



EVALUACIÓN INICIAL Y ESTRATIFICACIÓN DE RIESGO EN SCA

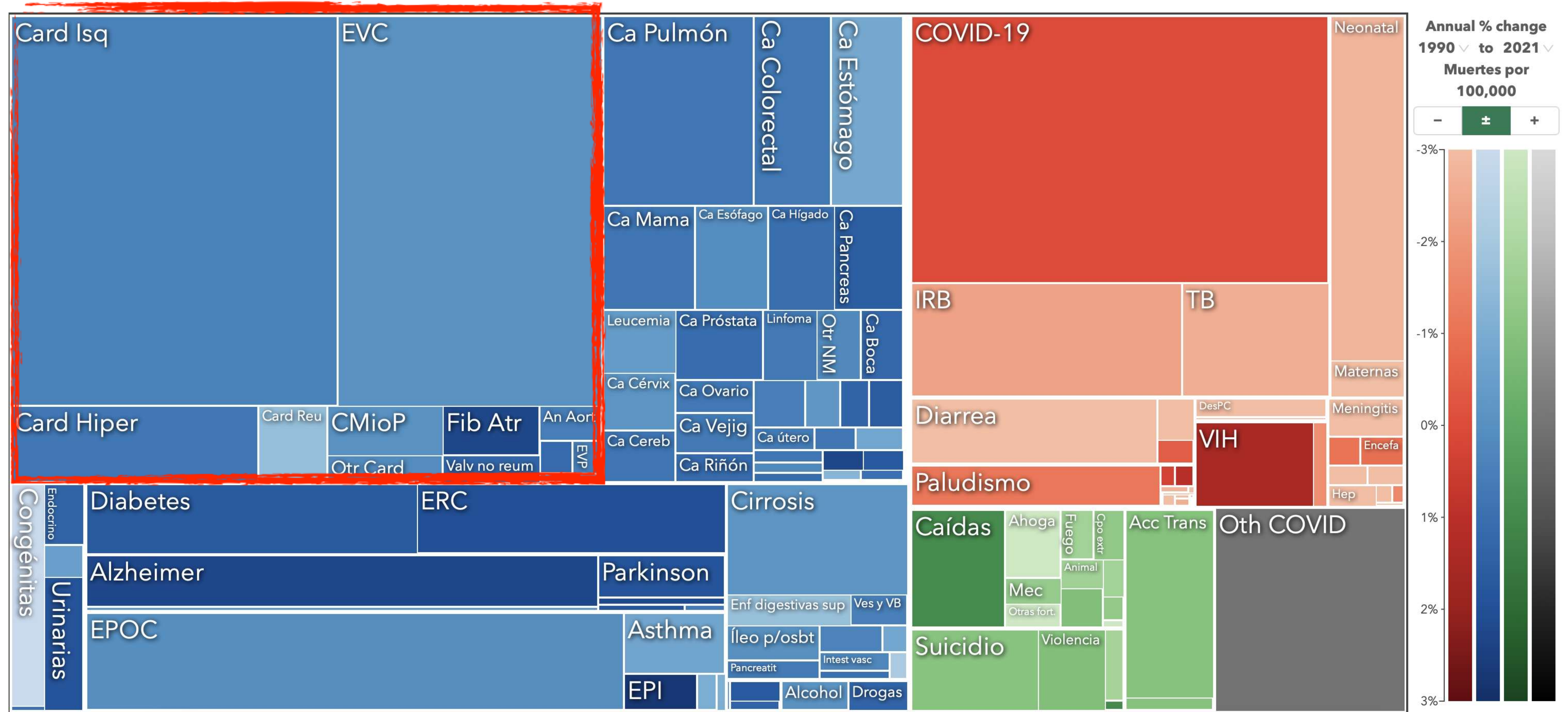
LUIS ALBERTO URNA HERBAS, MD. MSc.

DECLARACIÓN DE CONFLICTOS DE INTERÉS

* Sin conflictos de interés.

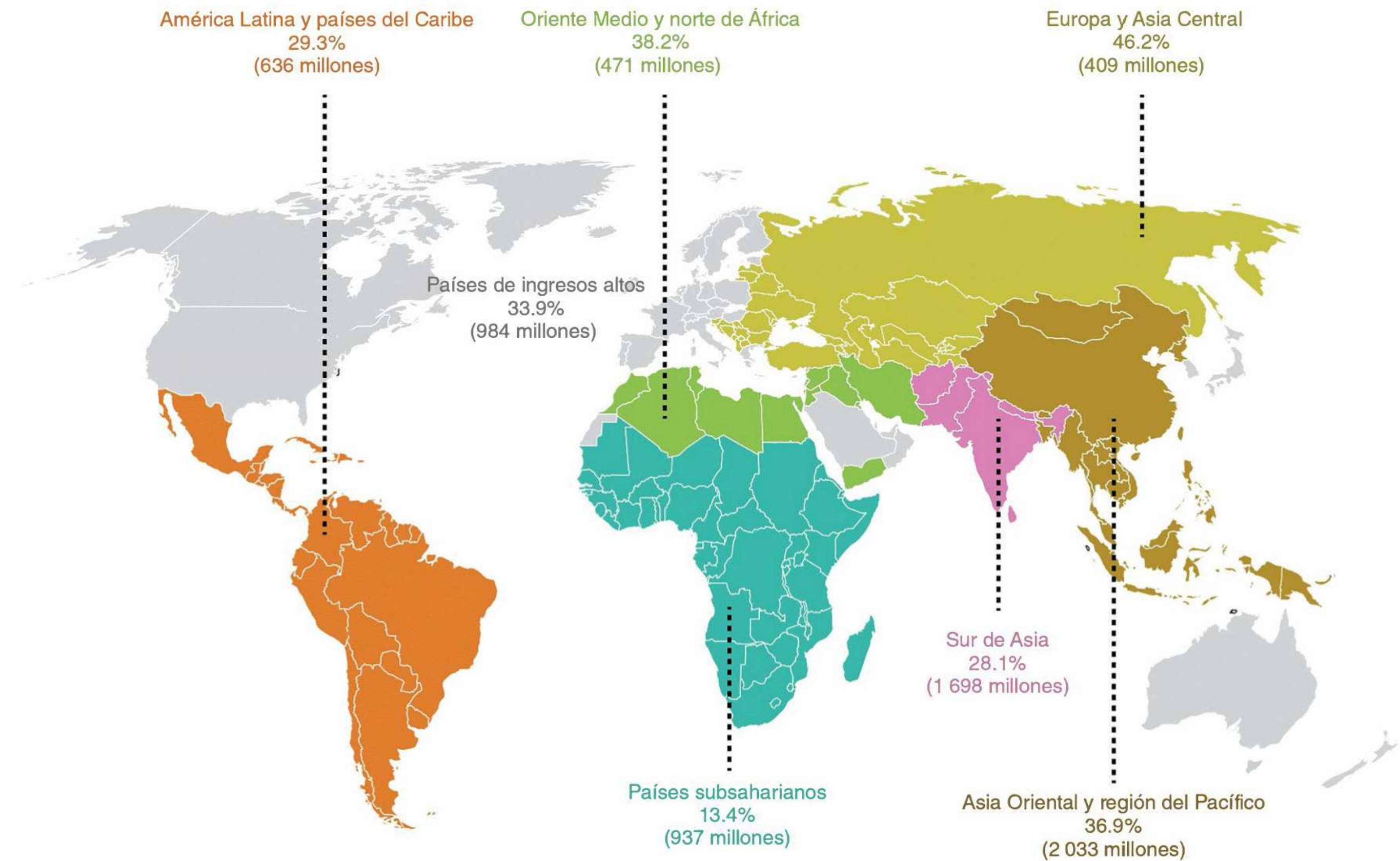


ENFERMEDADES CARDIOVASCULARES Y MORTALIDAD



Fuente: 1. IHME Institute for Health Metrics and Evaluation Population Health Building/Hans Rosling Center <https://vizhub.healthdata.org/gbd-compare/>

