SOLAECE CORNER

Top Advances in the Management of Rhythm Disorder

October 16 - 18
14th EDITION 2015

Approach To Unexplained Syncope

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No conflict of interest to declare

Approach to Unexplained Syncope

Challenges of Syncope Workup

- Identify pts requiring immediate intervention when diagnosis is established.
- Identify, among pts without a diagnosis, what is the appropriate strategy for evaluation: ***inpatient or outpatient***?
- To find a cost-effective way to establish the diagnosis.

Approach to Unexplained Syncope

Syncope Definition

A paroxysmal and transient loss of consciousness (T-LOC) due to transient global cerebral hypoperfusion.

European Heart Journal (2009) 30, 2631–2671

Conditions mimicking syncope

as the basis for syncope. A sudden cessation of cerebra
for as short as 6–8 s has been shown to be sufficie
complete LOC. Experience from tilt testing sho
decrease in systolic BP to 60 mmHg or lower is ass
syncope.[6] Systemic BP is determined by cardiac o
and total peripheral vascular resistance, and a fall i
cause syncope, but a combination of both mechani
present, even if their relative contributions vary
Figure 2 shows how pathophysiology underpins the
with low BP/global cerebral hypoperfusion at the cen
to low or inadequate peripheral resistance and low C

European Heart Journal (2009) 30, 2631–2671

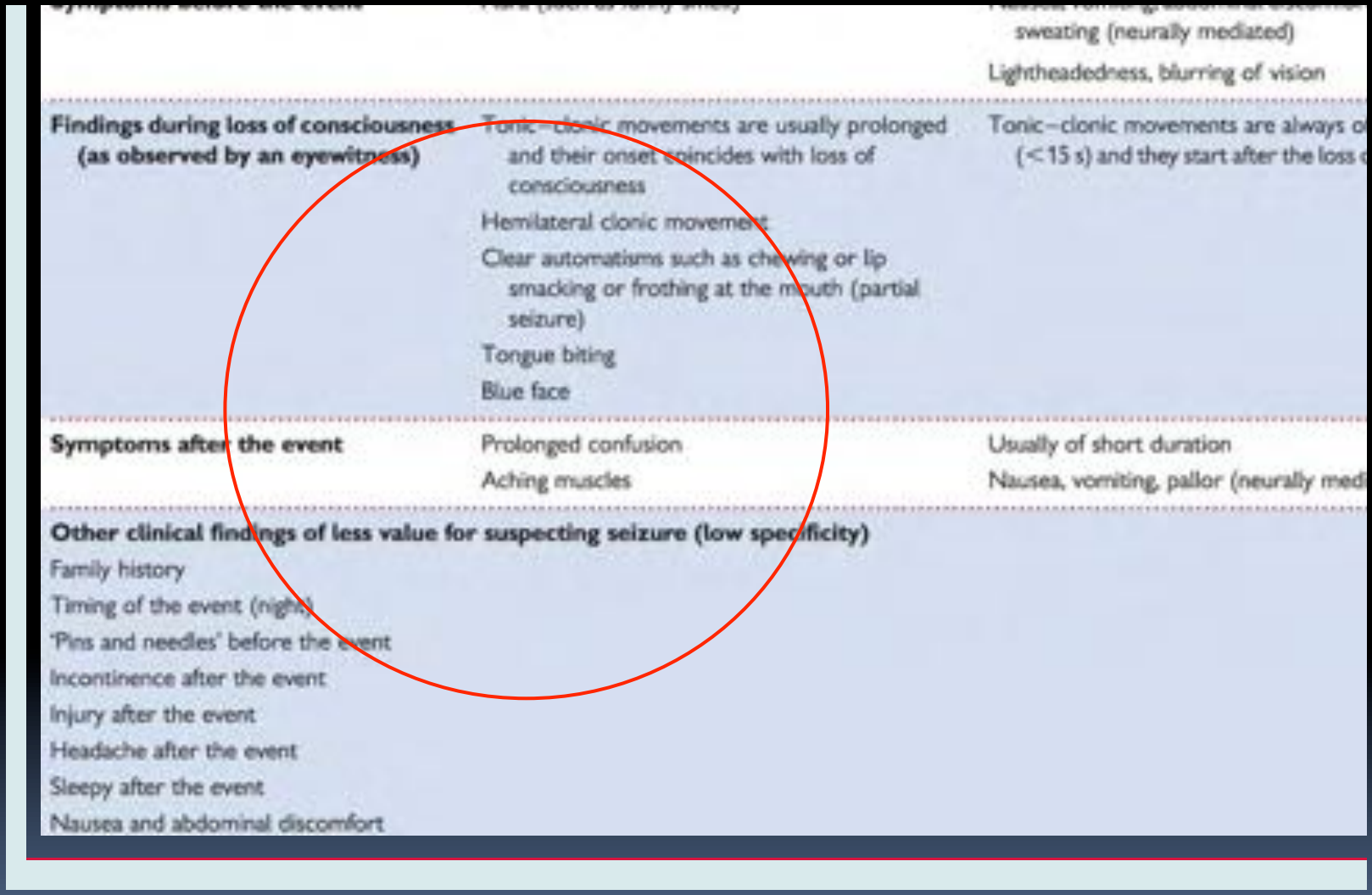
Approach to Unexplained Syncope

First Step: IS IT A SYNCOPE?

