



# Estrategia Fármaco-Invasiva en el tratamiento del IMcEST en América Latina

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Ex Presidente de la Sociedad Venezolana de Cardiología Intervencionista  
Secretario de la Sociedad Latinoamericana de Cardiología  
Intervencionista

**NO EXISTE CONFLICTO DE INTERÉS**

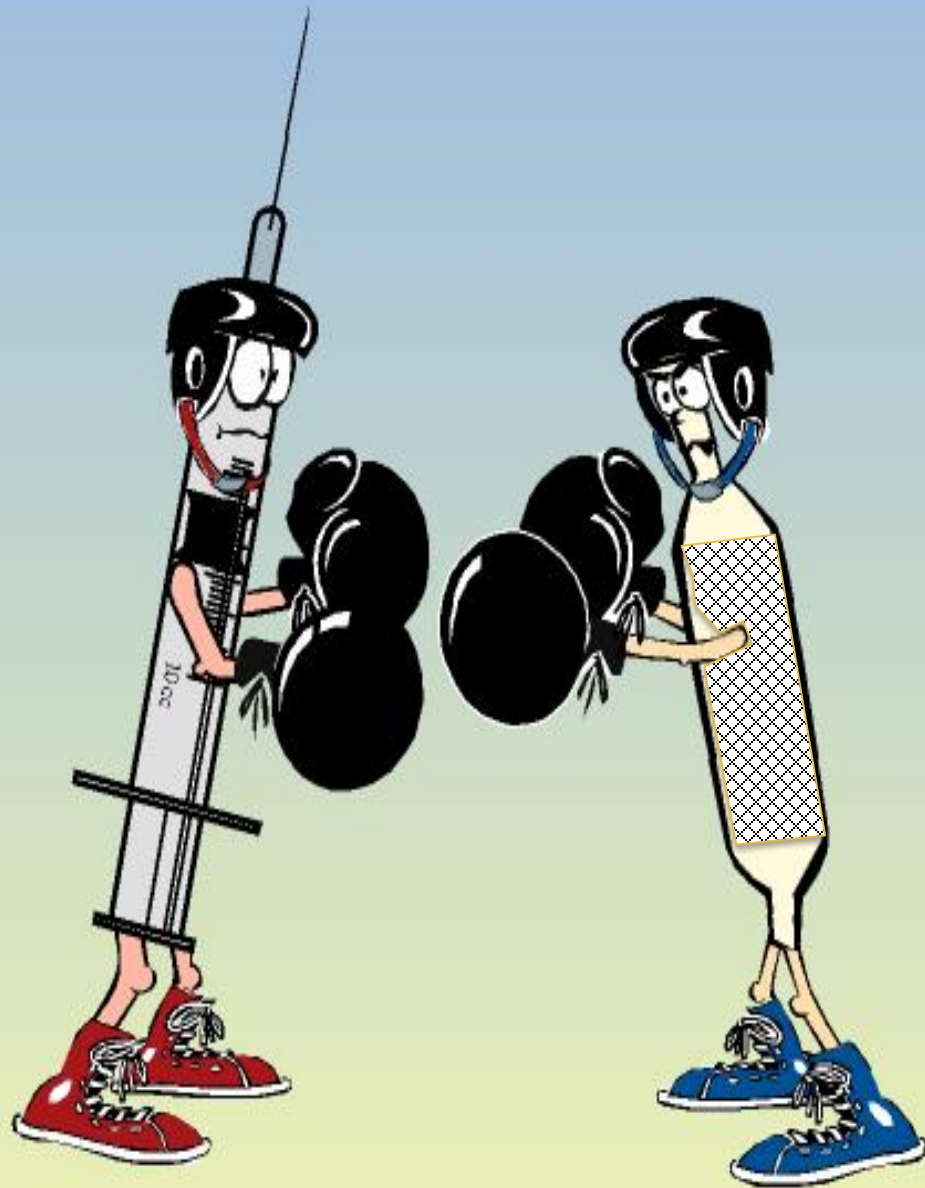
# Estrategia Fármaco-Invasiva en el tratamiento del IMcEST

- Definiciones
- Evidencias clínicas en angioplastia Fármaco-Invasiva
- Impacto de la estrategia Fármaco-Invasiva
- América Latina: Argentina, Brasil, México, Venezuela