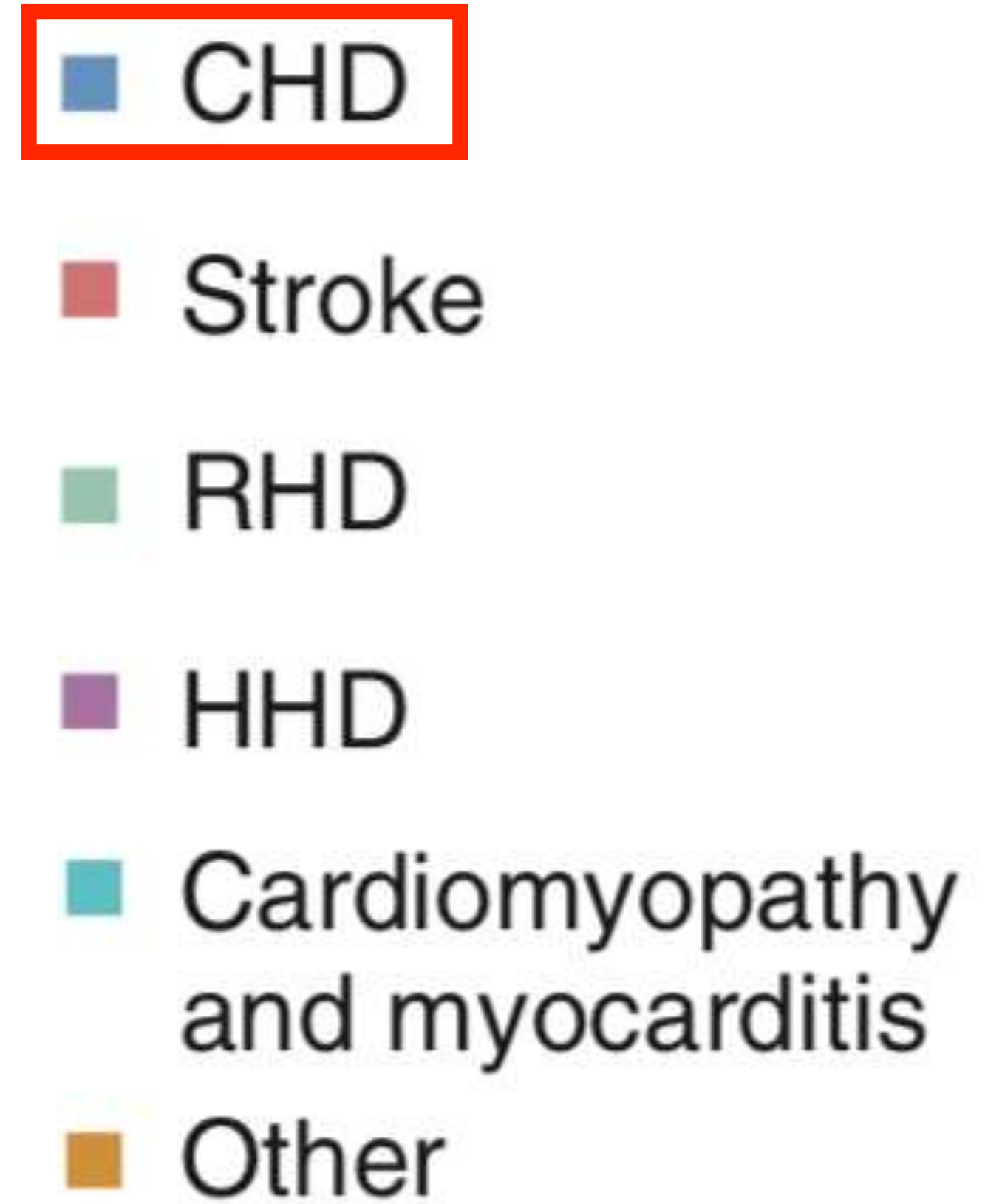
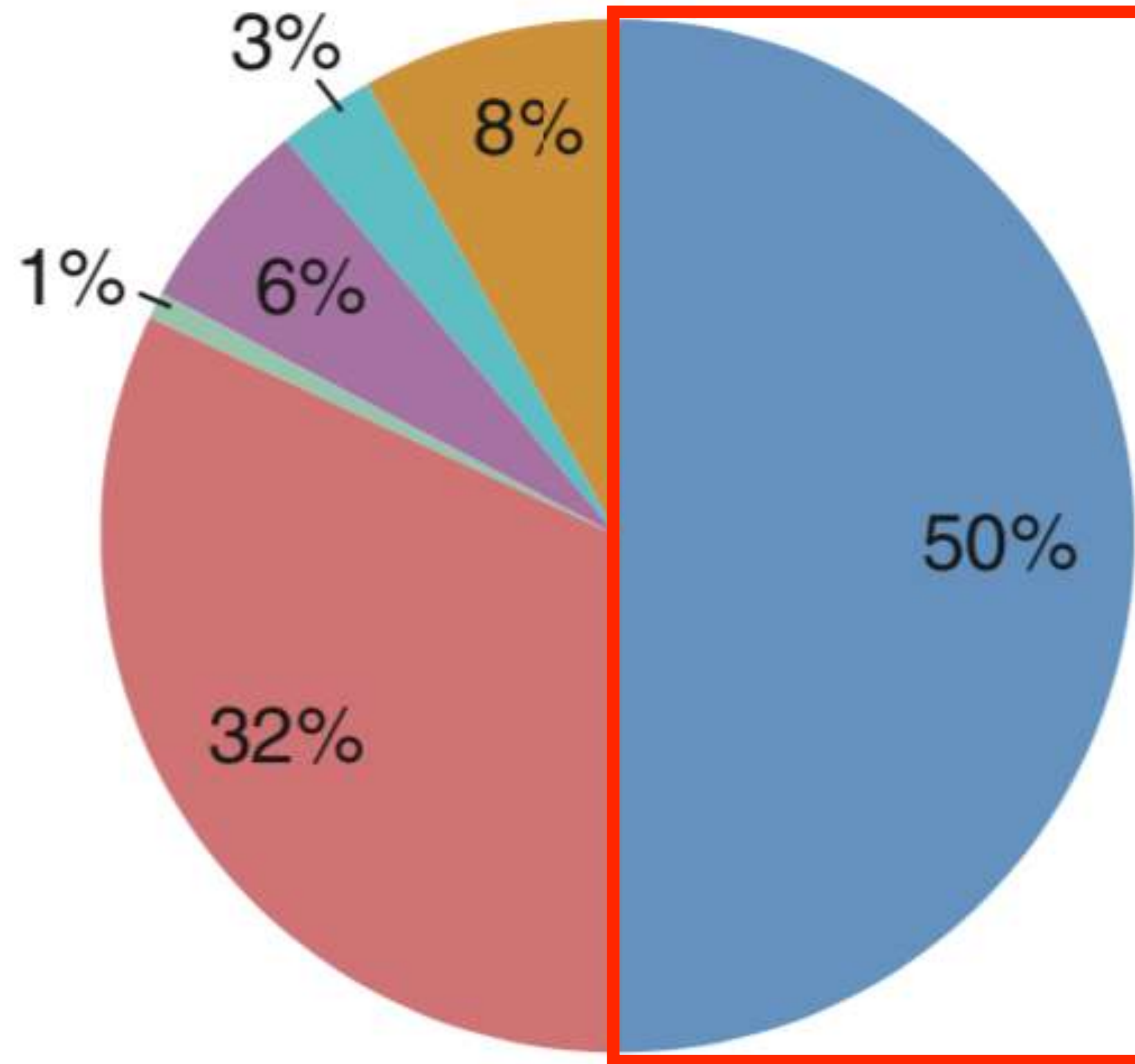
ENFERMEDADES CARDIOVASCULARES Y MORTALIDAD



Fuente: 1. Gaziano TA. Gaziano JM. Epidemiología de las enfermedades cardiovasculares. En: Jameson JL. Fauci AS. et al. Harrison principios de medicina interna. 20va Ed. México: McGraw-Hill. 2018. 1662-1666.