The importance of a detailed history

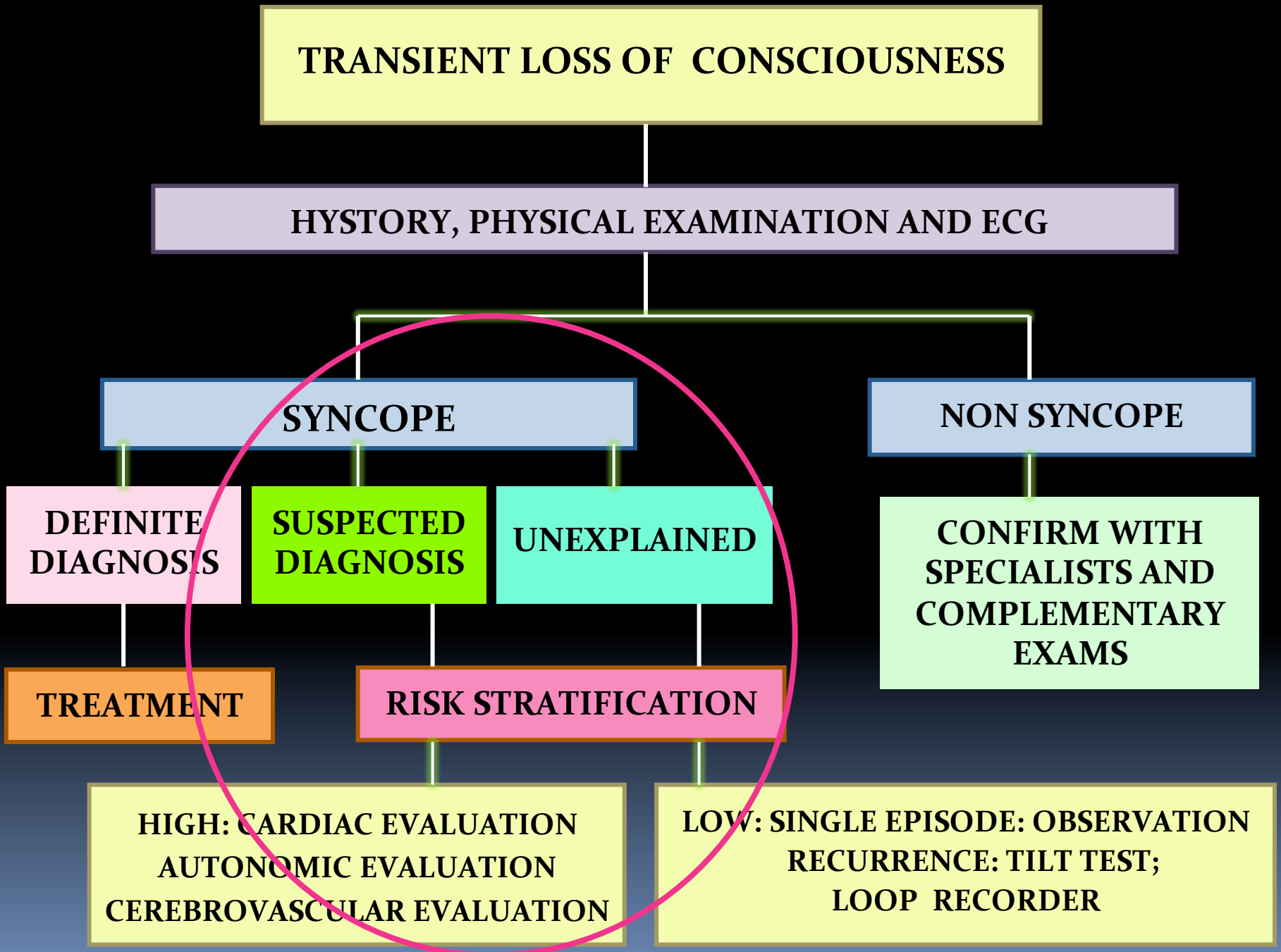
- Abrupt and transient LOC
- Short duration
- Prodromes or not - when without or with short premonitory symptoms – more severe presentation: physical injury; car accident
- Loss of postural tone or mild and brief convulsive movements
- Post-event symptoms recovery in minutes

GUIDELINES FOR THE DIAGNOSIS AND MANAGEMENTOF SYNCOPE (VERSION 2009)



		sweating (neurally mediated)
		Lightheadedness, blurring of vision
Findings during loss of consciousness (as observed by an eyewitness)	Tonic–clonic movements are usually prolonged and their onset coincides with loss of consciousness	Tonic–clonic movements are always o (<15 s) and they start after the loss
	Hemilateral clonic movement	
	Clear automatisms such as chewing or lip smacking or frothing at the mouth (partial seizure)	
	Tongue biting	
	Blue face	
Symptoms after the event	Prolonged confusion	Usually of short duration
	Aching muscles	Nausea, vomiting, pallor (neurally medi
Other clinical findings of less value for suspecting seizure (low specificity)		
Family history		
Timing of the event (night)		
'Pins and needles' before the event		
Incontinence after the event		
Injury after the event		
Headache after the event		
Sleepy after the event		
Nausea and abdominal discomfort		

European Heart Journal (2009) 30, 2631–2671


TRANSIENT LOSS OF CONSCIOUSNESS
HYSTORY, PHYSICAL EXAMINATION AND ECG
SYNCOPE
NON SYNCOPE
DEFINITE DIAGNOSIS
SUSPECTED DIAGNOSIS
UNEXPLAINED
CONFIRM WITH SPECIALISTS AND COMPLEMENTARY EXAMS
TREATMENT
RISK STRATIFICATION
HIGH: CARDIAC EVALUATION
AUTONOMIC EVALUATION
CEREBROVASCULAR EVALUATION
LOW: SINGLE EPISODE: OBSERVATION
RECURRENCE: TILT TEST;
LOOP RECORDER

Approach to Unexplained Syncope

Second Step: RISK STRATIFICATION

The importance of a detailed history

- Are the episodes related to emotional stress or effort?
- Any previous history or symptoms of CAD or HF?
- Palpitations before syncope?
- Autonomic prodromal symptoms?
- Any occurrence in supine position?
- Family history of SD?