- Conclusiones

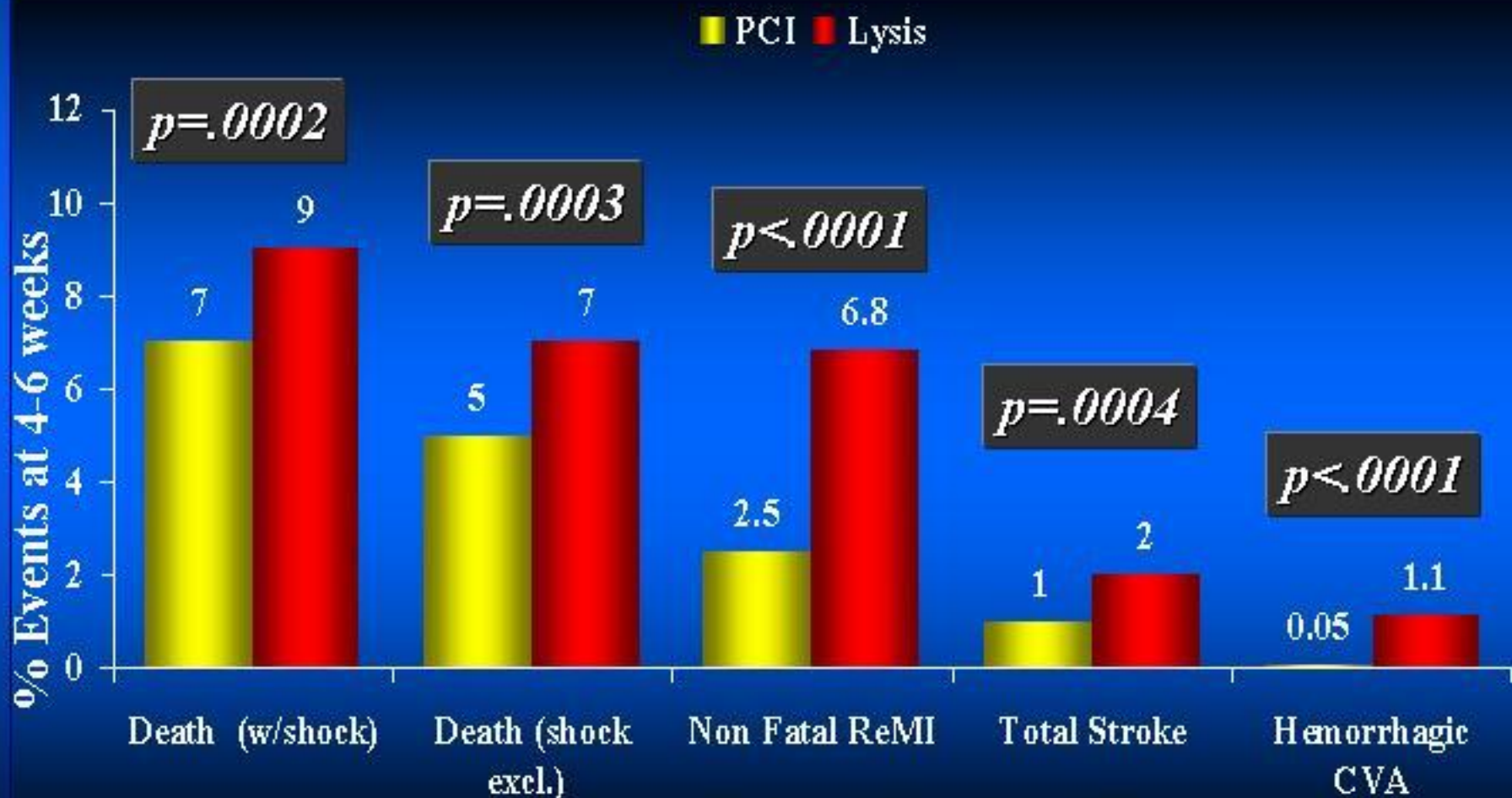
# *Enemigos??*



La angioplastia primaria es claramente superior a la fibrinolisis en el tratamiento del IAMCEST



# Meta-Analysis of 23 Randomized Trials of PCI vs Lysis (n=7739)



Keeley and Grines, *Lancet* 2003

*Congreso CACI 2019*

***"ESTA ES UNA  
REUNIÓN DE  
EXPERTOS"***





Escuela de Ski  
Grupos Colectivos  
ADULTO

NIVEL  
PRINCIPIANTE

VALLE NEGRO  
SKI RESORT



# SCACEST

La Angioplastia Primaria es la **mejor estrategia de *reperusión*** en el tratamiento del IAM, siempre y cuando, el paciente tenga acceso a ella en un lapso **menor** a 120 min.