ENFERMEDADES CARDIOVASCULARES Y MORTALIDAD

Latin America and Caribbean

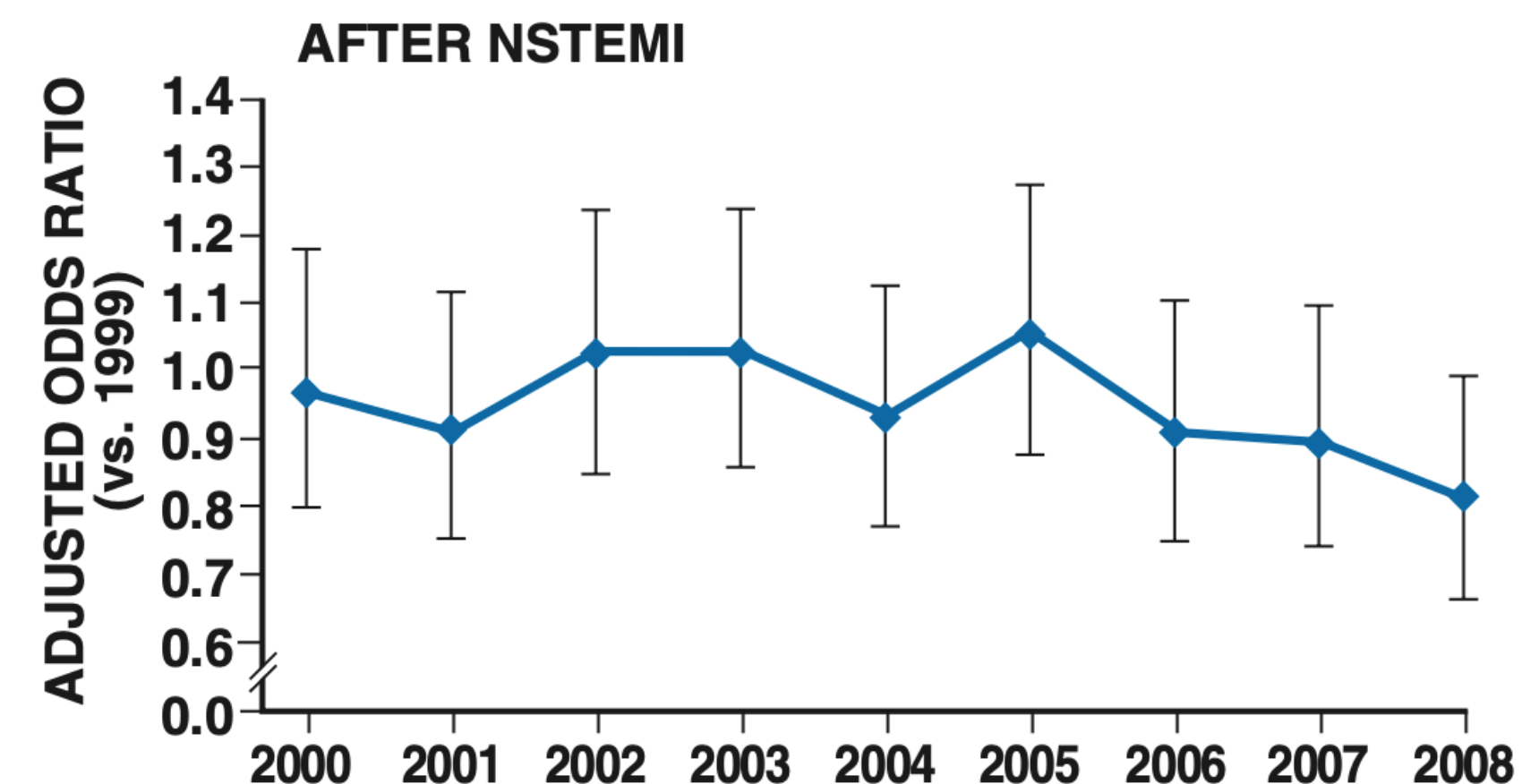
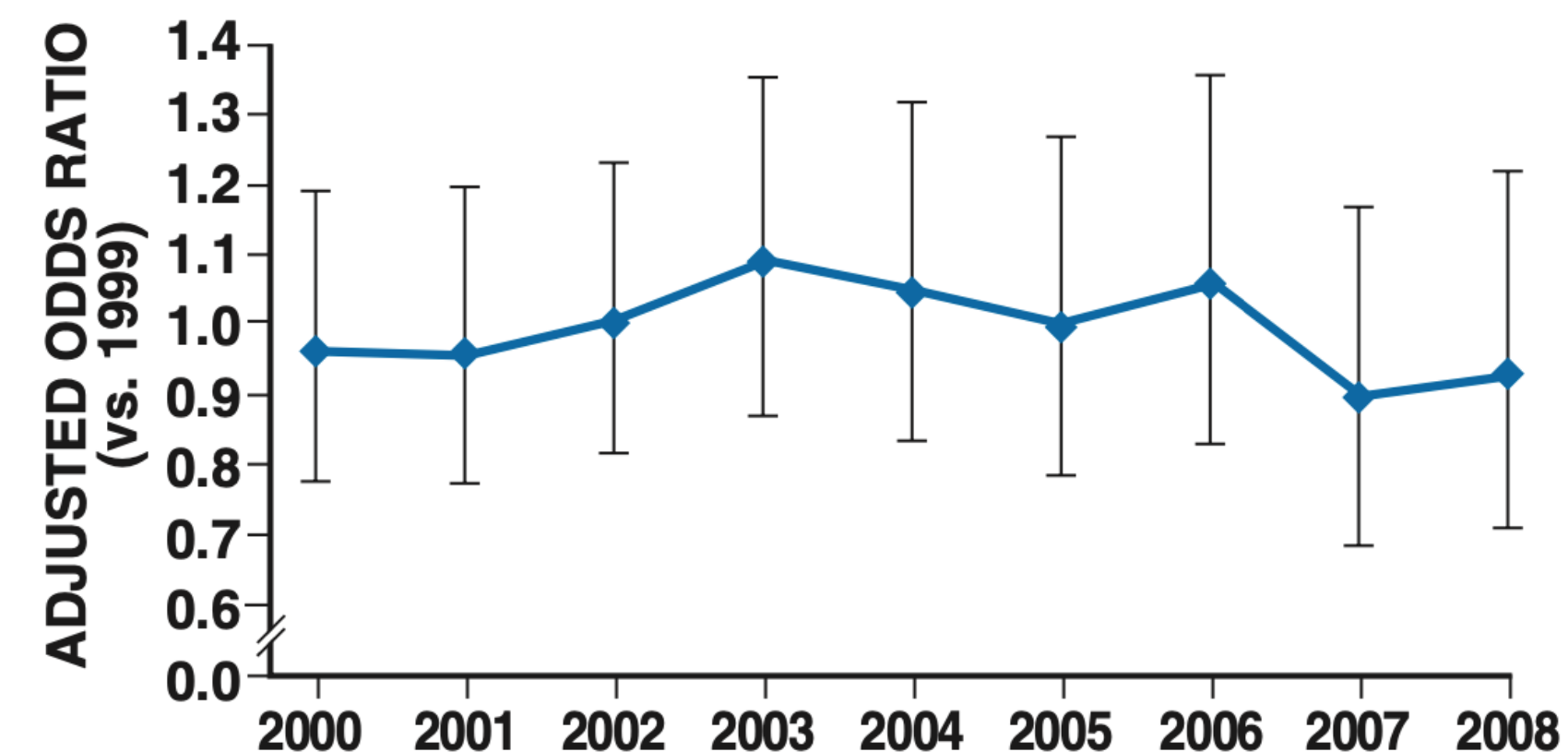
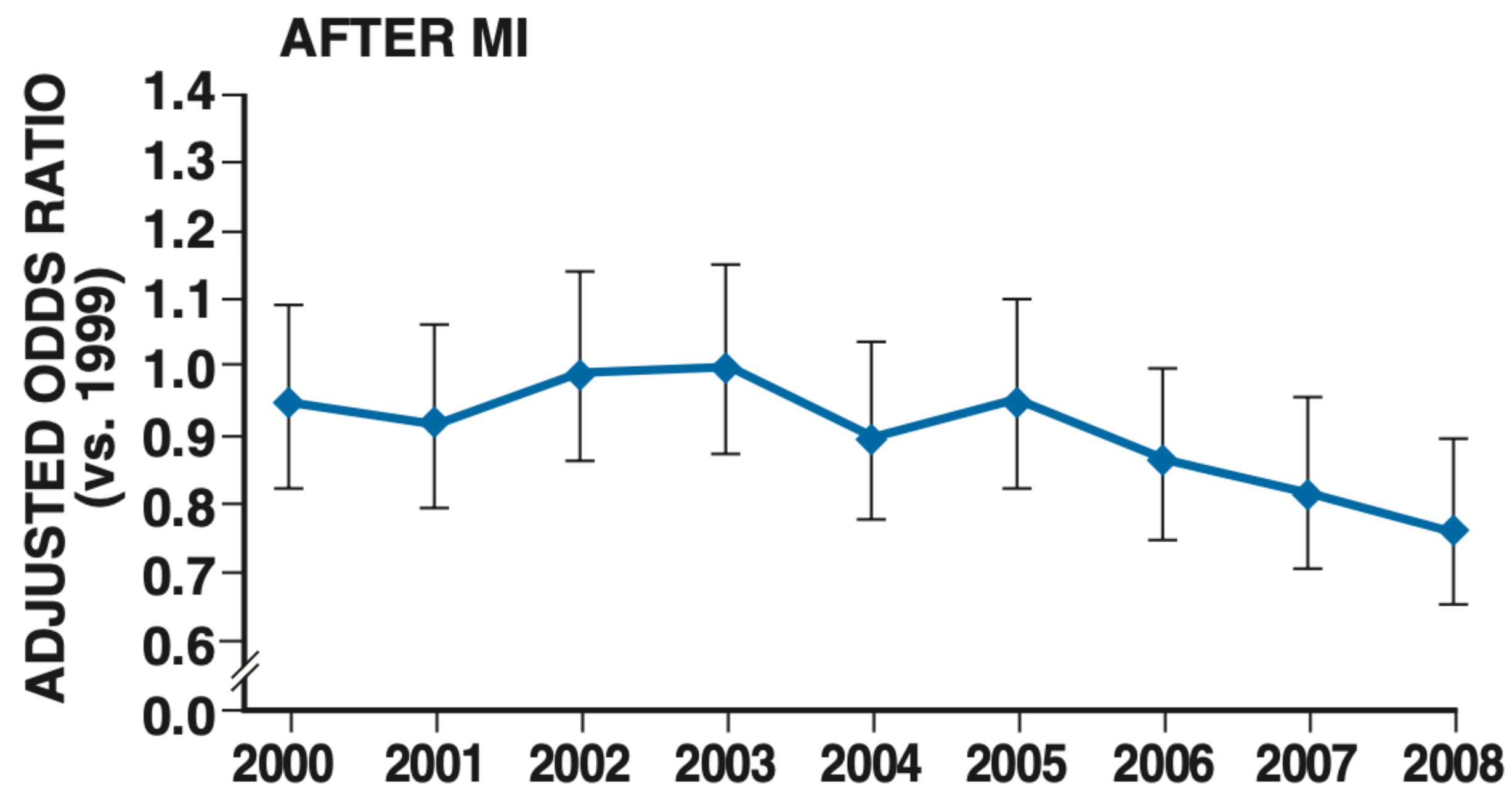