OESIL RISK SCORE
EMERGENCY DEPARTMENT

270 consecutive pt - 145 male

Average age: 59 years old

HISTORY, PHYSICAL EXAMINATION AND ECG

(Initial evaluation)

Independent risk factors

End point: Mortality in 12 months

European Heart Journal (2003) 24,811-19

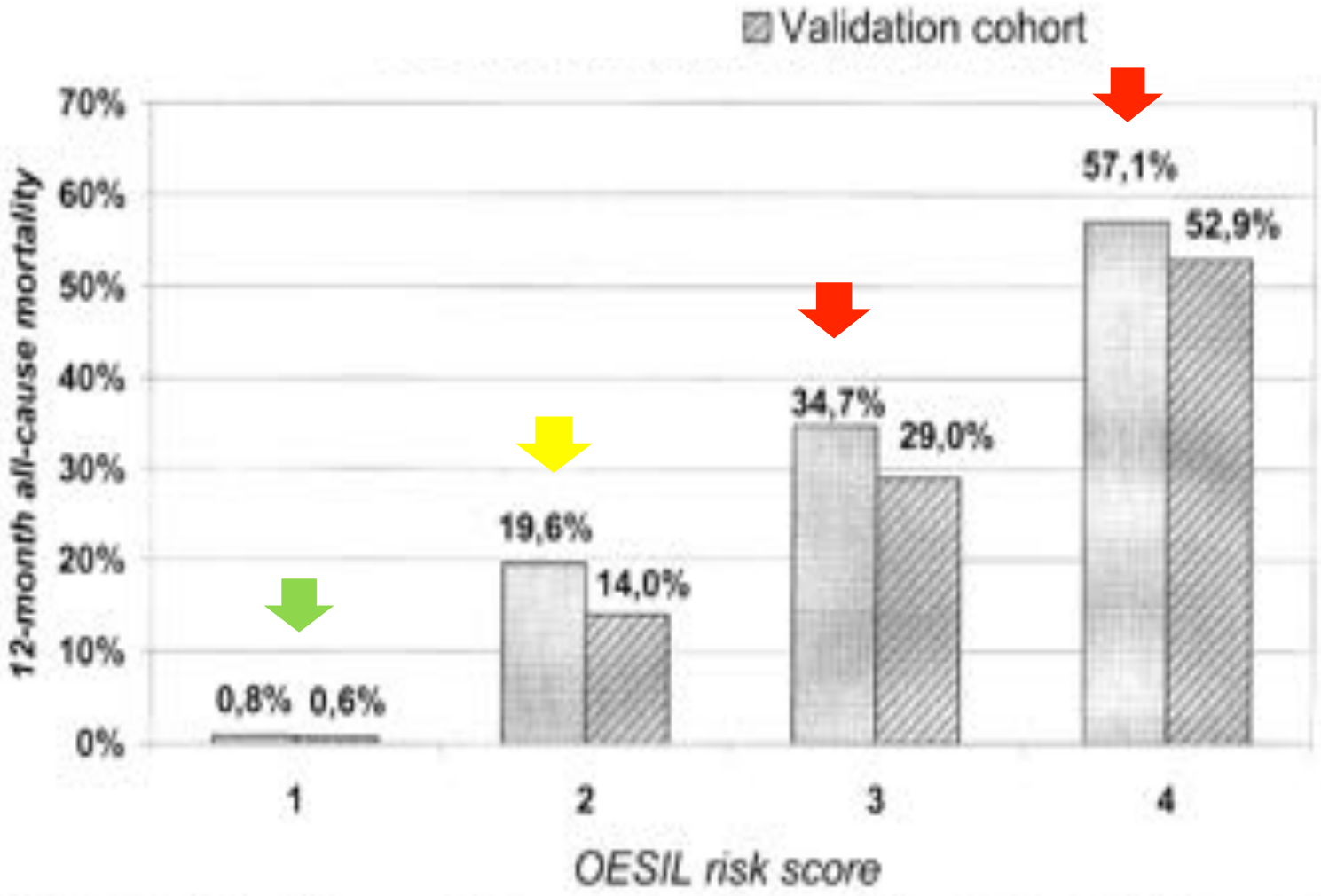
OESIL RISK SCORE
EMERGENCY DEPARTMENT

INDEPENDENT RISK FACTORS

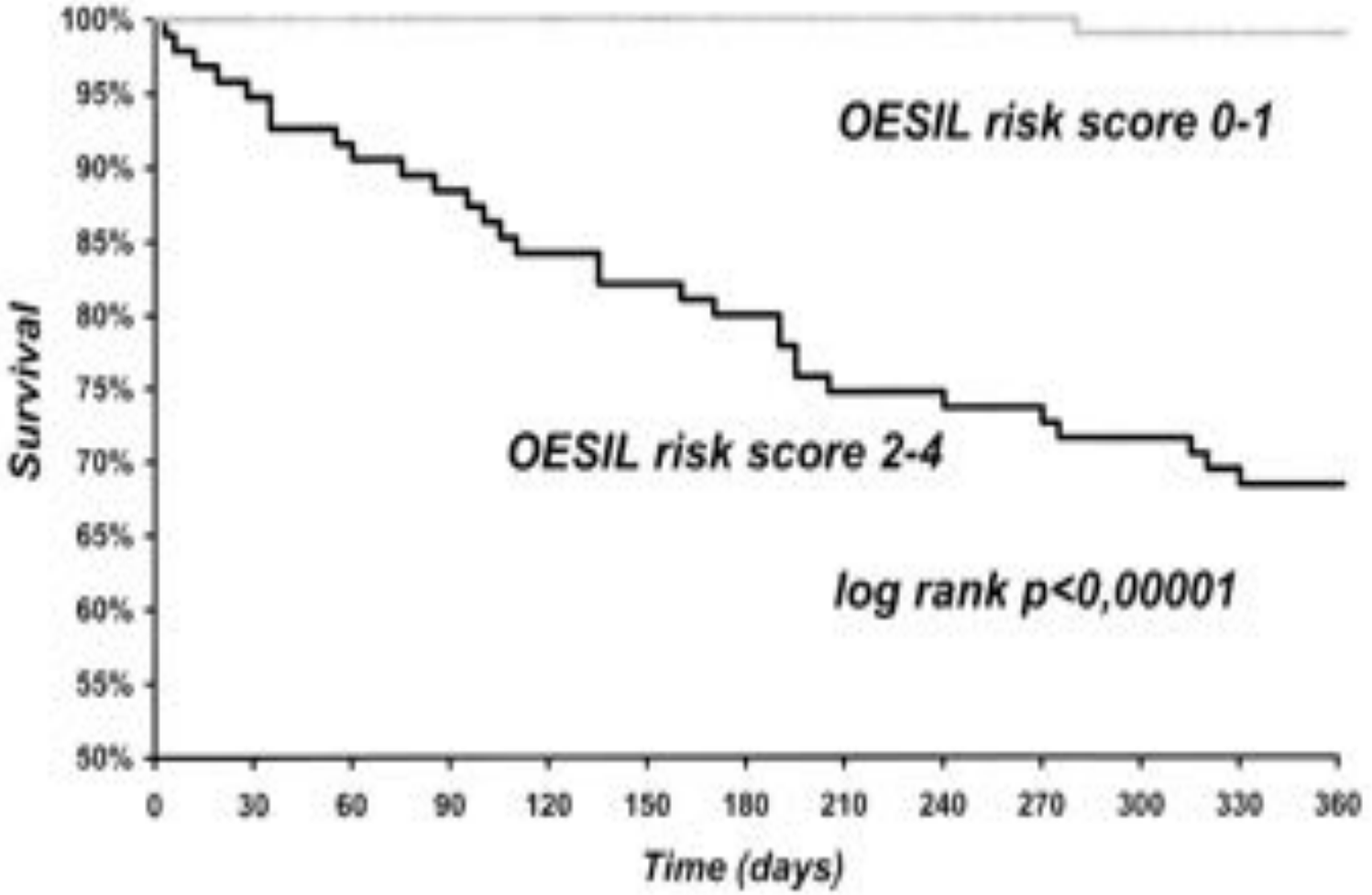
- Age older than 65 years
- Structural Heart Disease
- Absence of premonitory symptoms
- Abnormal ECG

