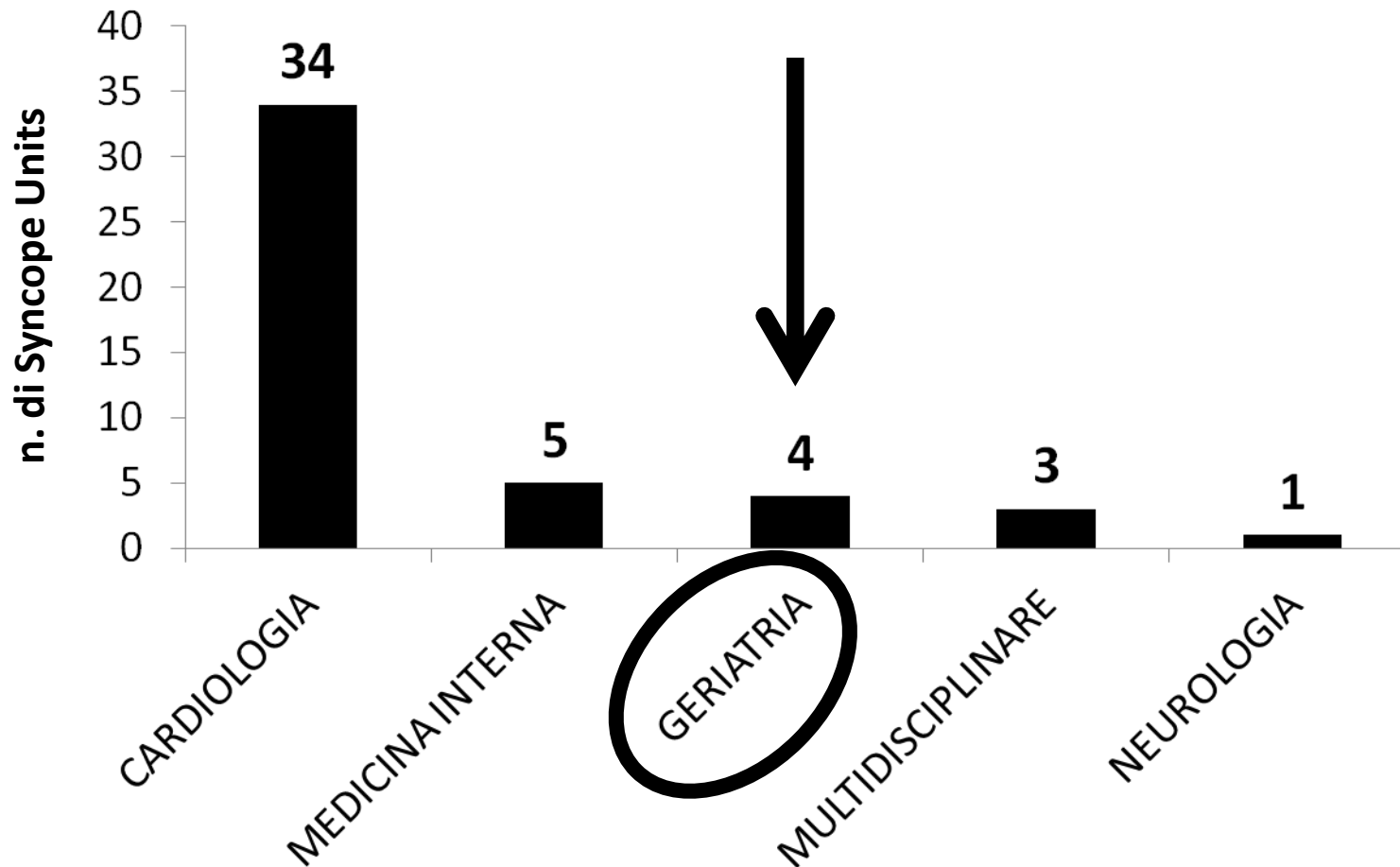
Associazione Italiana di
Aritmologia e
Cardiostimolazione

Corsi **GIMSI** 2010

Syncope Unit GIMSI



Annuario 2011-2013 delle Syncope Unit certificate GIMSI





Il ruolo delle “Syncope Units” geriatriche

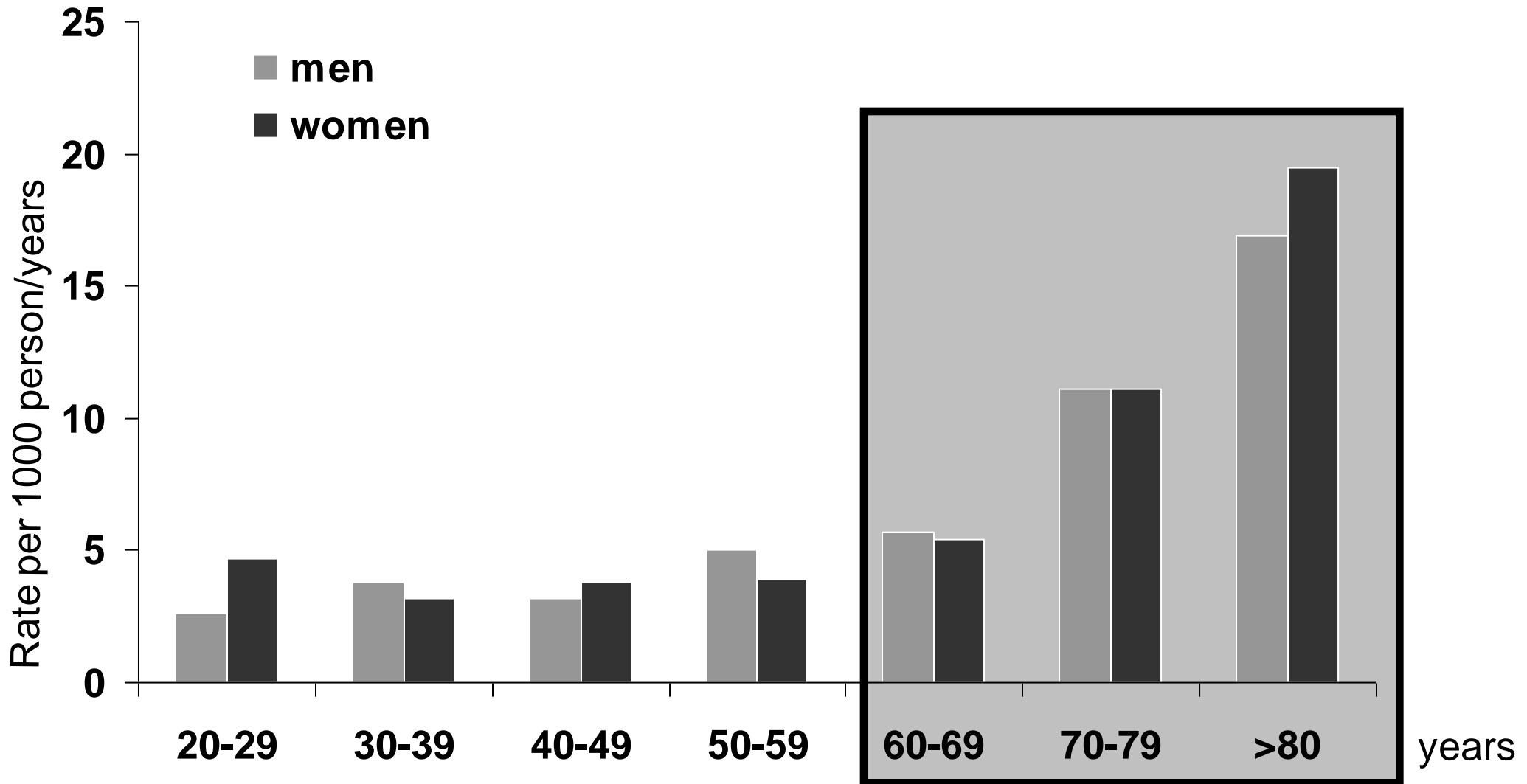
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SYNCOPE UNIT: leader