# La Paradoja!

## Fibrinolisis

Disponibilidad máxima

10% re-occlusion

25% oclusión tardía

54% TIMI 3

1% stroke

100%

50%

0%

## Angioplastia Primaria

Baja Disponibilidad

< 5% re-occlusion

>90% TIMI 3

0.1% stroke

0%

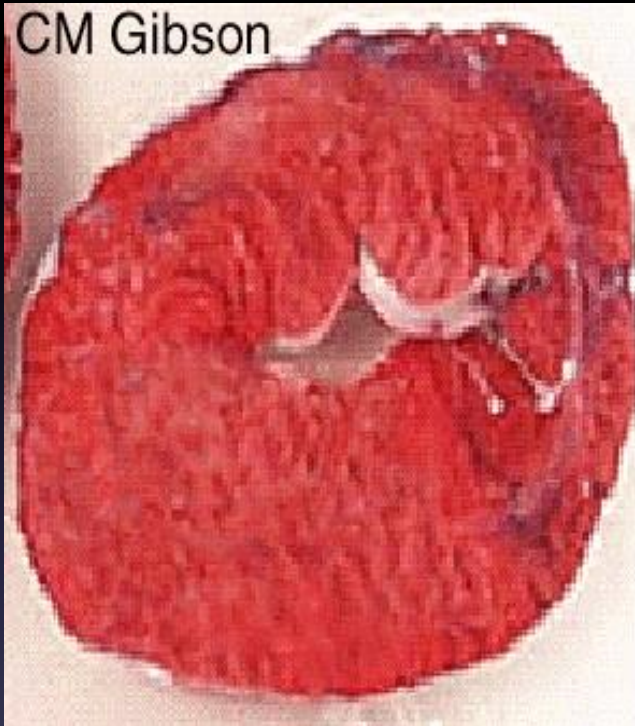
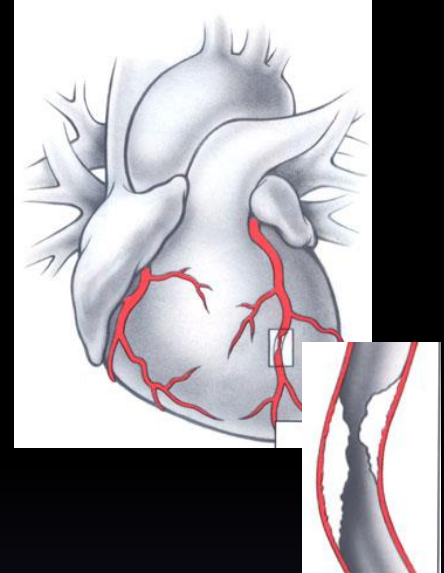
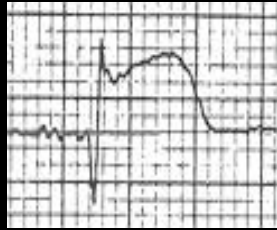
50%

100%

*¿Debemos ver la reperfusión coronaria efectiva como un fenómeno del todo o nada en el Infarto Transmural?*