European Heart Journal (2003) 24,811-19

OESIL RISK SCORE
EMERGENCY DEPARTMENT



OESIL RISK SCORE
EMERGENCY DEPARTMENT



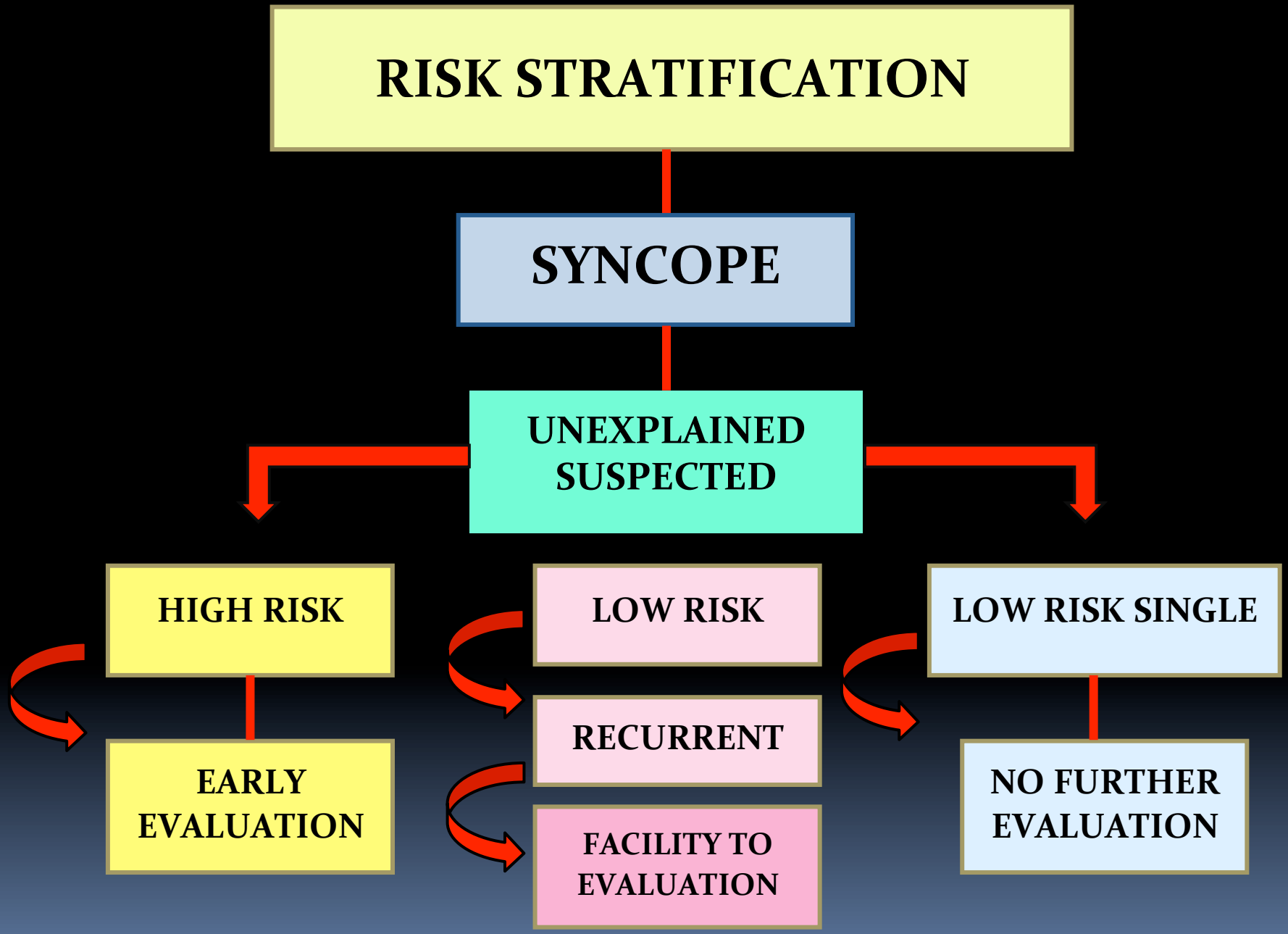
The EGSYS RISK SCORE

Predictors of cardiac syncope - follow up (614 +/- 73 days)

- Abnormal ECG and/or heart disease.
- Palpitations before syncope.
- Syncope during effort or in supine position.
- Absence of autonomic prodromes.
- Absence of predisposing and/or precipitating factors.

A score >/= 3 identified cardiac syncope – sensitivity: 95% and specificity: 61%

Heart. 2008 Jun 2.


RISK STRATIFICATION
SYNCOPE