Fuente:

1. Benziger CP. Moran AE. Roth GA. The global burden of cardiovascular diseases. In: Fuster V. et al. Hurst's the heart. 14th Ed. USA: McGraw-Hill. 2017. 606-636.
2. Gregory A. Roth et al. Circulation. 2015;132:1667-1678.



INFARTO DE MIOCARDIO Y MORTALIDAD

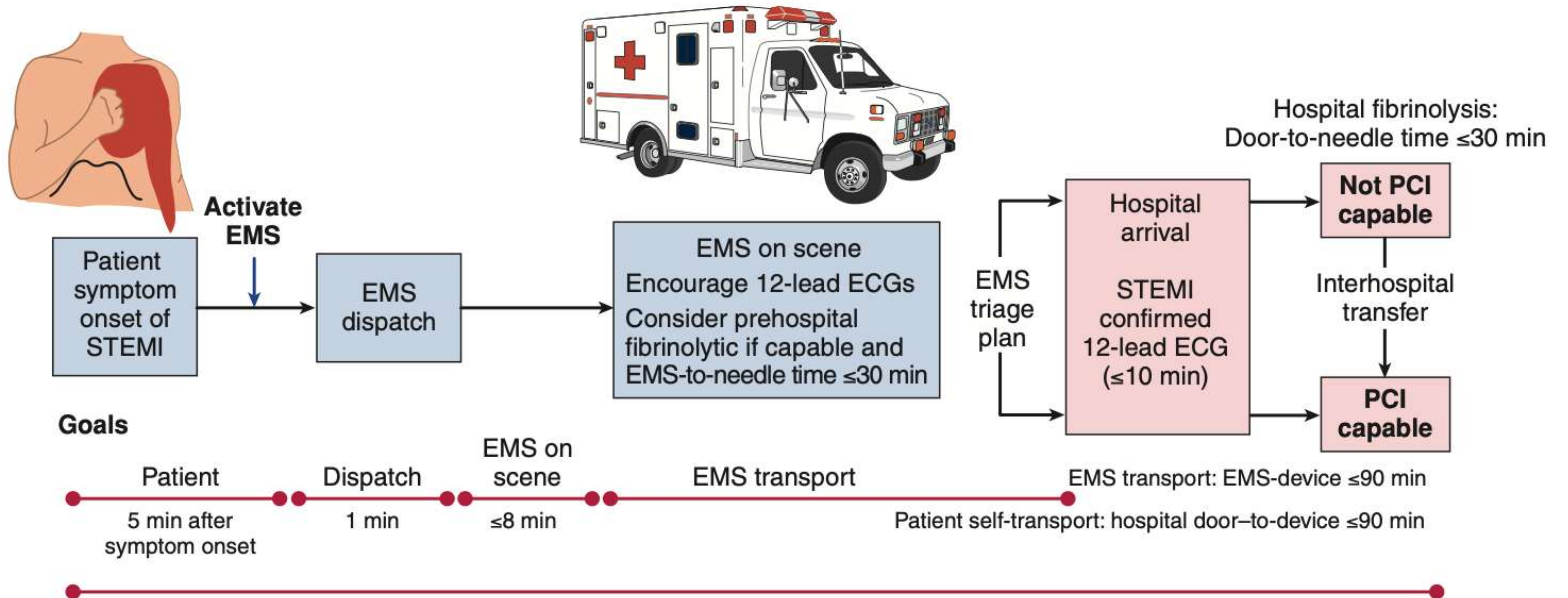


Fuente: 1. Scirica BM. Libby P. Morrow DA. ST-Elevation Myocardial Infarction: Pathophysiology and Clinical Evolution. In: Braunwald E. et al. Braunwald's heart disease: a textbook of cardiovascular medicine. 11th Ed. USA: Elsevier. 2019. 1095-1122. Gregory A. Roth et al. Circulation. 2015;132:1667-1678.

¿POR QUÉ ESTRATIFICAR EL RIESGO?



ESTRATIFICACIÓN DE RIESGO EN EL SCACEST



Fuente:

1. Eur Heart J. 2018 Jan 7;39(2):119-177. doi: 10.1093/eurheartj/ehx393.
2. Bohula EA. Morrow DA. ST-Elevation Myocardial Infarction: Management. In: Braunwald E. et al. Braunwald's heart disease: a textbook of cardiovascular medicine. 11th Ed. USA: Elsevier. 2019. 1123-1180.

ESTRATIFICACIÓN DE RIESGO EN EL SCASEST

Very high risk

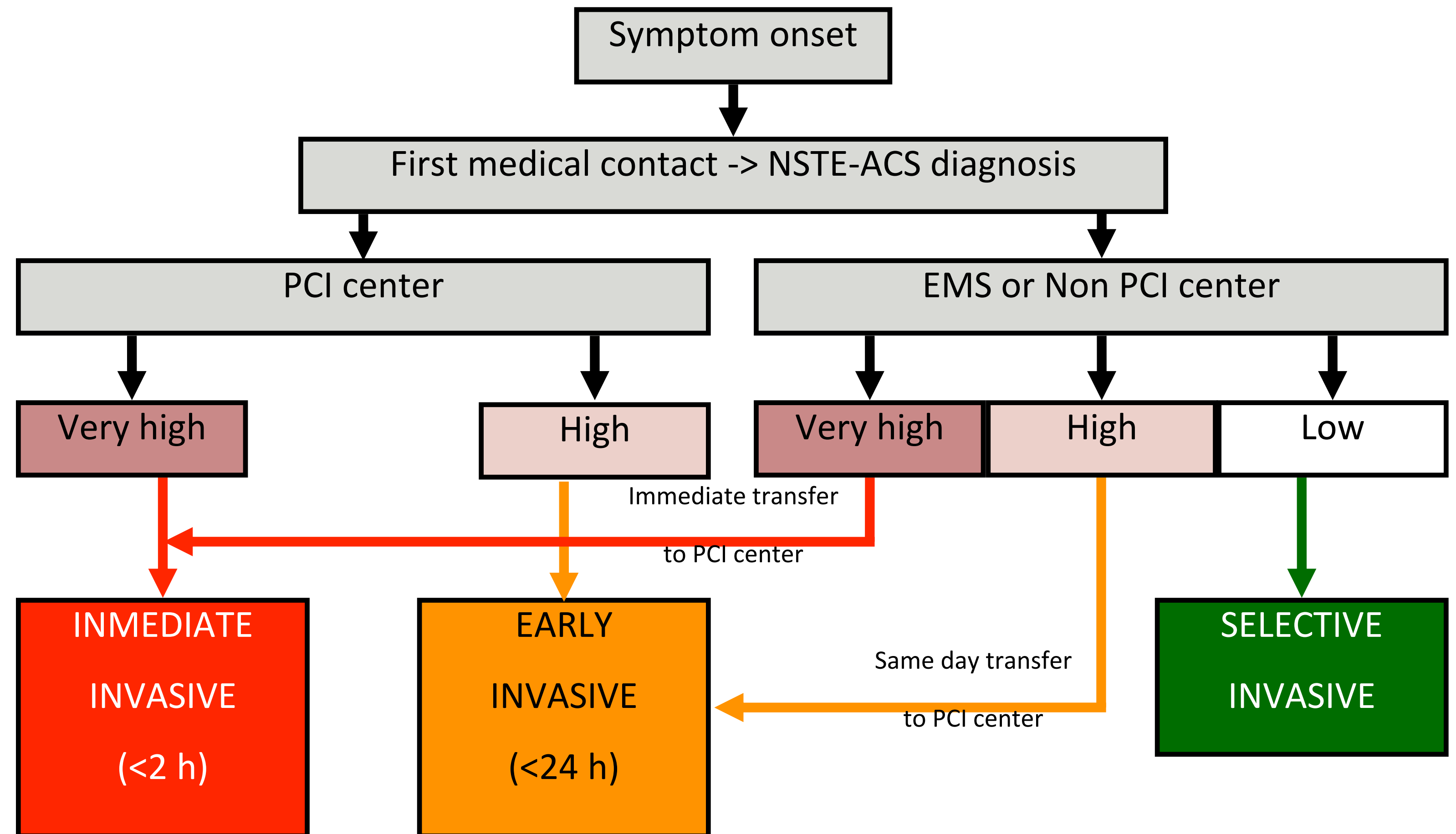
- Haemodynamic instability
- Cardiogenic shock
- Recurrent/refractory chest pain despite medical treatment
- Life-threatening arrhythmias
- Mechanical complications of MI
- Acute heart failure clearly related to NSTEMI-ACS
- ST-segment depression >1 mm/6 leads plus ST-segment elevation aVr and/or V1