*Sí!!!*

**SCASTE**



**¡Retrasar el tratamiento equivale a negarlo!**

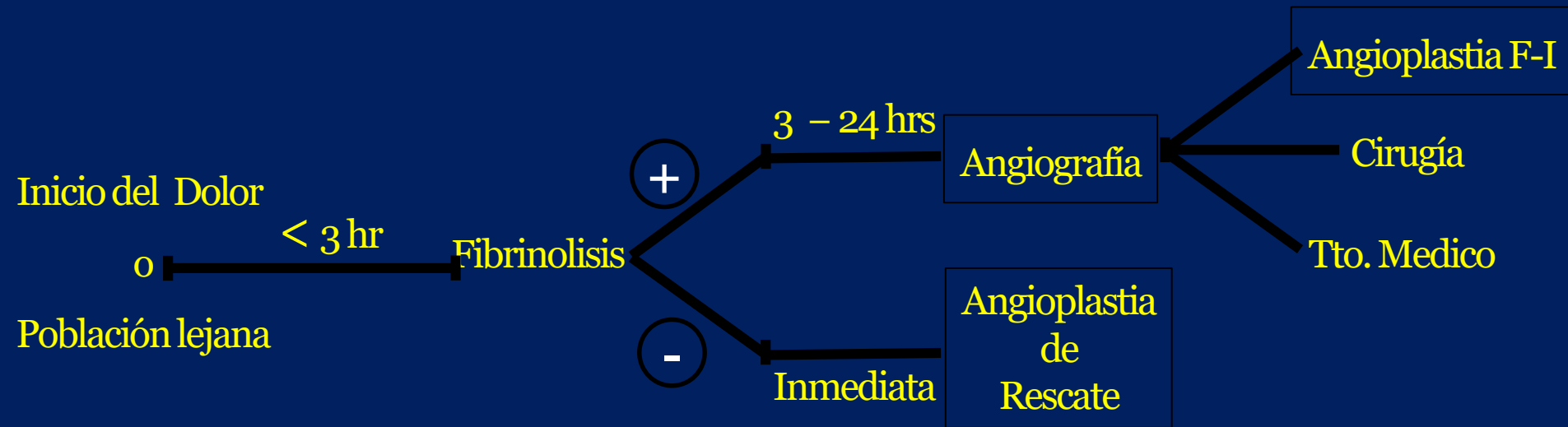
Giuseppe De Luca



# Definición

- **Angioplastia** primaria
- «**Angioplastia**» fármaco-invasiva

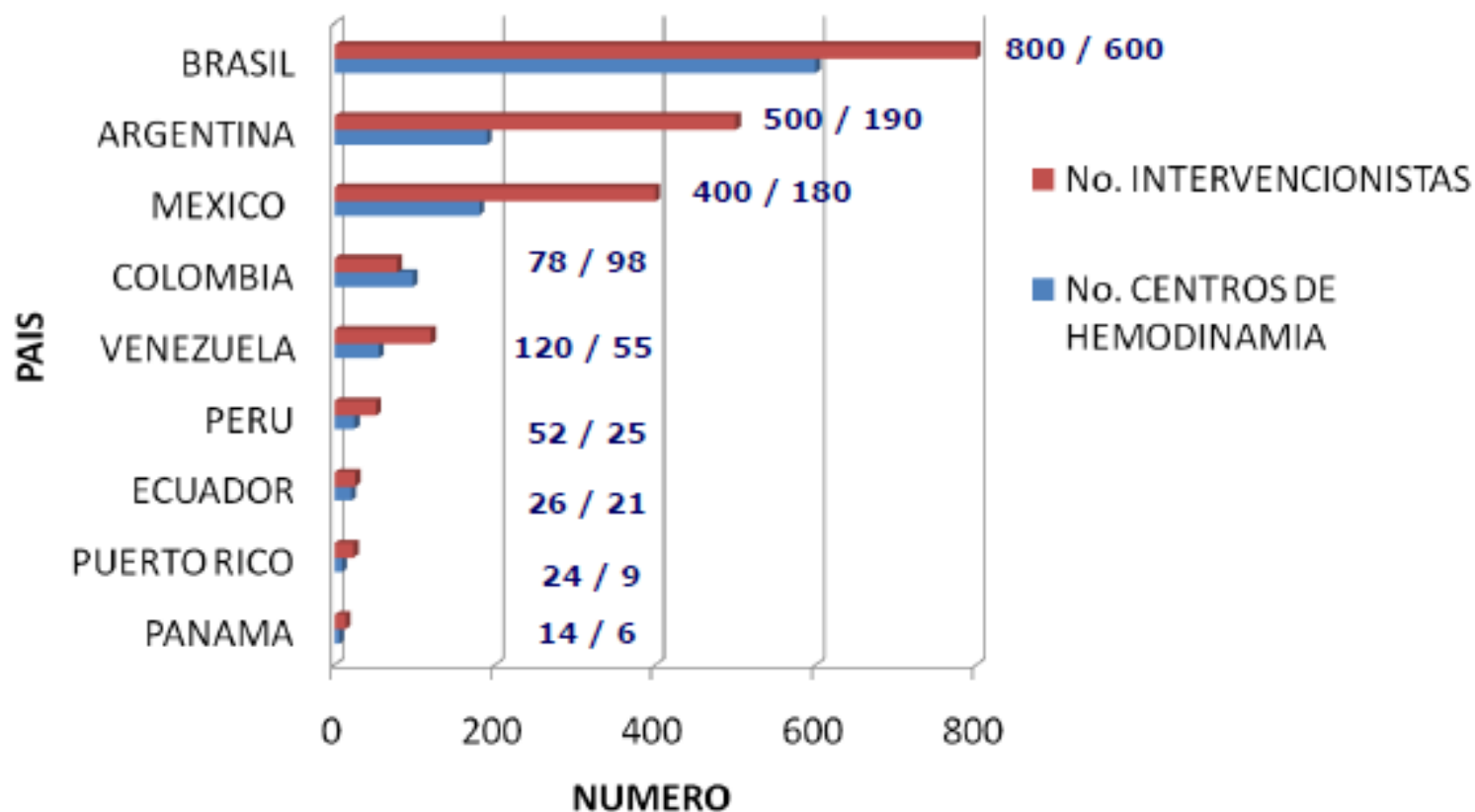
# Diagrama para angioplastia fármaco-invasiva