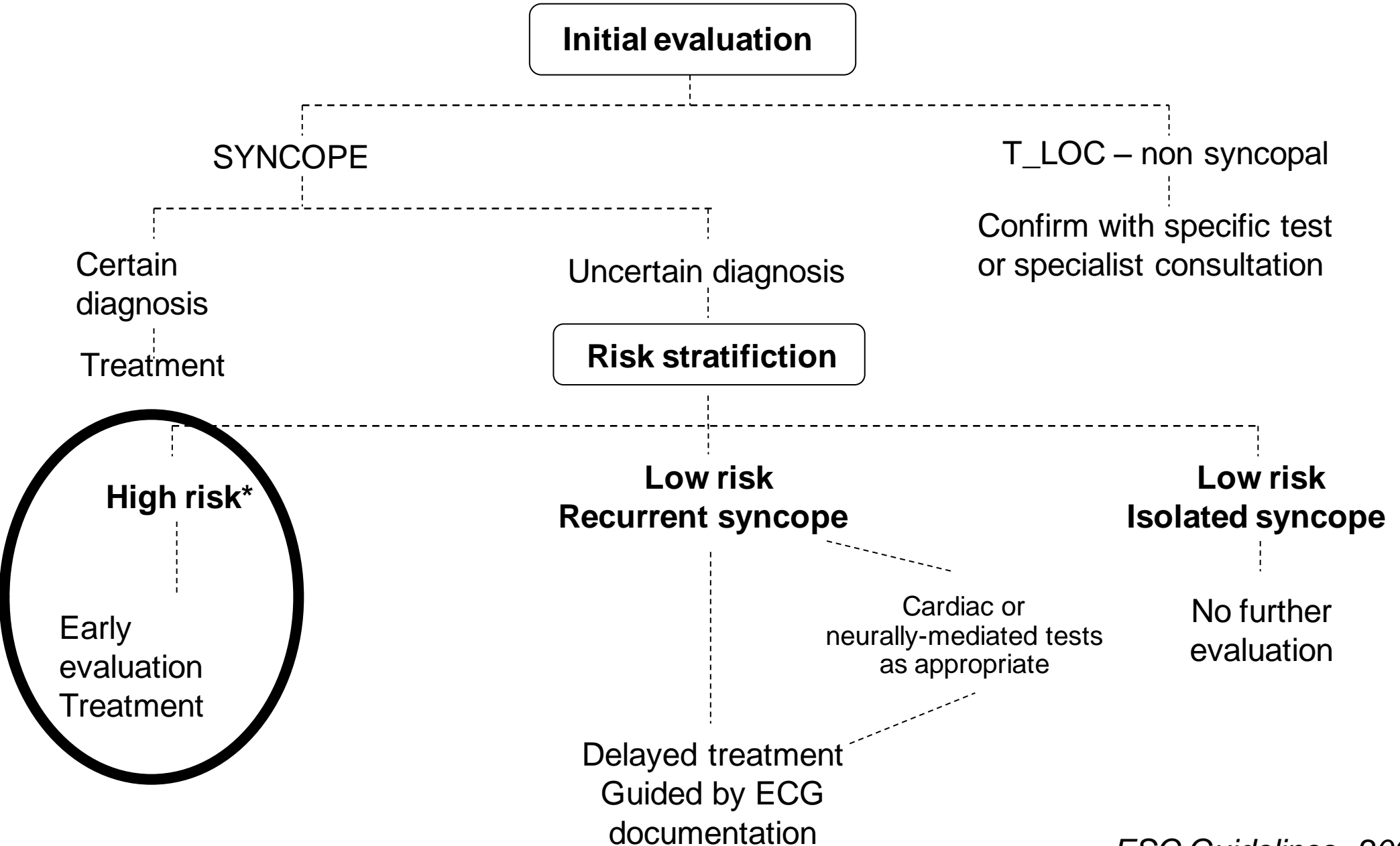


Syncope incidence

“Framingham Heart Study”



Transient loss of consciousness (T-LOC) – suspected syncope



Short-term “*high risk*” criteria which require prompt hospitalization or intensive evaluation

Severe structural or coronary artery disease (heart failure, low LVEF, or previous myocardial infarction)

.....

Clinical or ECG features suggesting arrhythmic syncope

- Syncope during exertion or supine
- Palpitations at the time of syncope

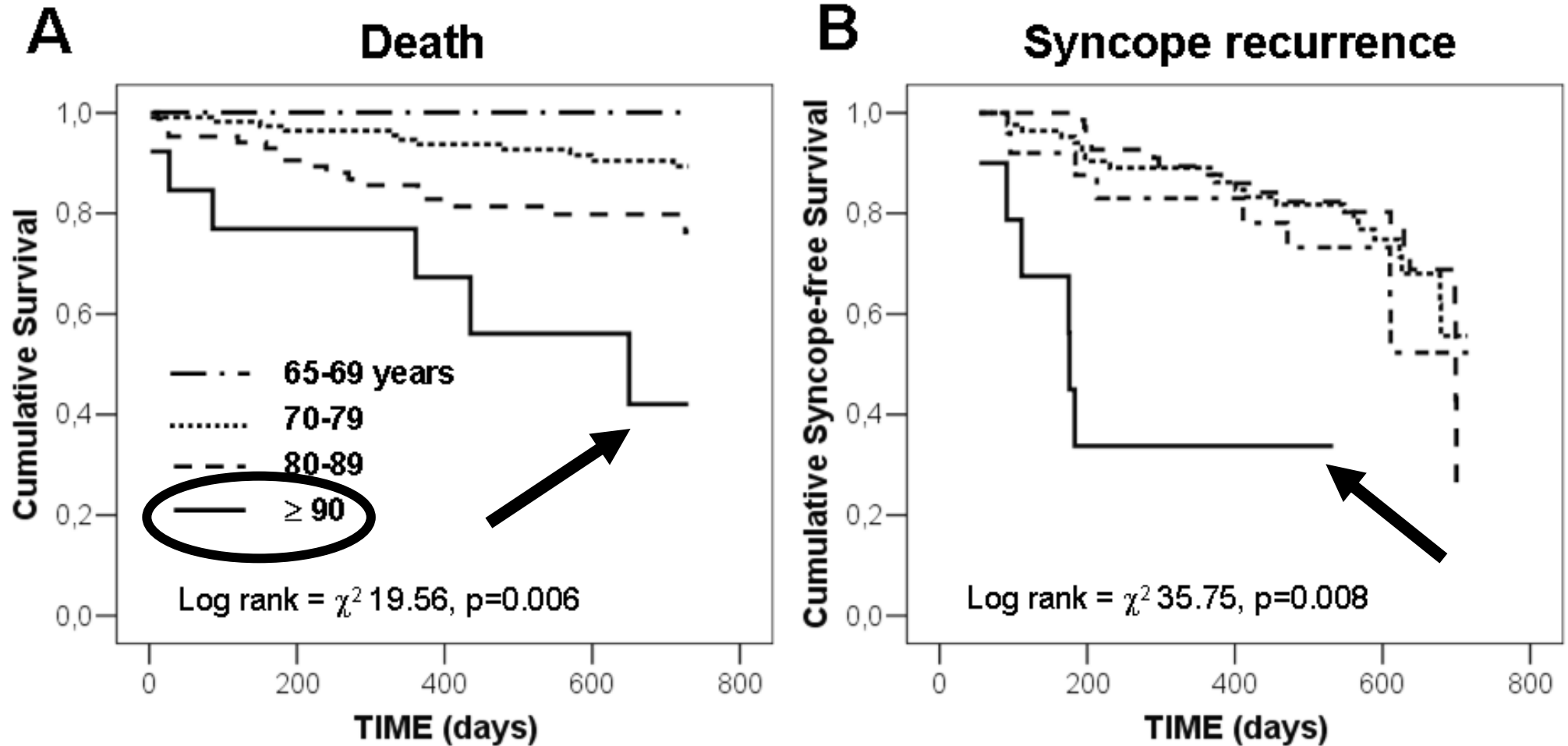
High prevalence in “*geriatric*” patient!

- Inadequate sinus bradycardia (<50 bpm) or sinoatrial block in absence of negative chronotropic medications or physical training
 - Pre-excited QRS complex
 - Prolonged or short QT interval
 - RBBB pattern with ST-elevation in leads V1–V3 (Brugada pattern)
 - Negative T waves in right precordial leads, epsilon waves, and ventricular late potentials suggestive of ARVC
-

Important co-morbidities

- Severe anaemia
- Electrolyte disturbance

GIS - Mortality and syncope recurrence stratified for age



**Transient loss of consciousness in the elderly:
*a different syncope?***



DIAGNOSIS

CASE REPORT

Multidisciplinary approach to “accidental” falls in the elderly: A case report

Gianluigi Galizia,¹ Gianluca Testa,¹ Francesca Mazzella,^{1,3}
Francesco Cacciatore,^{1,3} Andrea Ungar,² Giulio Masotti,² Franco Rengo^{1,3}
and Pasquale Abete¹

¹Division of Geriatrics, Department of Clinical Medicine Cardiovascular and Immunological Science University of Naples Federico II, Naples, ²Department of Critical Care Medicine and Surgery, Unit of Gerontology and Geriatrics – Hypertension Center, University of Florence, Florence, and ³Salvatore Maugeri Foundation, Institute of Care and Scientific Research, Telesse, Italy

Falls in the elderly are commonly and often wrongly identified as “accidental”. We report a case of an elderly woman admitted to first aid for a trauma due to an accidental fall. Geriatric multidisciplinary evaluation revealed mild cognitive impairment associated with depressive symptoms; both findings made the anamnesis uncertain. Syncope algorithm was applied and “tachy-brady form of sick sinus syndrome” was diagnosed. Differential diagnosis between “accidental” and “apparently accidental” falls in elderly patients is very difficult but a multidisciplinary geriatric evaluation can clarify the correct diagnosis.

GERIATRIC MULTIDIMENSIONAL EVALUATION

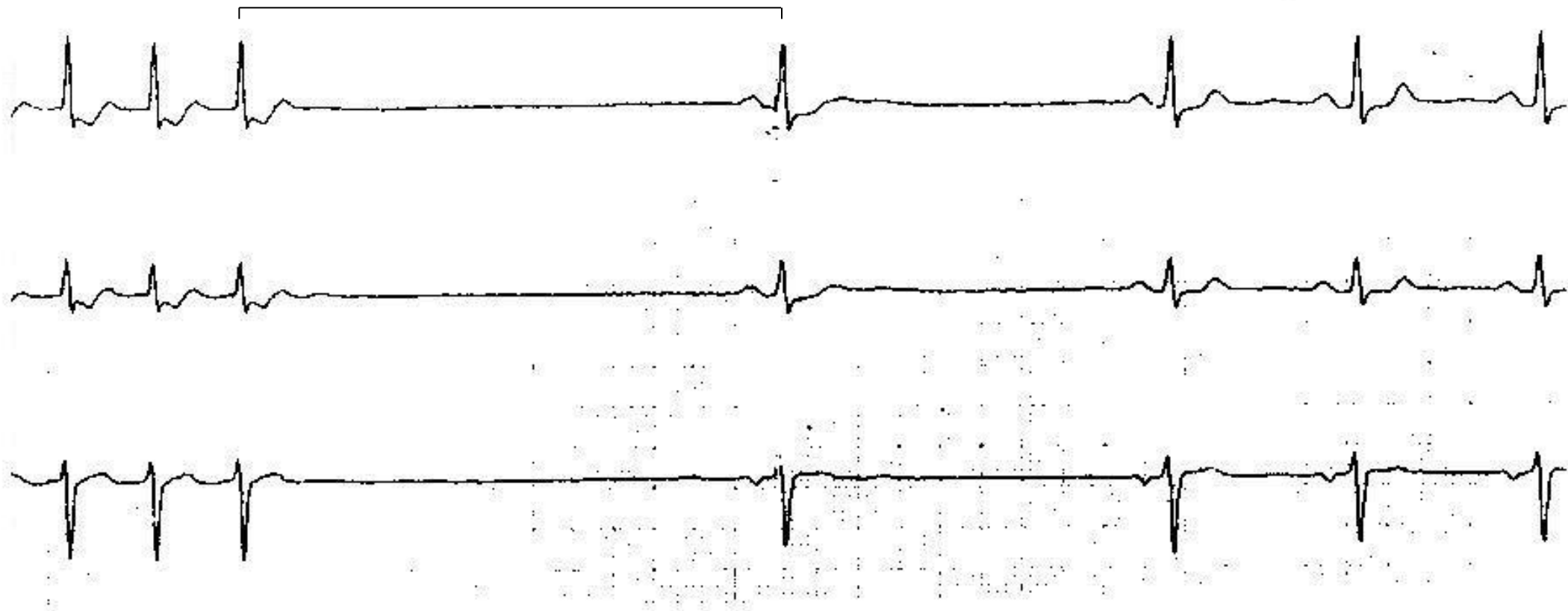
MMSE	19/30	COGNITIVE IMPAIRMENT
GDS	6/15	DEPRESSIONE LIEVE
Tinetti	23	NEGATIVE
ADL	6/6	NEGATIVE
IADL	7/8	NEGATIVE
CIRS	2 (*)	CLASSE II