High risk

- Established NSTEMI diagnosis
- Dynamic new or presumably new contiguous ST/T-segment changes (symptomatic or silent)
- Resuscitated cardiac arrest without ST-segment elevation or cardiogenic shock
- GRACE risk score >140

Low risk

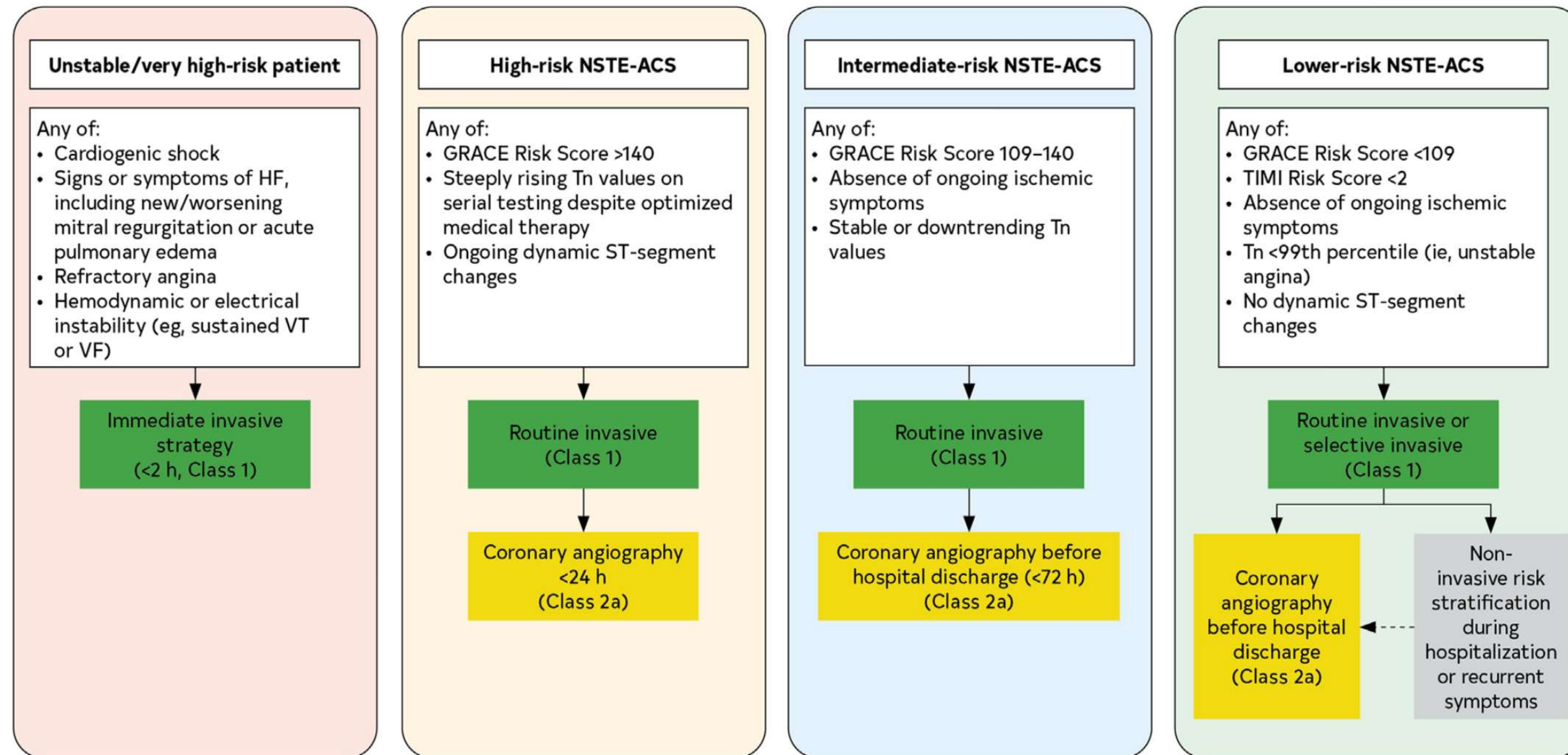
Lack of any of the very high or high risk characteristics



Fuente: 1. Eur Heart J. 2020 Aug 29;ehaa575. doi: 10.1093/eurheartj/ehaa575. Online ahead of print.

ESTRATIFICACIÓN DE RIESGO EN EL SCASEST

Choice and Timing of Management Strategy in NSTEMI-ACS



Fuente:

1. J Am Coll Cardiol. 2025 Jun 10;85(22):2135-2237. doi: 10.1016/j.jacc.2024.11.009. Epub 2025 Feb 27.
2. Eur Heart J. 2020 Aug 29;ehaa575. doi: 10.1093/eurheartj/ehaa575. Online ahead of print.

UTILIDAD DE LOS SCORE DE RIESGO

THROMBOLYSIS IN MYOCARDIAL INFARCTION (TIMI) RISK SCORE

	Puntos
Edad ≥ 65 años	1
≥ 3 factores de riesgo de cardiopatía isquémica	1
• Historia familiar • HTA • Diabetes mellitus • Hipercolesterolemia • Hábito tabáquico	
Estenosis coronaria conocida (infarto de miocardio previo, intervencionismo coronario o cirugía previa o lesiones coronarias conocidas de $> 50\%$)	1
ECG: desviación del segmento ST $> 0,5$	1
Angina grave (≥ 2 episodios en 24h, prolongada y en reposo)	1
Toma de AAS en los últimos 7 días	1
Elevación de los marcadores cardíacos (CK-MB y Tn)	1

- Bajo Riesgo: 0-2 puntos.
- Riesgo Intermedio: 3-5 puntos.
- Riesgo Alto: > 5 puntos.