UNEXPLAINED SUSPECTED
HIGH RISK
EARLY EVALUATION
LOW RISK
RECURRENT
FACILITY TO EVALUATION
LOW RISK SINGLE
NO FURTHER EVALUATION

Approach to Unexplained Syncope

Syncope: is a Diagnosis a Diagnosis ?

David Benditt, Michele Brignole. JACC 2003; 41(5):791-4.

The only way to determine a correct etiologic diagnosis is establishing a strong correlation between the results of the tests and the suspicious diagnosis, based on a detailed history, physical examination and ECG.

Approach to Unexplained Syncope

Syncope until unexplained

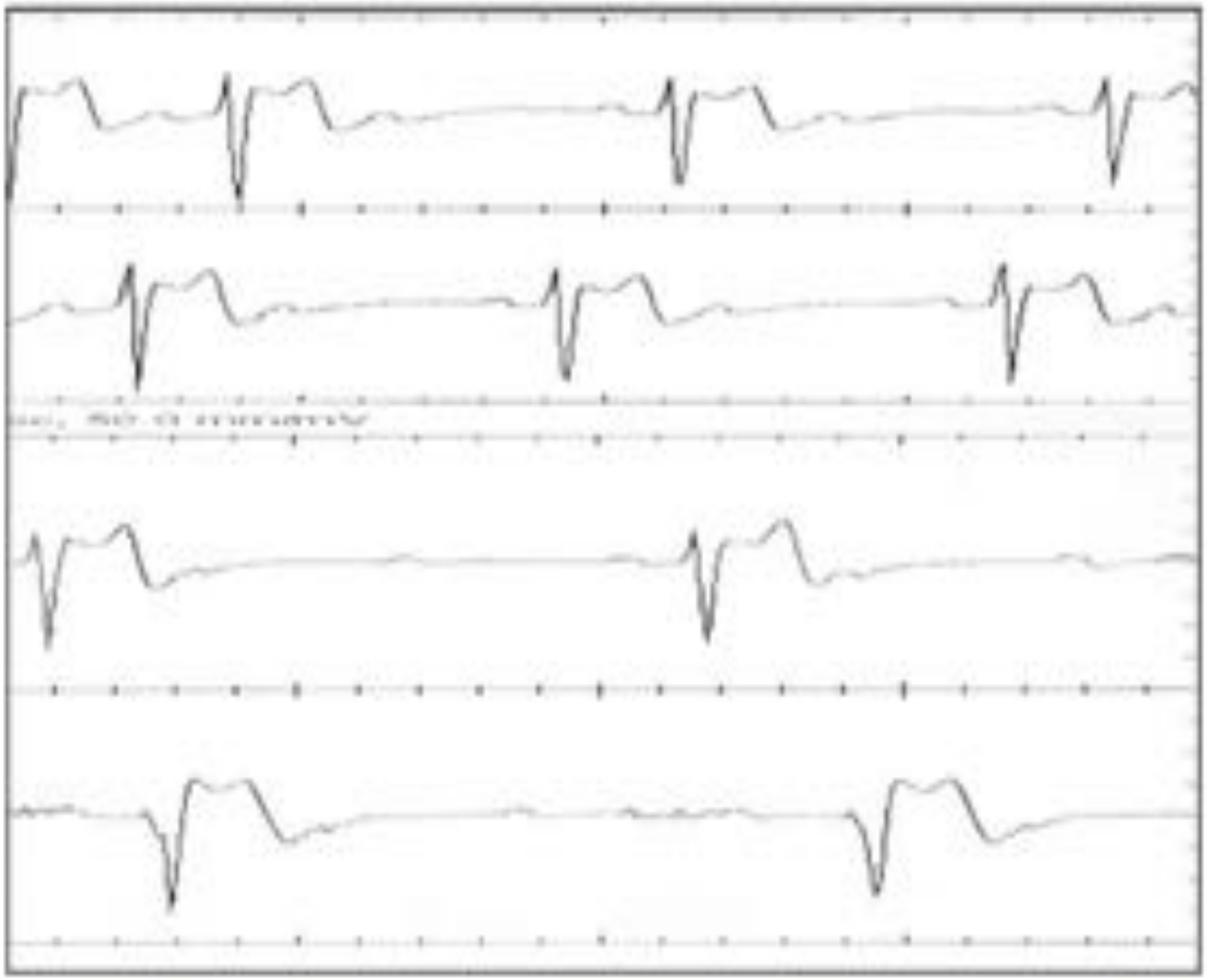
What is the next step?