- (*) - Broncopneumopatia cronica ostruttiva di grado lieve
- Osteoartrosi
- Epatopatia cronica HCV correlata

Hr:15:27

2.667 sec.

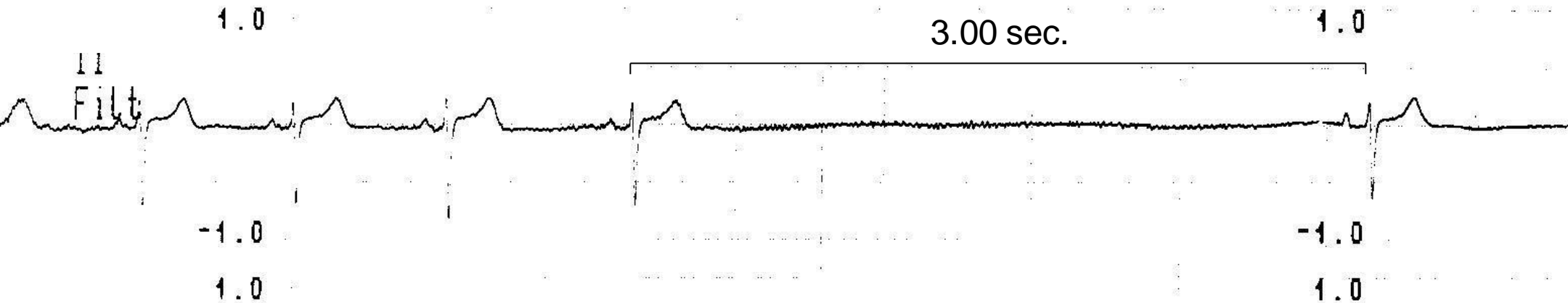
ECG HOLTER 48 hours



malaise..

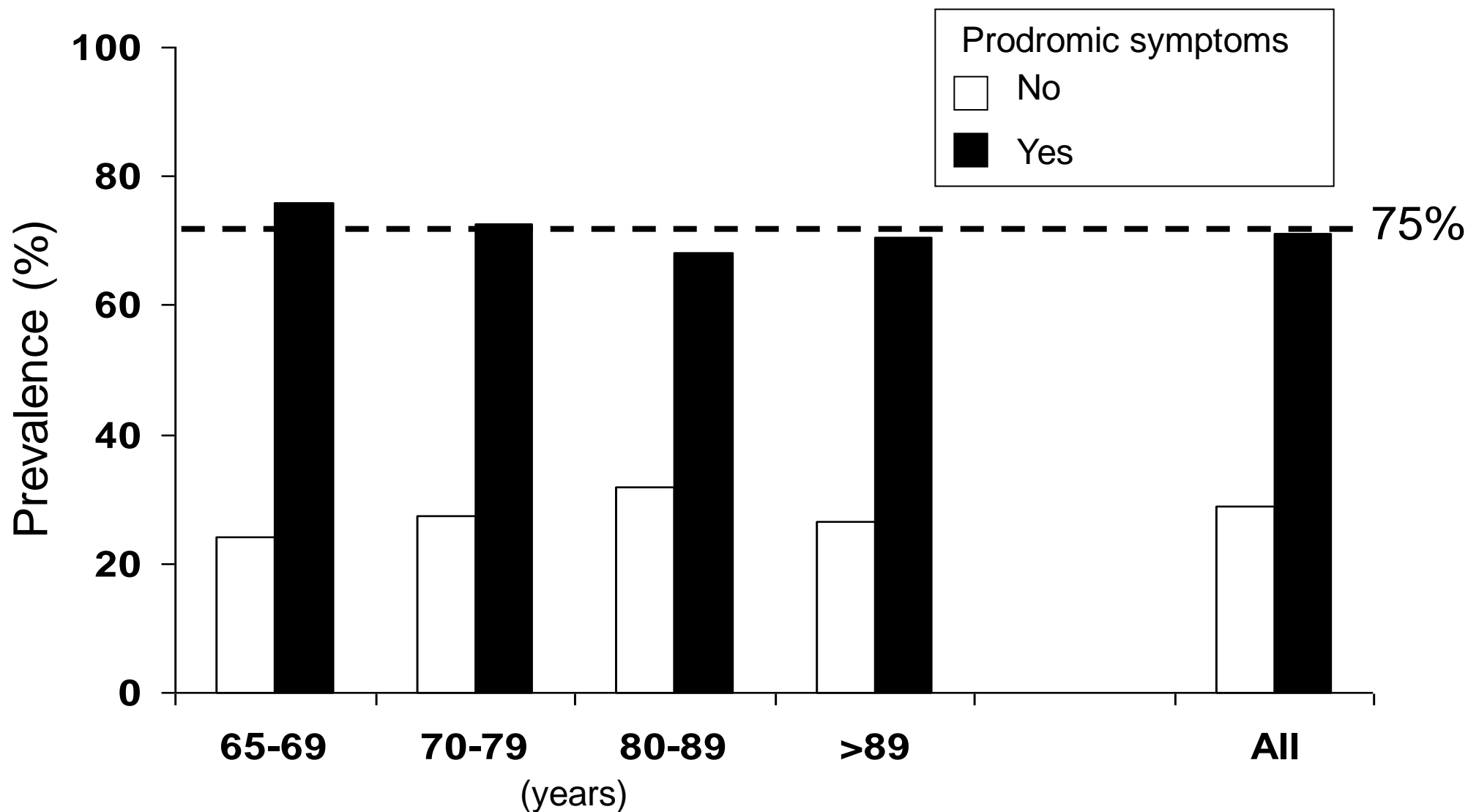
Carotid sinus massage....

511167



Syncope!

Prevalence of syncope and prodromic symptoms stratified for age



Multivariate analysis adjusted for age and sex

Prodromic symptoms	Non cardiac	Cardiac
Nausea	3.7 (1.26-11.2)	0.2 (0.05-1.06)
Blurred vision	3.5 (1.34-9.59)	0.1 (0.01-0.77)
Sweating	2.8 (1.21-6.89)	0.1 (0.04-0.73)
Awareness of being about to faint	2.1 (1.04-4.49)	0.2 (0.09-0.81)
Abdominal discomfort	2.2 (0.49-10.3)	0.4 (0.05-3.18)
Dyspnoea	0.3 (0.06-1.73)	5.5 (1.0-30.21)
Pallor	1.7 (0.49-6.37)	0.3 (0.04-2.38)
Feeling warm	1.1 (0.22-5.56)	0.8 (0.10-6.93)
Palpitations	0.9 (0.19-5.19)	0.7 (0.09-6.58)
Weakness	0.9 (0.43-1.98)	1.8 (0.77-4.31)
Chest pain	0.2 (0.05-1.43)	4.0 (0.65-25.7)

LETTERS TO THE EDITOR

Risk of permanent brain injury during syncope

Paul Drinka, MD
University of Wisconsin
Madison, Wisconsin
Medical College of Wisconsin
Milwaukee, Wisconsin

The risk and time course of permanent brain damage during hypotensive syncope is high in elderly people.

A person suffering from “shock” and hypotension should immediately be laid flat on the floor to improve blood flow to the brain.