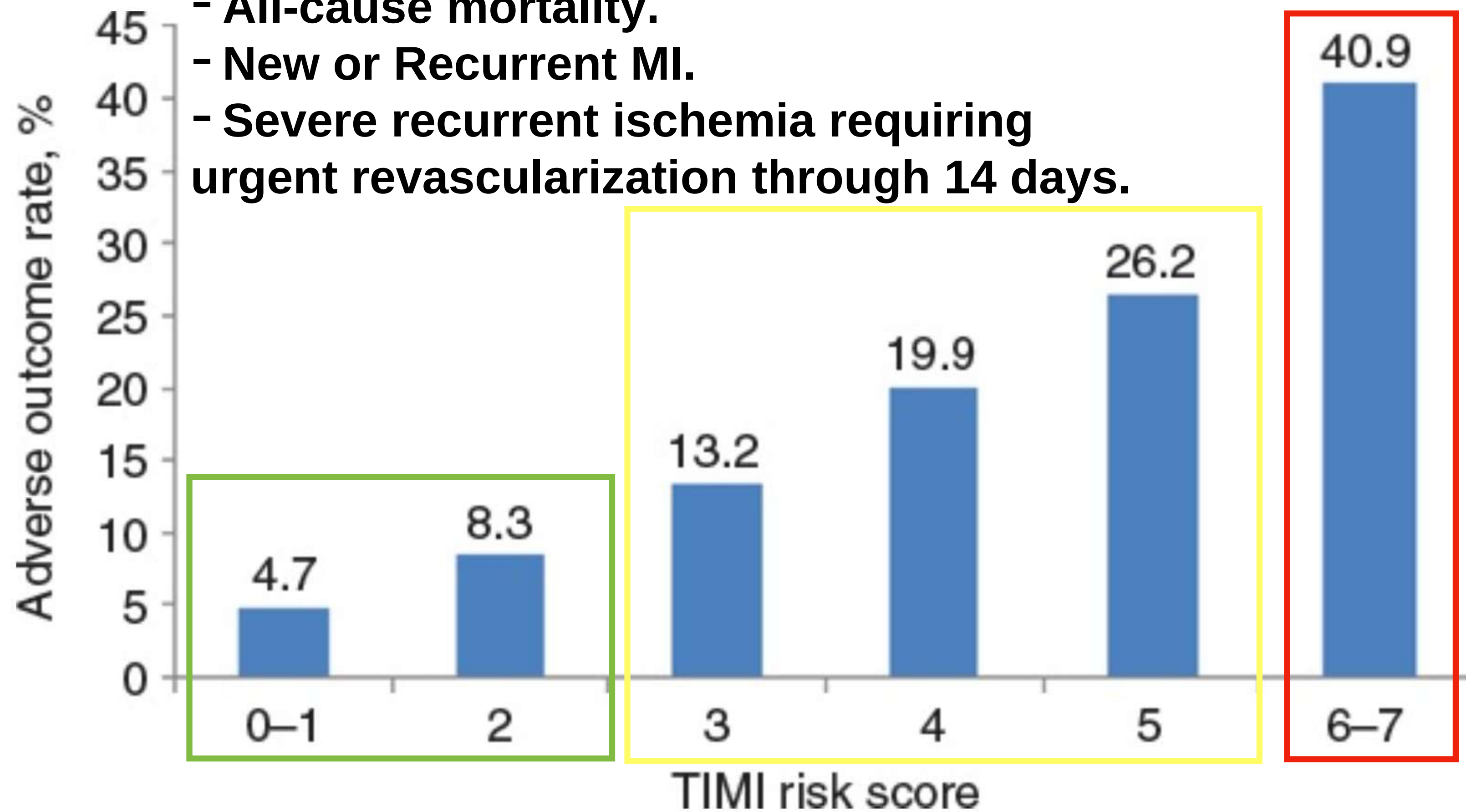
Fuente:

1. CIVEIRA MURILLO, E. et al. Med. Intensiva, Barcelona ,v. 34,n. 1,p. 22-45,feb. 2010
2. AHA/ACC NSTEMI-ACS Guideline JACC VOL. 64, NO. 24, 2014:e139–228

UTILIDAD DE LOS SCORE DE RIESGO

THROMBOLYSIS IN MYOCARDIAL INFARCTION (TIMI) RISK SCORE

- All-cause mortality.
- New or Recurrent MI.
- Severe recurrent ischemia requiring urgent revascularization through 14 days.



Fuente: 1. J Am Coll Cardiol. 2007;50(7):e1-e157

UTILIDAD DE LOS SCORE DE RIESGO

THROMBOLYSIS IN MYOCARDIAL INFARCTION (TIMI) RISK SCORE

RISK SCORE COMPONENTS	
Age >65	Two anginal events in prior 24 hours
≥3 CAD risk factors	Use of aspirin in prior 7 days
Prior coronary stenosis of >50% ST-segment deviation on presentation	Elevated serum biomarkers
RISK SCORE	RISK OF DEATH, MI, OR URGENT REVASCULARIZATION
0–1	4.7%
2	8.3%
3	13.2%
4	19.9%
5	26.2%
6–7	40.9%

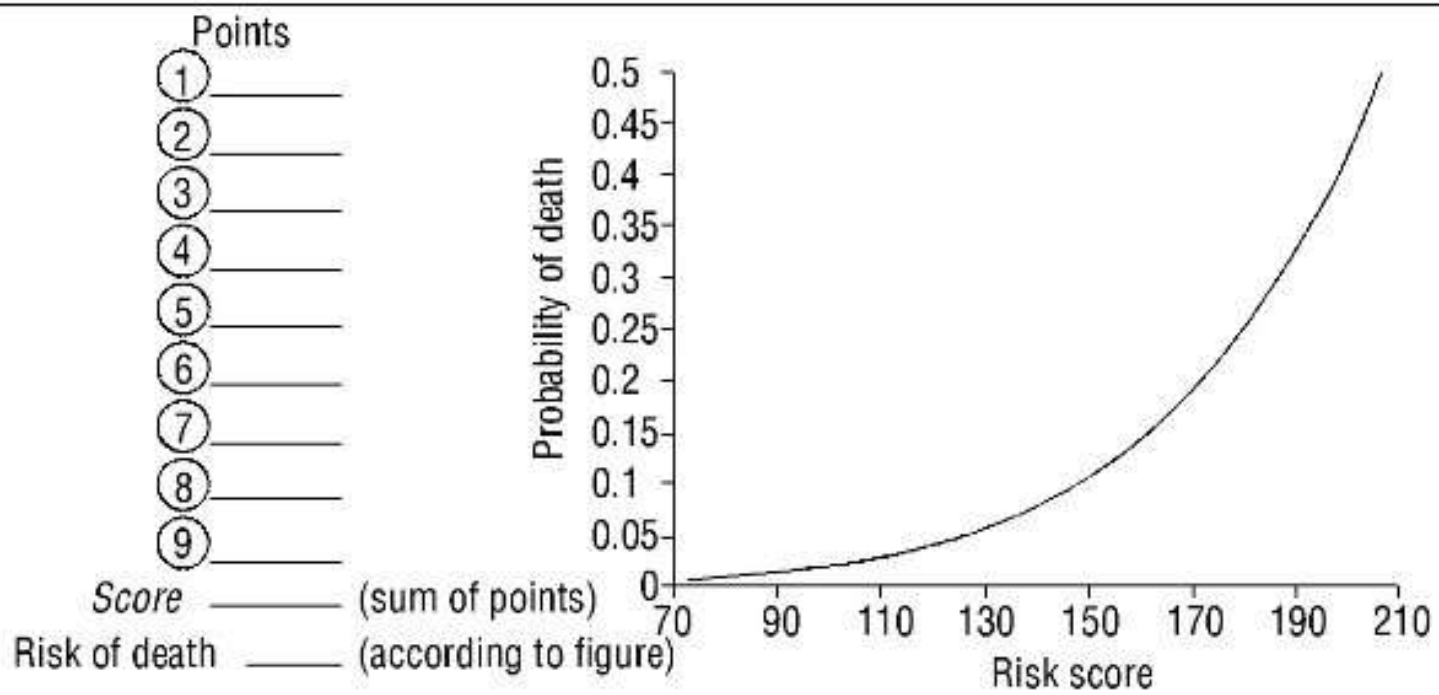
Fuente: 1. J Am Coll Cardiol. 2007;50(7):e1-e157

UTILIDAD DE LOS SCORE DE RIESGO

GLOBAL REGISTRY OF ACUTE CORONARY EVENTS (GRACE) RISK SCORE

Risk category (tertile)	GRACE risk score	In-hospital death (%)
Low	≤108	<1
Intermediate	109–140	1–3
High	>140	>3
Risk category (tertile)	GRACE risk score	Post-discharge to 6-month death (%)
Low	≤88	<3
Intermediate	89–118	3-8
High	>118	>8

Background		Findings at time of admission		Findings during hospital stay	
① Age, y	Points	④ HR at admission, bpm	Points	⑦ Serum creatinine at admission, mg/dL	Points
≤ 29	0	≤ 49.9	0	0-0.39	1
30-39	0	50-69.9	3	0.4-0.79	3
40-49	18	70-89.9	9	0.8-1.19	5
50-59	36	90-109.9	14	1.2-1.59	7
60-69	55	110-149.9	23	1.6-1.99	9
70-79	73	150-199.9	35	2-3.99	15
80-89	91	≥ 200	43	≥ 4	20
≥ 90	100				
② History of heart failure	24	⑤ SAP at admission, mmHg		⑧ Elevated enzymes or markers	15
③ History of AMI	12	≤ 79.9	24	⑨ No percutaneous revascularisation	14
		80-99.9	22		
		100-119.9	18		
		120-139.9	14		
		140-159.9	10		
		160-199.9	4		
		≥ 200	0		
		⑥ Depressed ST segment	11		