Real time ECG monitoring with ILR

Psychogenic Syncope? A Cautionary Note

KHALIL KANJWAL, M.D., YOUSUF KANJWAL, M.D., BEVERLY KARABIN, M.S.N., and BLAIR P. GRUBB, M.D.

From [illegible] isorders, the Unive[illegible]



Use of an implantable loop recorder to increase the diagnostic yield in unexplained syncope: results from the PICTURE registry

- Prospective, multicentre, observational study
- From November 2006 until October 2009
- 11 countries.
- To determine the effectiveness of the ILR in the diagnosis of unexplained recurrent syncope in everyday clinical practice.

Europace (2011) 13, 262–269

Use of an implantable loop recorder to increase the diagnostic yield in unexplained syncope: results from the PICTURE registry

Europace (2011) 13, 262–269

Use of an implantable loop recorder to increase the diagnostic yield in unexplained syncope: results from the PICTURE registry

- 218 patients (38% of the population) experienced an episode of syncope
- 149 (26% of patients or 68% of episodes) had prodromal symptoms.
- Ten patients (5.2%) had severe trauma associated to the event.

Europace (2011) 13, 262–269

older than 65 years. In the Framingham study (4), the

From the *Arrhythmologic Centre and Syncope Unit, Ospedali del Tigullio, Lavagna, Italy; and the †Faint and Fall Clinic, University of Utah, Medical Center, Salt Lake City, Utah. Both authors are the inventors of the software described in this paper (Faint-Algorithm, F2 Solutions Inc., Sandy, Utah); and have financial interest in the start-up company that has exclusive rights to the software product. Dr. Hamdan is a consultant for Medtronic and eCardio; and has received fellowship support from Medtronic, Boston Scientific, and Biotronik.

Manuscript received August 19, 2011; revised manuscript received November 26, 2011, accepted November 29, 2011.

Traditionally, the causes of syncope are classified ac
to etiology and presumed pathophysiology. Figure
column, shows the classification of syncope based o
ogy as proposed by the European Society of Car
(ESC) guidelines (1). Because of recent advances i
nology, our ability to make a diagnosis based
documentation of spontaneous events has increase
resulted in a new classification based on the unc
mechanism (7). Figure 1, right column, shows the
cation of syncope based on mechanism. Classificatio

use of specialized syncope facilities led to an improve
diagnostic yield and cost effectiveness (i.e., cost per
diagnosis) (28,29,40–43). In a randomized co
study, Shen et al. (44) found that a designated syncc
in the ED significantly improved diagnostic yield,
hospital admissions, and reduced total length of
stay without affecting recurrent syncope and all-cau
tality when compared with standard care. Proba
largest reported real-world experience is that of t
(Syncope Unit Project) study (26). This prospective
center study documented the current practice of 9
units in Italy. The study enrolled 941 consecutive
affected by unexplained TLOC from March 15, 2
September 15, 2008. The majority of patients (60
referred from out-of-hospital services, 11% and 13
immediate and delayed referral, respectively, from
(so-called “protected discharge” with an appointm
early assessment), and 16% were hospitalized pati

Additional diagnostic value of implantable loop recorder in patients with initial diagnosis of real or apparent transient loss of consciousness of uncertain origin.

- ILR implanted in 58 patients;
- Age 71 + 17 years; 25 males;
- 4.6 + 2.3 episodes of real or apparent T-LOC;
- Aiming to distinguishing epilepsy from syncope (#28), unexplained fall from syncope (#29), or functional pseudo-syncope from syncope (#1)