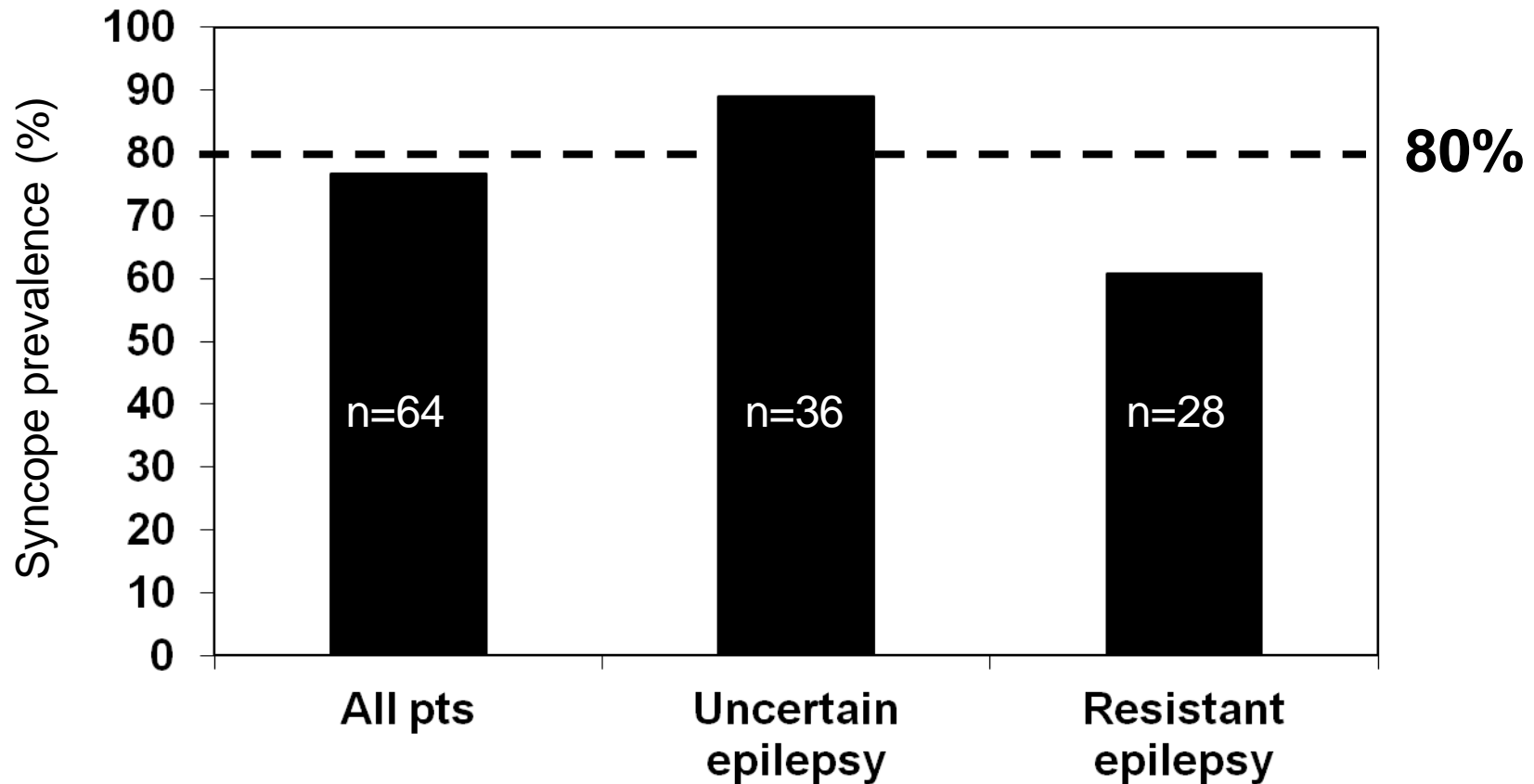
It has been my experience that those who encounter an unconscious individual slumped in a chair with continued respiration; a weak, thready pulse; and hypotension may delay laying the person flat.

A delay is especially likely in a nursing home if a resident is sitting in a wheelchair off his or her nursing unit.



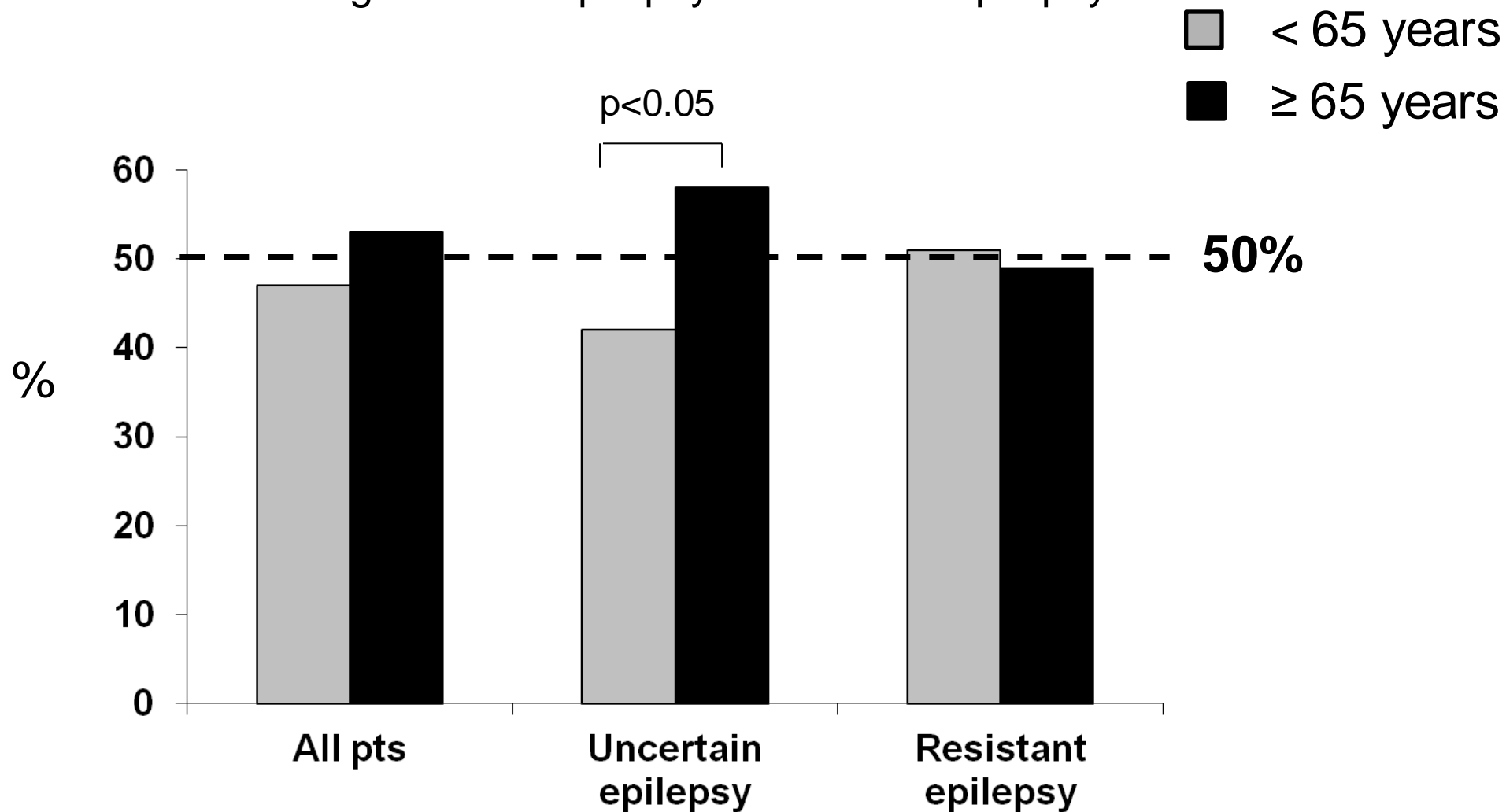
Syncope and Epilepsy often coexist: OESYS study (*Overlapping between Epilepsy and S*yncope Study)

Recurrent syncope (≥ 2 episodes) in elderly patients with drug resistant epilepsy or uncertain epilepsy



Syncope and Epilepsy often coexist: OESYS study (*Overlapping between Epilepsy and S*yncope Study)

Recurrent syncopes (≥ 2 episodes) in elderly patients with drug resistant epilepsy or uncertain epilepsy