Fuente: 1. Rev Esp Cardiol. 2010;63:640-8 - Vol. 63 Num.06

CHEST PAIN IN THE EMERGENCY ROOM: VALUE OF THE HEART SCORE

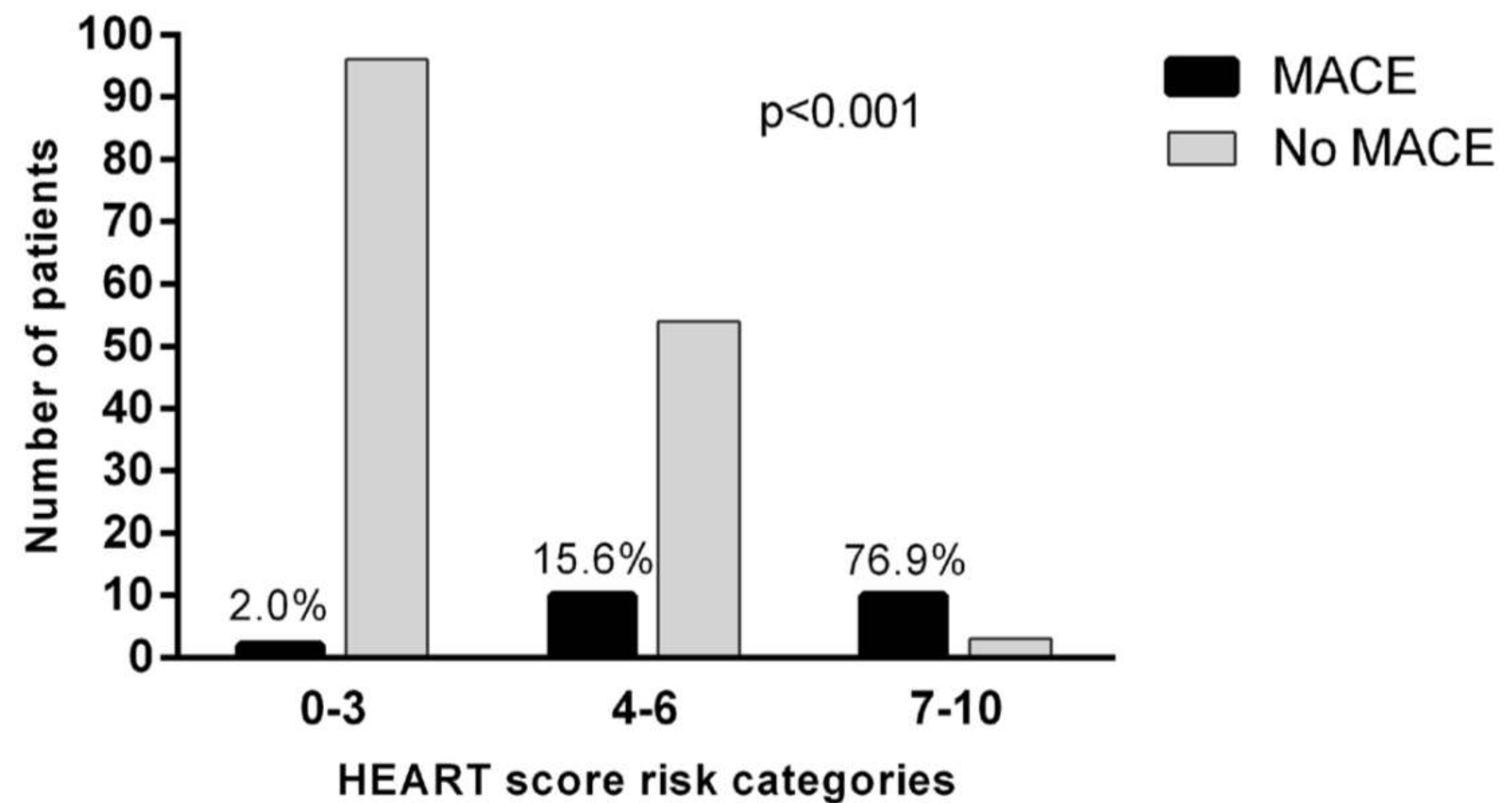
HEART score for chest pain patients		Score
<u>H</u> istory	Highly suspicious	2
	Moderately suspicious	1
	Slightly suspicious	0
<u>E</u> CG	Significant ST depression	2
	Nonspecific repolarisation disturbance	1
	Normal	0
<u>A</u> ge	≤65 year	2
	45-65 year	1
	<45 year	0
<u>R</u> isk factors	≥3 risk factors or history of atherosclerotic disease	2
	1 or 2 risk factors	1
	No risk factors known	0
<u>T</u> roponin	>2x normal limit	2
	1-2x normal limit	1
	≤normal limit	0
		Total

Fuente: 1. Neth Heart J 2008;16:191-6
2. J Am Heart Assoc. 2017;6:e005373. DOI: 10.1161/JAHA.116.005373

UTILIDAD DE LOS SCORE DE RIESGO

CHEST PAIN IN THE EMERGENCY ROOM: VALUE OF THE HEART SCORE

Incidence of 6-week MACE in each HEART score



Fuente: 1. Leite et al. BMC Cardiovascular Disorders (2015) 15:48

UTILIDAD DE LOS SCORE DE RIESGO

PREDICTING IN-HOSPITAL MORTALITY IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION

Risk Score Calculator

Age	Pts	SBP	Pts	CrCl	Pts	Cardiac Arrest	Pts	Shock	Pts	Heart Rate	Pts	Heart Failure	Pts	STEMI	Pts	Troponin	Pts
<40	0	>200	0	>95	0	No	0	No	0	<40	0	No	0	No	0	<1	0
40-49	3	181-200	3	60-90	4	Yes	14	Yes	13	41-60	1					1-10	0
		171-180	5							61-70	2					10-20	1
										71-80	3					20-30	2
		161-170	7							45-60	8					81-100	4
50-59	7			101-110	5												
				111-130	7												
60-69	9	151-160	9	131-150	8												
		131-150	11	30-45	11					>150	9						
				121-130						13							
70-79	13	111-120	15	<30 or Dialysis	15												
		80-89	17	91-110	16												
>90	20	≤90	19														

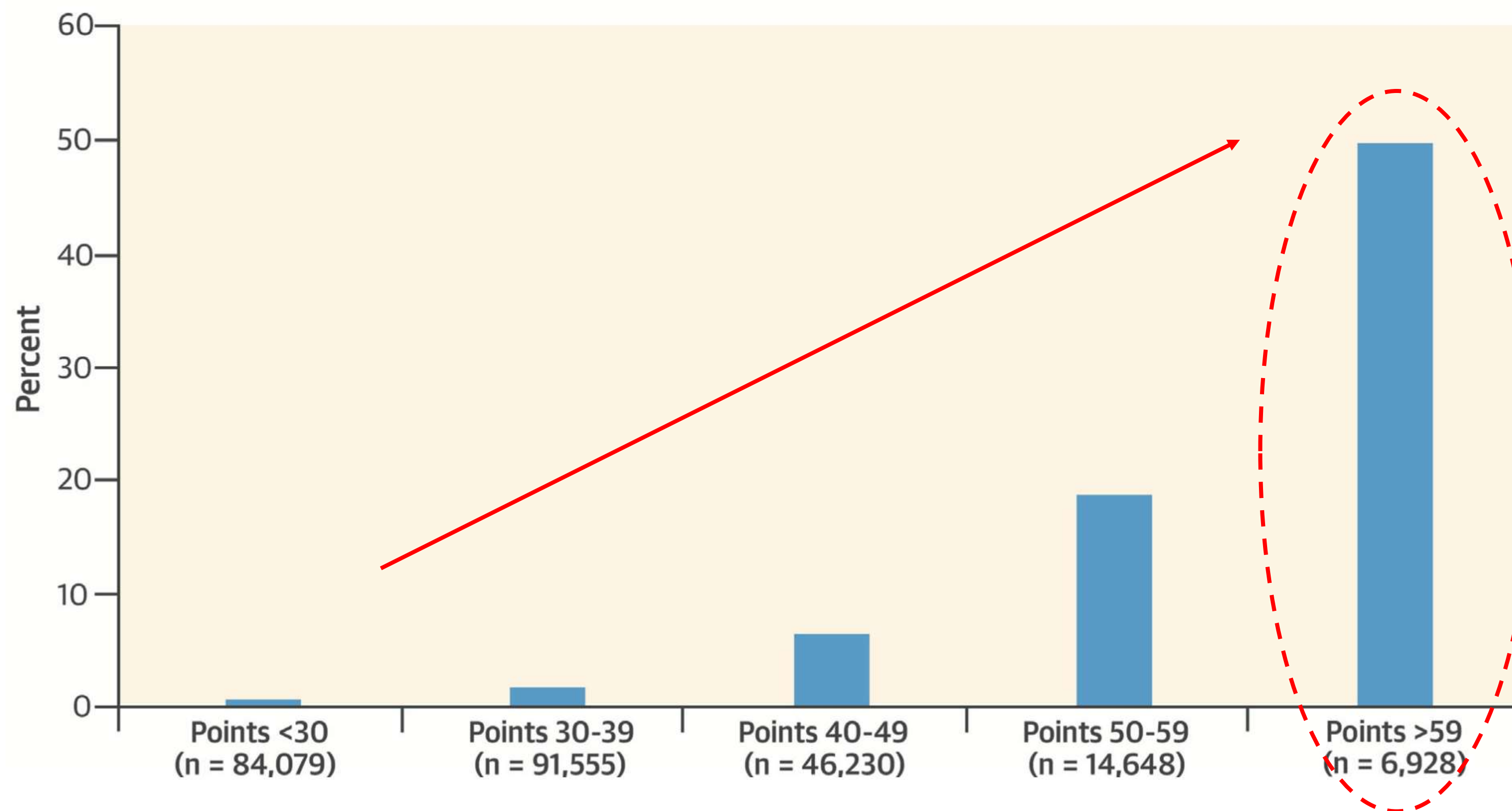
61 pts.