Europace (2014) 16, 1226–1230

Additional diagnostic value of implantable loop recorder

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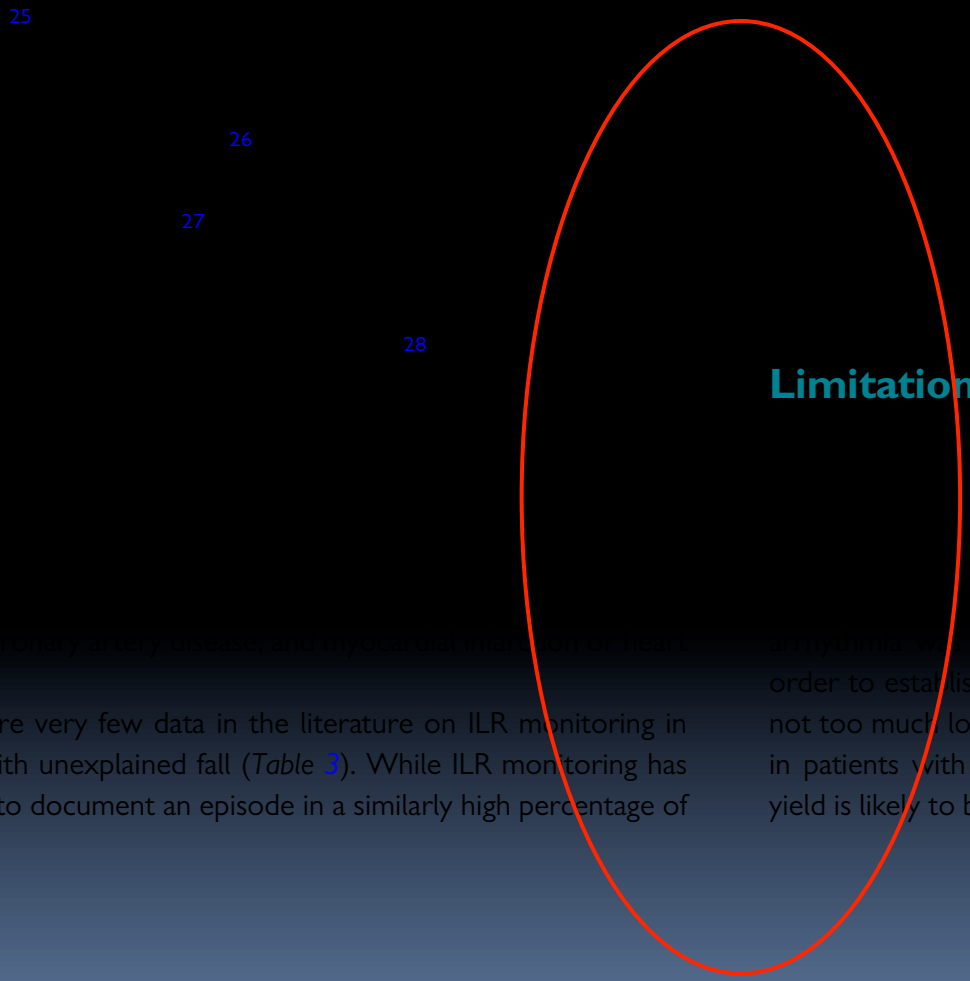
follow-up. This finding underlines the fact that, when an I

Europace (2014) 16, 1226–1230

Additional diagnostic value of implantable loop recorder

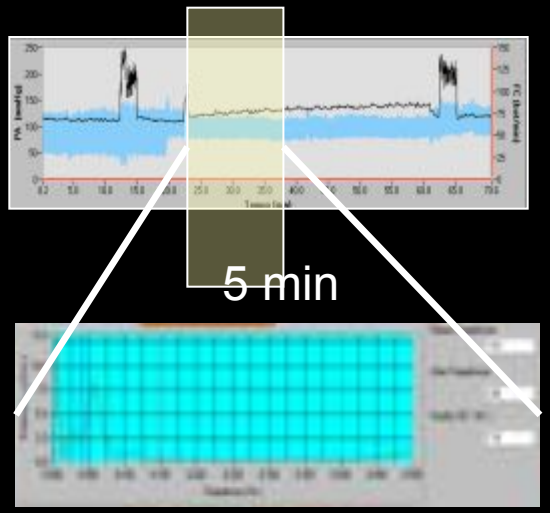


failure.[29]

There are very few data in the literature on ILR monitoring in patients with unexplained fall (*Table 3*). While ILR monitoring has been able to document an episode in a similarly high percentage of

arrhythmia was identified. Four ILRs needed to be order to establish a diagnosis of arrhythmic syncope. not too much lower than the 35% diagnostic yield pr in patients with unexplained syncope.[11] However, t yield is likely to be dependent on the criteria used for