**Transient loss of consciousness in the elderly:
*a different syncope?***

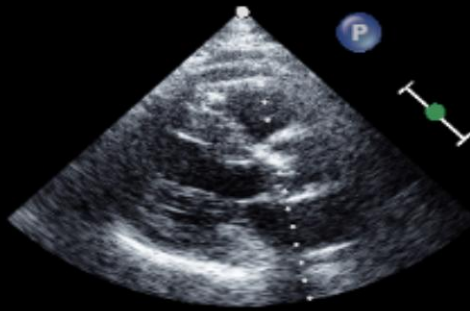


THERAPY

FR 37Hz
16cm

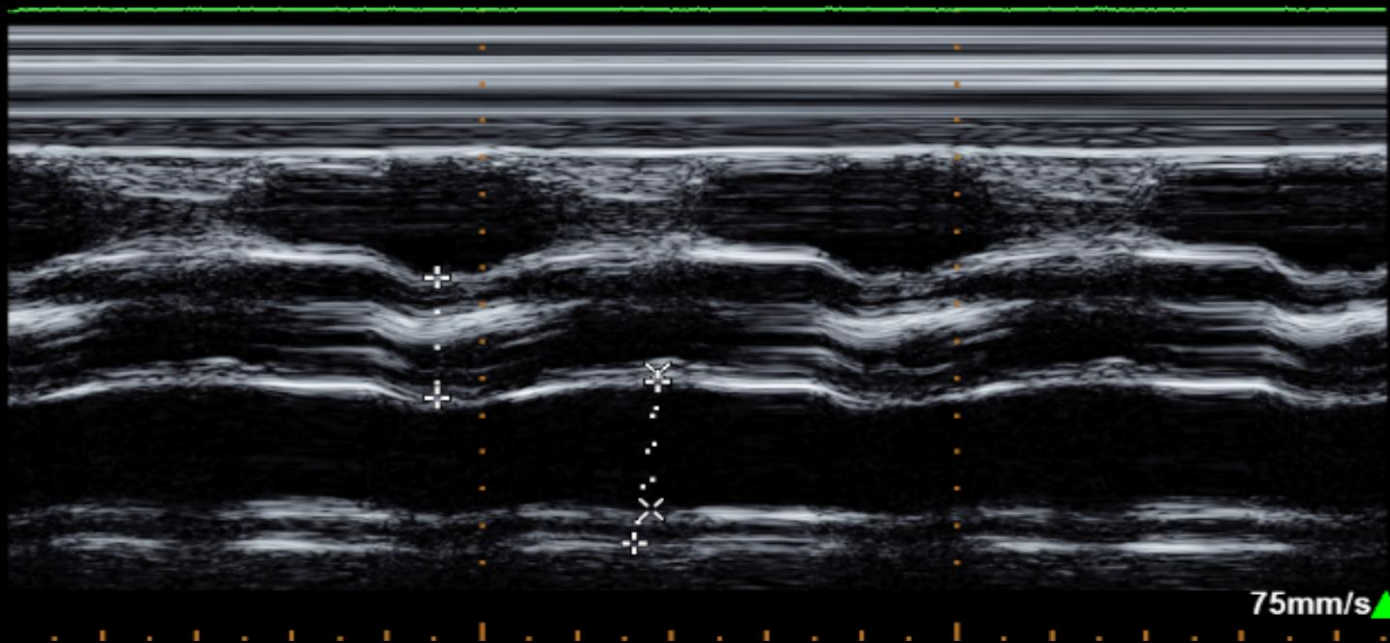
2D/MM

63% 51%
C 45
P Off
APen



× Dist 3.67 cm
Tempo 14 ms
÷ Dist 3.27 cm
Tempo 0 ms
× Dist 4.40 cm
Tempo 49 ms

M2



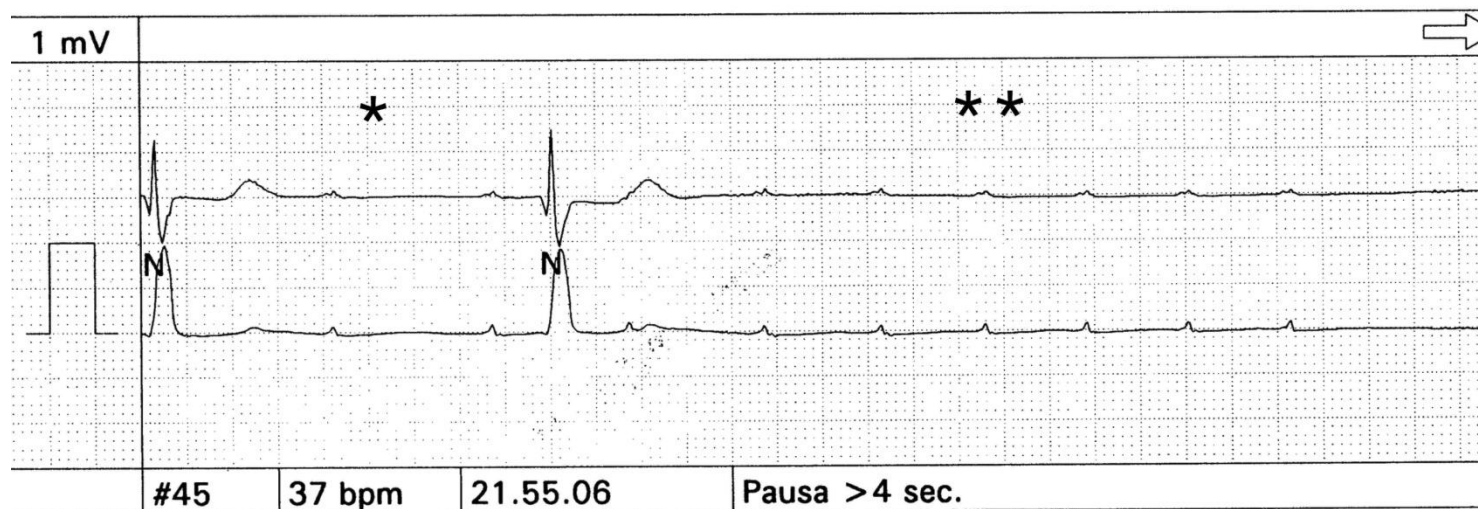
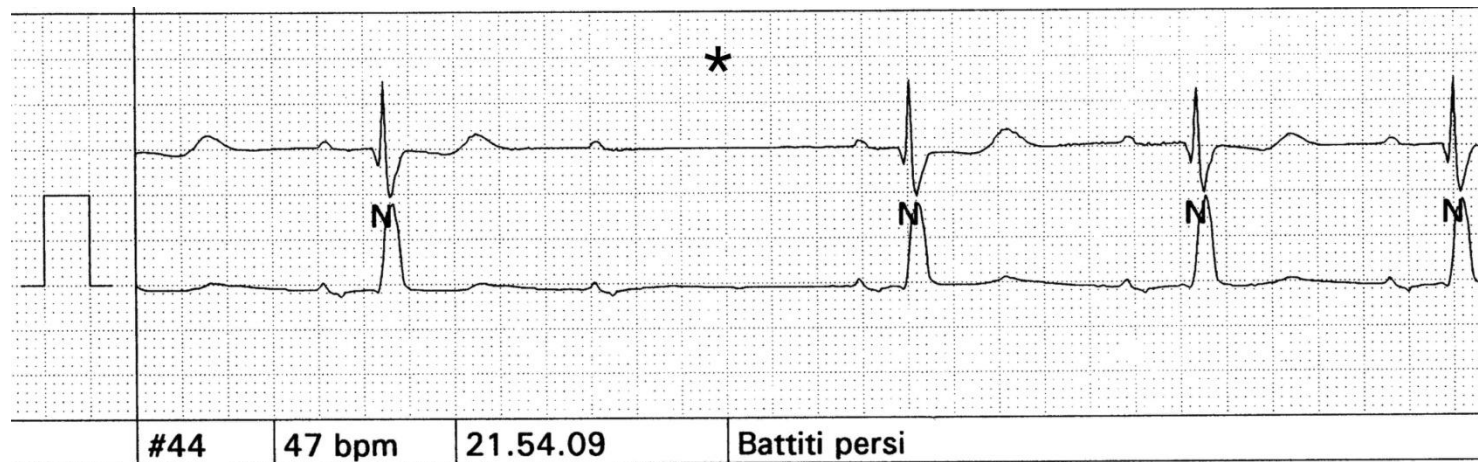
-0
-5
-10
-15
2
***bpm

75mm/s ▲

CASE # 1

SEVERE AORTIC STENOSIS

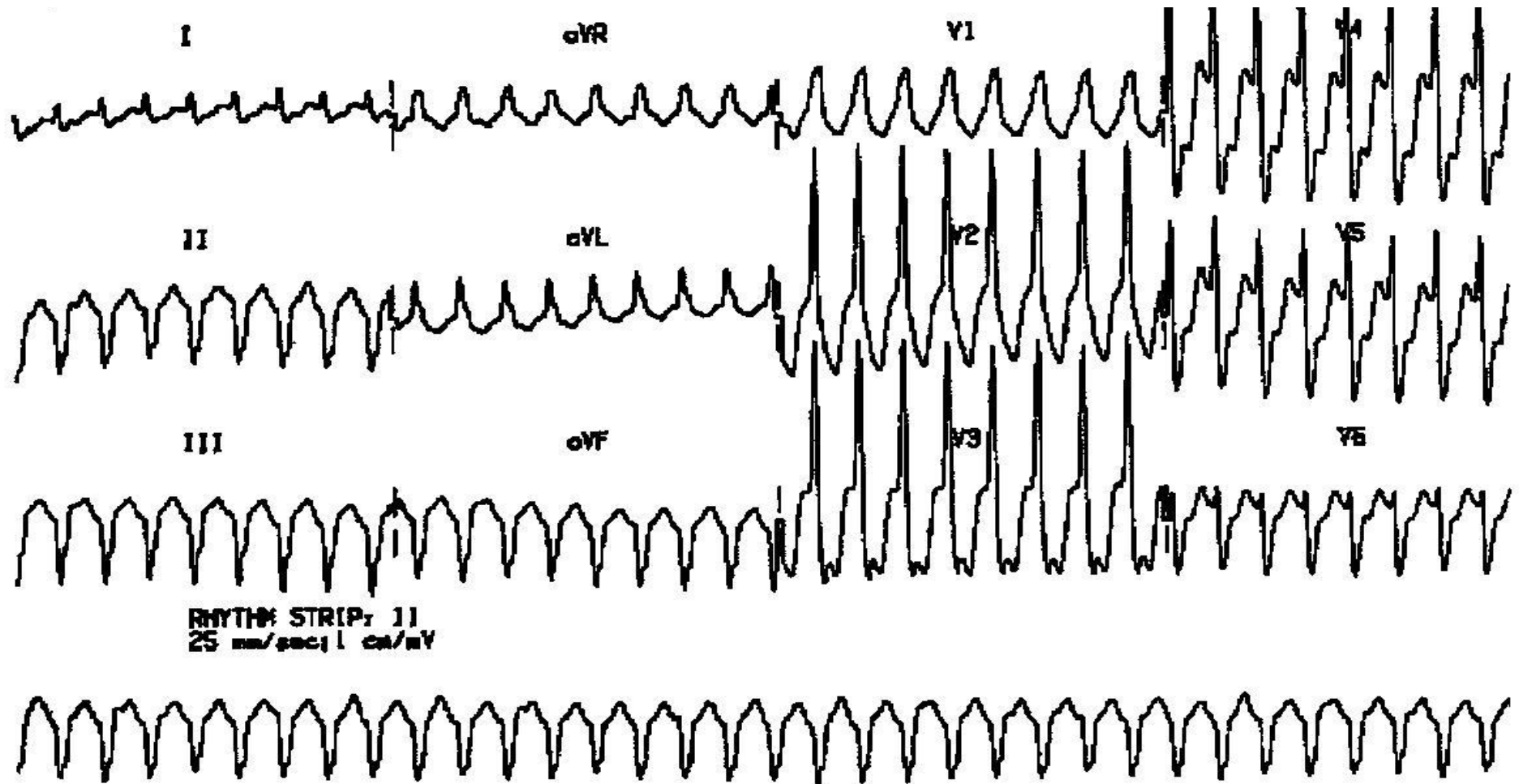
L.A. 82 years old, female sex, hypertensive cardiopathy with recurrent syncopes