Fuente: 1. J Am Coll Cardiol. 2016 Aug 9;68(6):626-35. doi: 10.1016/j.jacc.2016.05.049

UTILIDAD DE LOS SCORE DE RIESGO

PREDICTING IN-HOSPITAL MORTALITY IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION

Observed in-hospital mortality for the Validation Cohorts by Risk Score Subgroups



Fuente: 1. J Am Coll Cardiol. 2016 Aug 9;68(6):626-35. doi: 10.1016/j.jacc.2016.05.049

UTILIDAD DE LOS SCORE DE RIESGO

A RISK SCORE TO PREDICT BLEEDING IN PATIENTS WITH ACUTE CORONARY SYNDROMES ACUITY/HORIZONS (Mehran et al)

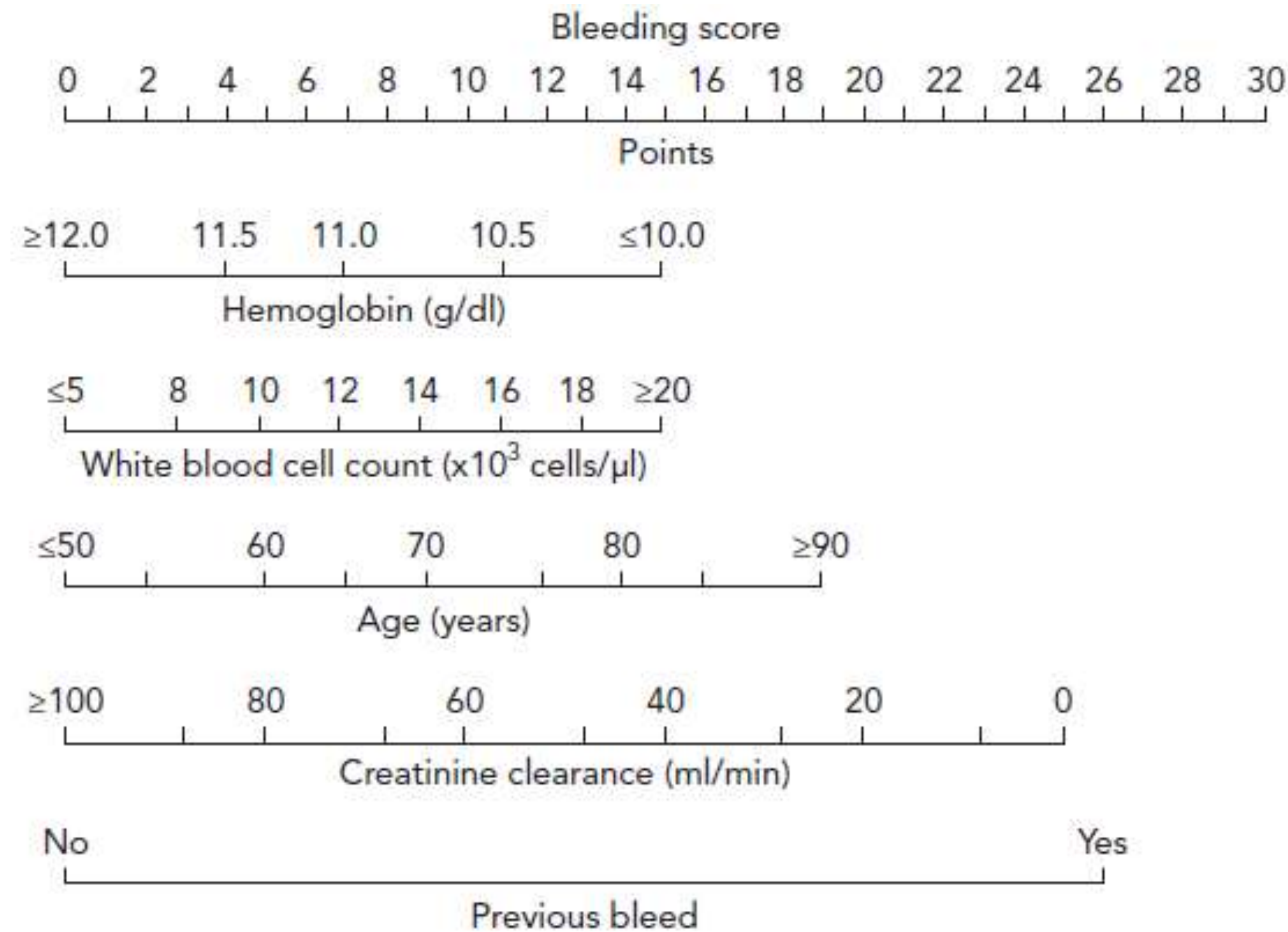
								Add to score
Gender	Male 0			Female +8				
Age (years)	<50 0	50-59 +3	60-69 +6	70-79 +9	≥80 +12			
Serum creatinine (mg/dl)	<1.0 0	1.0- +2	1.2- +3	1.4- +5	1.6- +6	1.8- +8	≥2.0 +10	
White blood cell count (giga/l)	<10 0	10- +2	12- +3	14- +5	16- +6	18- +8	≥20 +10	
Anemia	No 0			Yes +6				
Presentation	STEMI +6		NSTEMI - Raised biomarkers +2		NSTEMI - Normal biomarkers 0			
Antithrombotic medications	Heparin plus a GPI 0			Bivalirudin monotherapy -5				
	Total Score*							

Risk Category	Integer Score
Low	<10
Moderate	10-14
High	15-19
Very high	≥20

Fuente: 1. J Am Coll Cardiol 2010;55:2556–66

UTILIDAD DE LOS SCORE DE RIESGO

THE PREDICTIVE VALUE OF PRECISE-DAPT SCORE FOR IN-HOSPITAL MORTALITY IN PATIENTS WITH STEMI



PRECISE-DAPT
Low (≤17)
Moderate (18–24)
High (>24)

Fuente: 1. Angiology. 2019 May;70(5):440-447. doi: 10.1177/0003319718807057. Epub 2018 Oct 15.

CONCLUSIONES

- * Los SCA son situaciones que **comprometen potencialmente la vida**, por lo que una estratificación de riesgo de los pacientes nos brindará información no sólo sobre su estado actual, sino también sobre su tratamiento y/o pronóstico.
- * Según sea un SCACEST o un SCASEST nos brindará información en cuanto a **pronóstico y/o tiempo de intervención**.
- * Los diferentes scores de riesgo, tanto para isquemia como para sangrado, nos permiten **estratificar mejor a los pacientes**.
- * Diferentes aplicaciones en SmartPhones nos permiten acceder de forma **rápida, fácil y gratuita** a ellos.



gracias

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