SYNCOPE UNIT – INCOR



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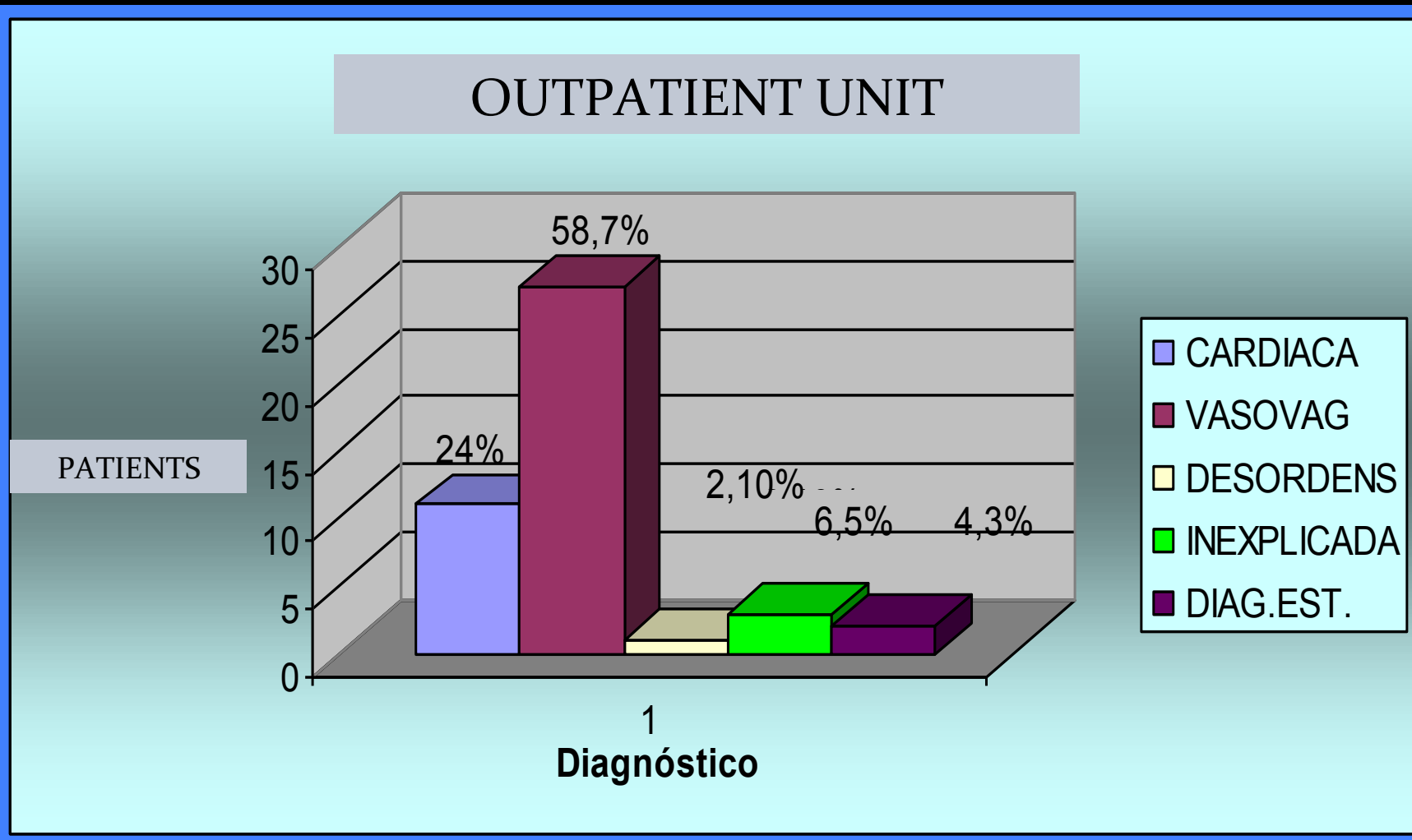
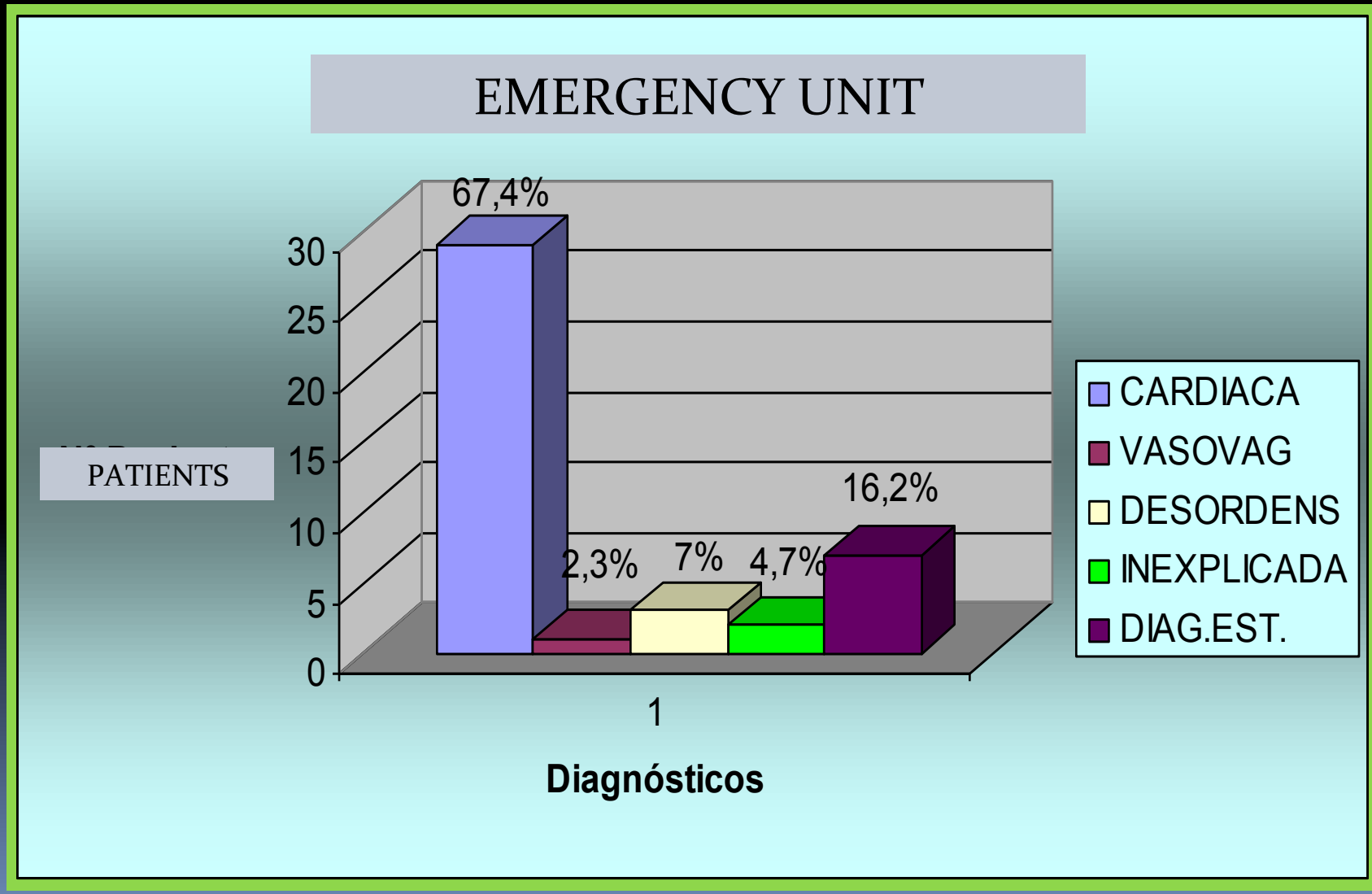


UNIDADE DE SÍNCOPE – INCOR



Thank you!