CASE # 2

II and III AV block degree

P.G. 76 years old, male sex, post-ischemic dilatative cardiomyopathy



CASE # 3

Ventricular tachycardia

CASE # 1

SEVERE AORTIC STENOSIS

SURGICAL PROCEDURE or TAVI

CASE # 2

II and III AV block degree

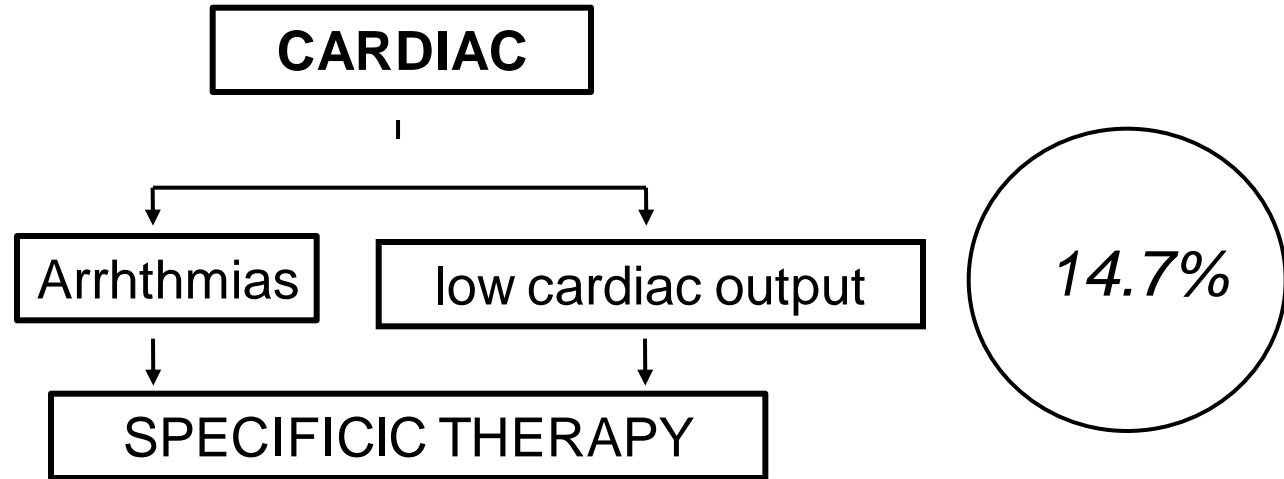
BIVENTRICULAR PACEMAKER IMPLANTATION

CASE # 3

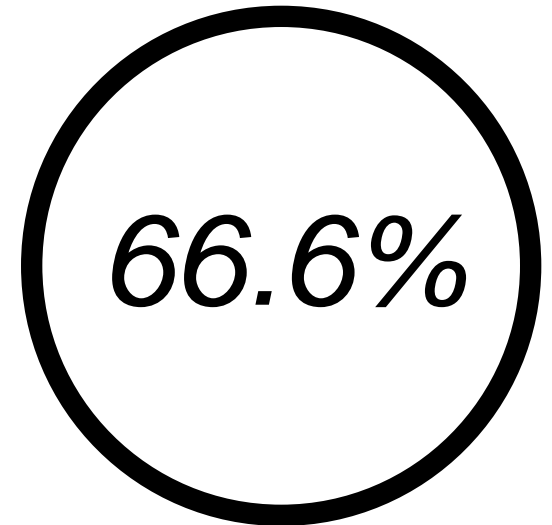
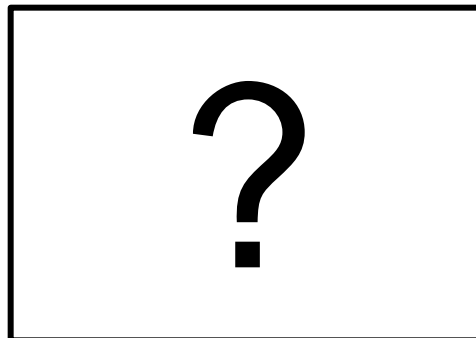
Ventricular tachicardia

BIVENTRICULAR PACEMAKER - ICD IMPLANTATION

Syncope in the elderly



NEURALLY-MEDIATED



Evidence-Based Medicine in Geriatrics

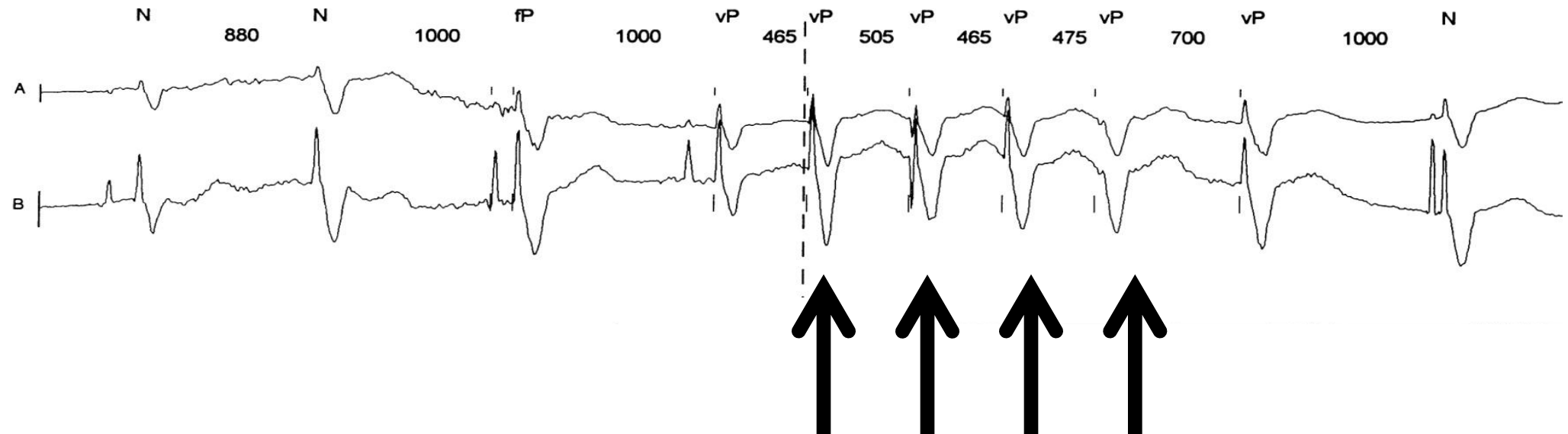
“... many of the clinical problems that meet Geriatricians in their clinical practice have never been and never will be observed in controlled trials ...”

Evidence-Biased Medicine

Case Report

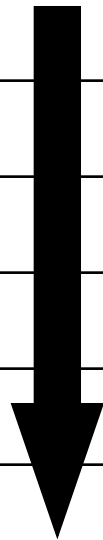
Synergic Effect of Fludrocortisone and Disopyramide in an Elderly Patient with Orthostatic Syncope[☆]

Assunta Langellotto¹, Gianluigi Galizia^{1,2}, Gianluca Testa³, Andrea Ungar⁴, Franco Rengo^{1,5}, Pasquale Abete^{1*}



Therapeutical sequence in treating orthostatic syncope

Procedures or Drugs	Clino-BP (mmHg)	Ortho-BP (mmHg)	Syncope/week (n.)
No treatment	120/70	70/40	4
Dietary and behavioural approaches	130/70	80/50	4
+ compression stockings	125/75	80/55	3
+ Midodrine 10 mg /day (*)	140/80	80/55	3
+ Fludrocortisone 0.3 mg/day	170/90	90/60	1
+ disopyramide 200 mg/day	160/90	105/70	0



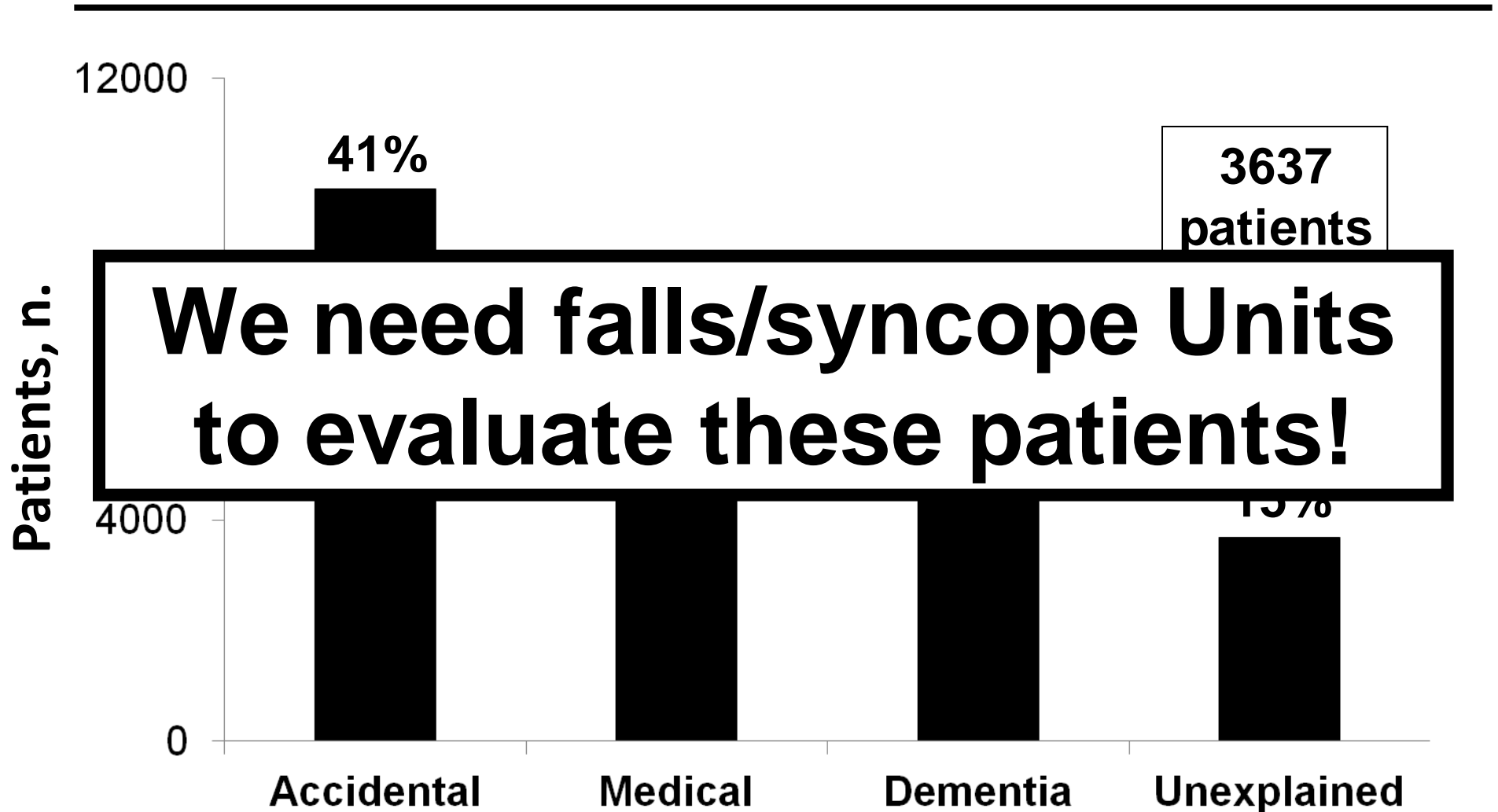
(*) discontinued



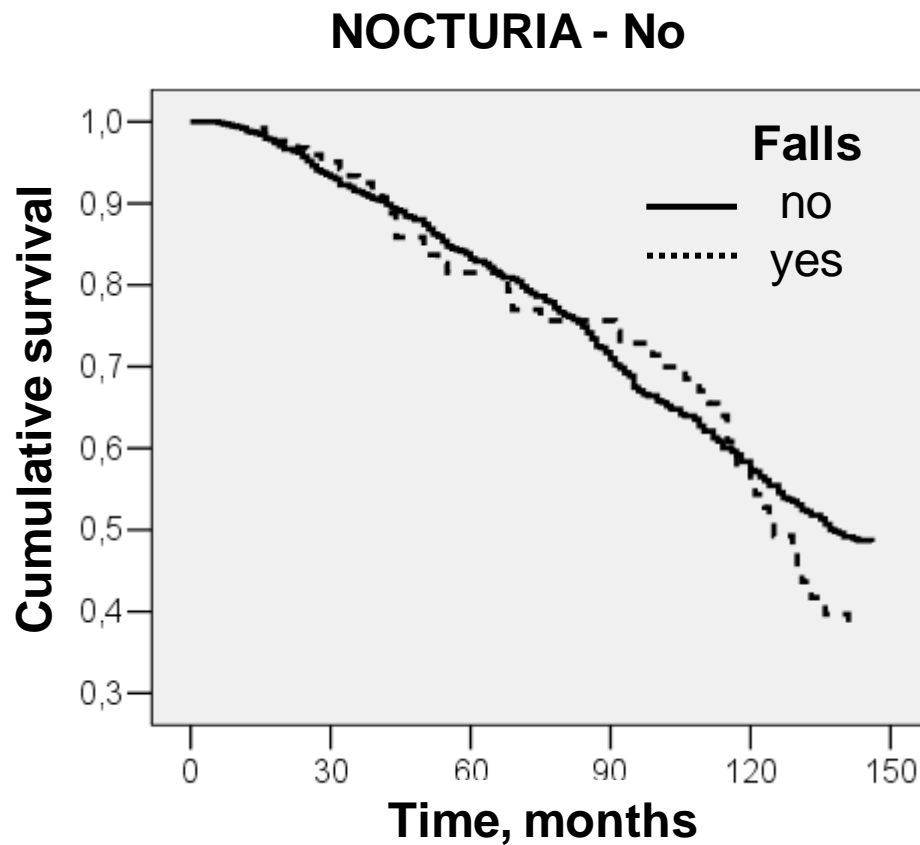
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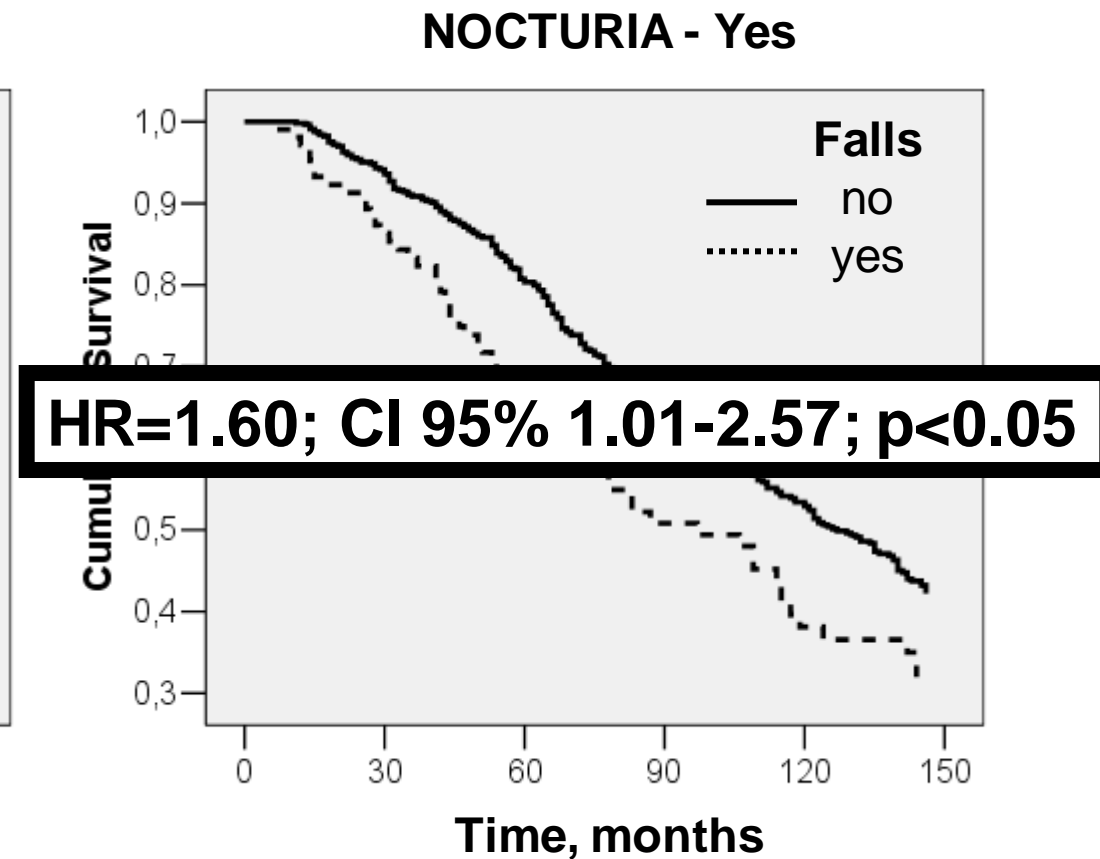
Causes of falls in 24,251 patients > 50-year old admitted to an emergency department



Predictive role of nocturia in the presence and absence of falls.



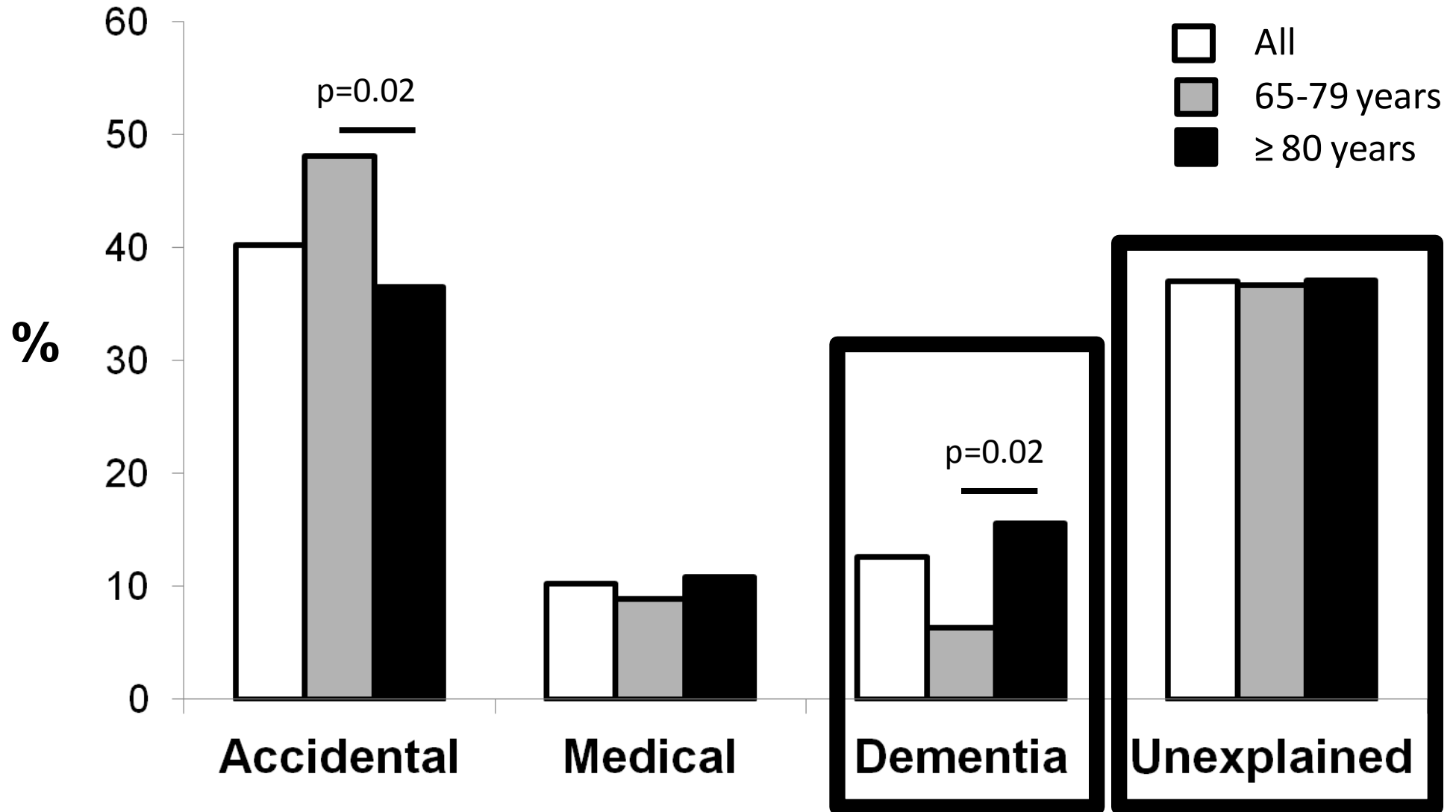
HR=1.27; CI 95%=0.81-1.99; p=0.282



Unexplained Falls in Older patients

“UFO study”

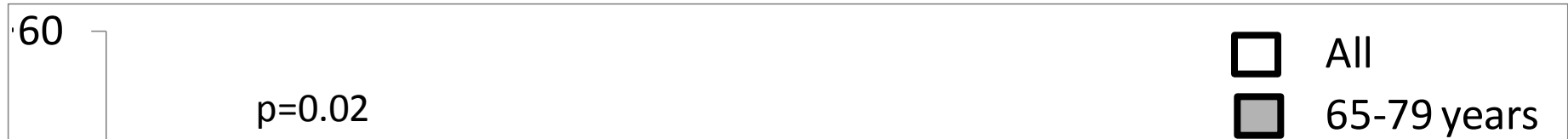
on behalf of the Italian Group of Syncope in the Elderly (SIGG)



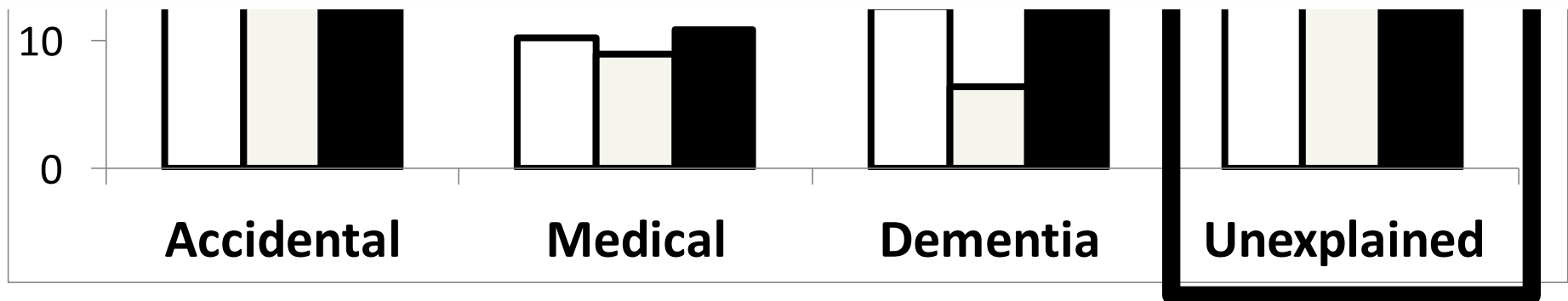
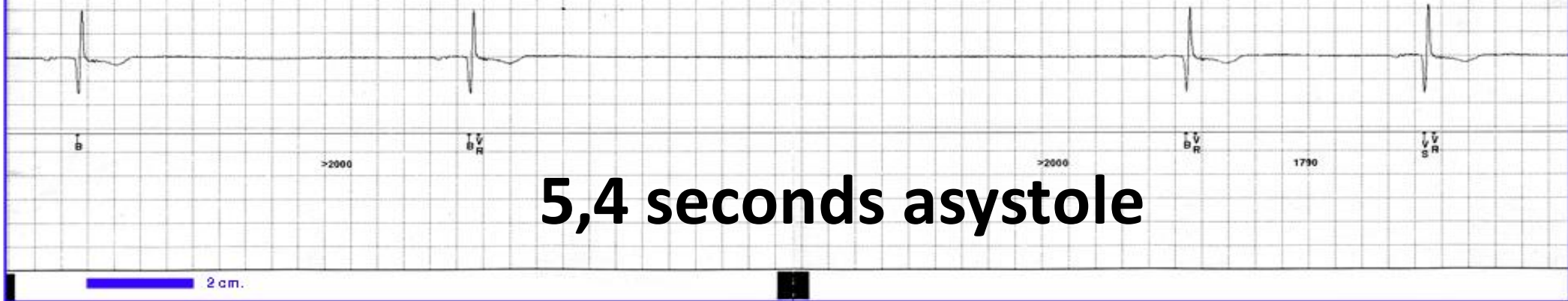
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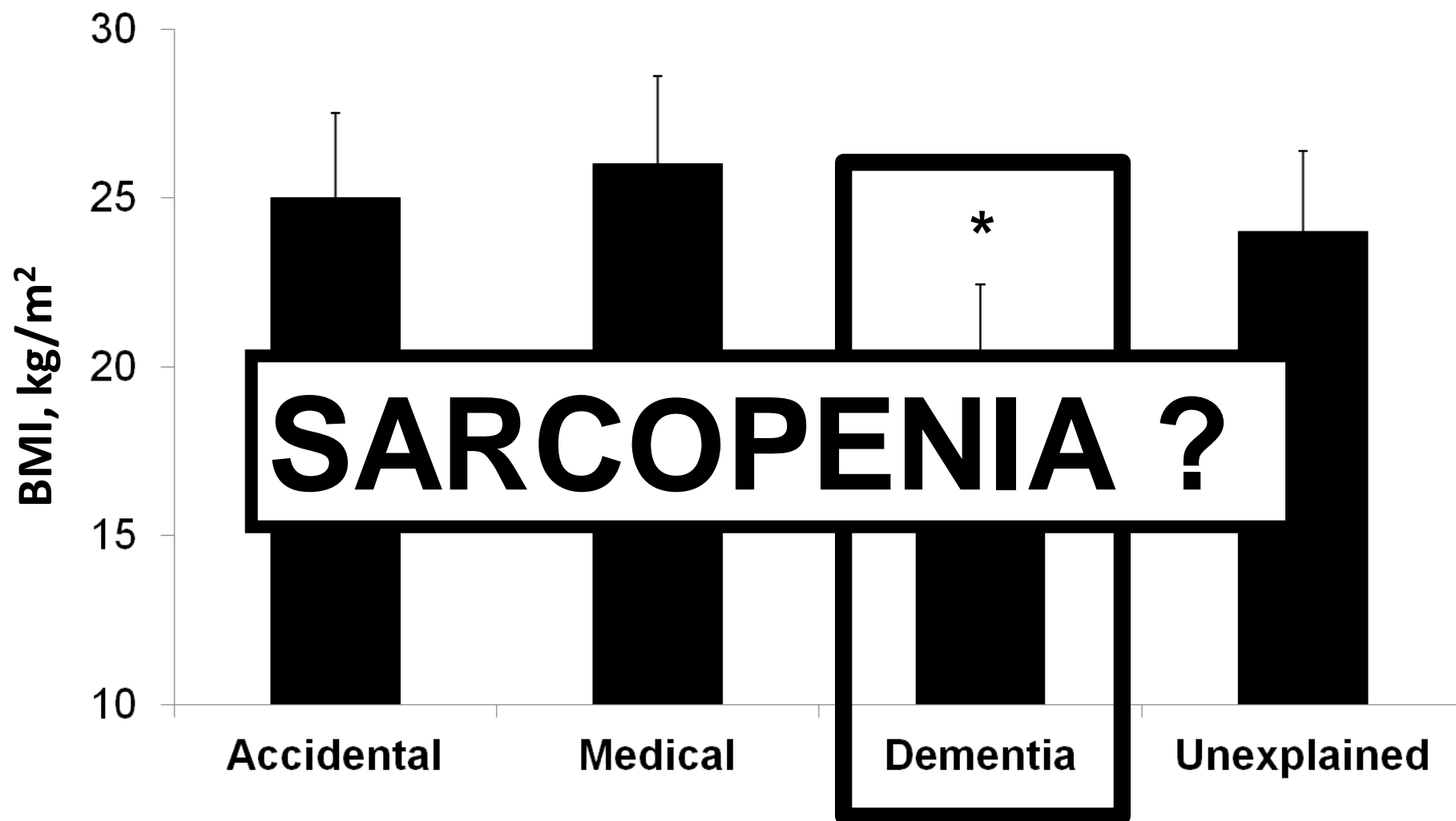
C.R. male 85 years old with unexplained fall



BMI and unexplained Falls in Older patients

“UFO study”

on behalf of the Italian Group of Syncope in the Elderly (SIGG)



p<0.01 vs. others



PREVALENZA DI SINCOPE IN PAZIENTI AFFETTI DA DEMENZA

Syncope and dementia (SYD)

*STUDIO OSSERVAZIONALE
NAZIONALE MULTICENTRICO*

TAKE HOME MESSAGES (1)

- Scientific evidences indicate that the “***Syncope unit***” is an essential tool for the management of syncope, both for the accuracy of the diagnosis and for the saving of resources.
- Moreover, **elderly patient with syncope has specific characteristics** in terms of diagnostic, prognostic and therapeutic approaches.

TAKE HOME MESSAGES (2)

- However, the “***Syncope Unit***” in Geriatric divisions are rare.
- The high prevalence of falls in the elderly, ***very often only apparently accidental***, stressed the need to set up specific structures within Geriatric divisions, in order to properly manage this frequent clinical condition.
- The “***Falls unit***” may respond to such needs.