## Número de Intervencionistas Activos / Centros de Hemodinamia - LA

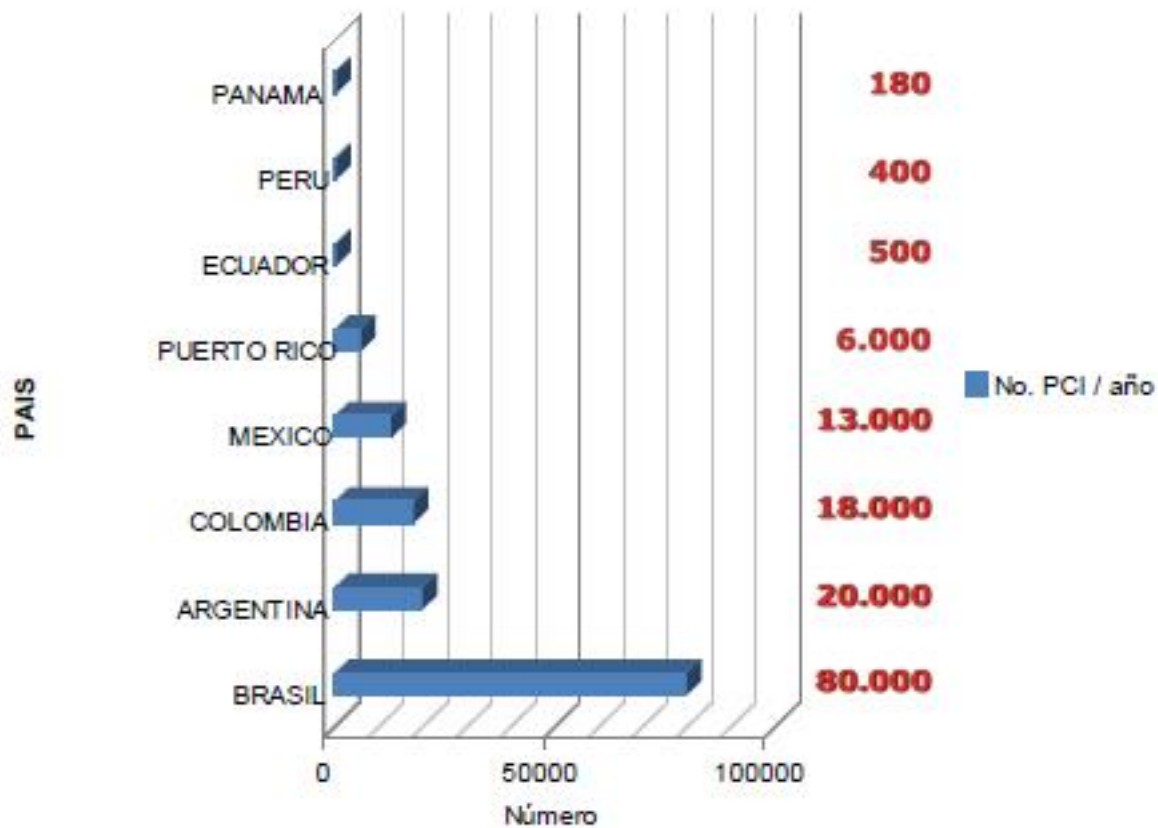


Fuente: Reunión Presidentes Sociedades de Intervencionismo Cardiovascular de LA. Miami, Abril 2011.





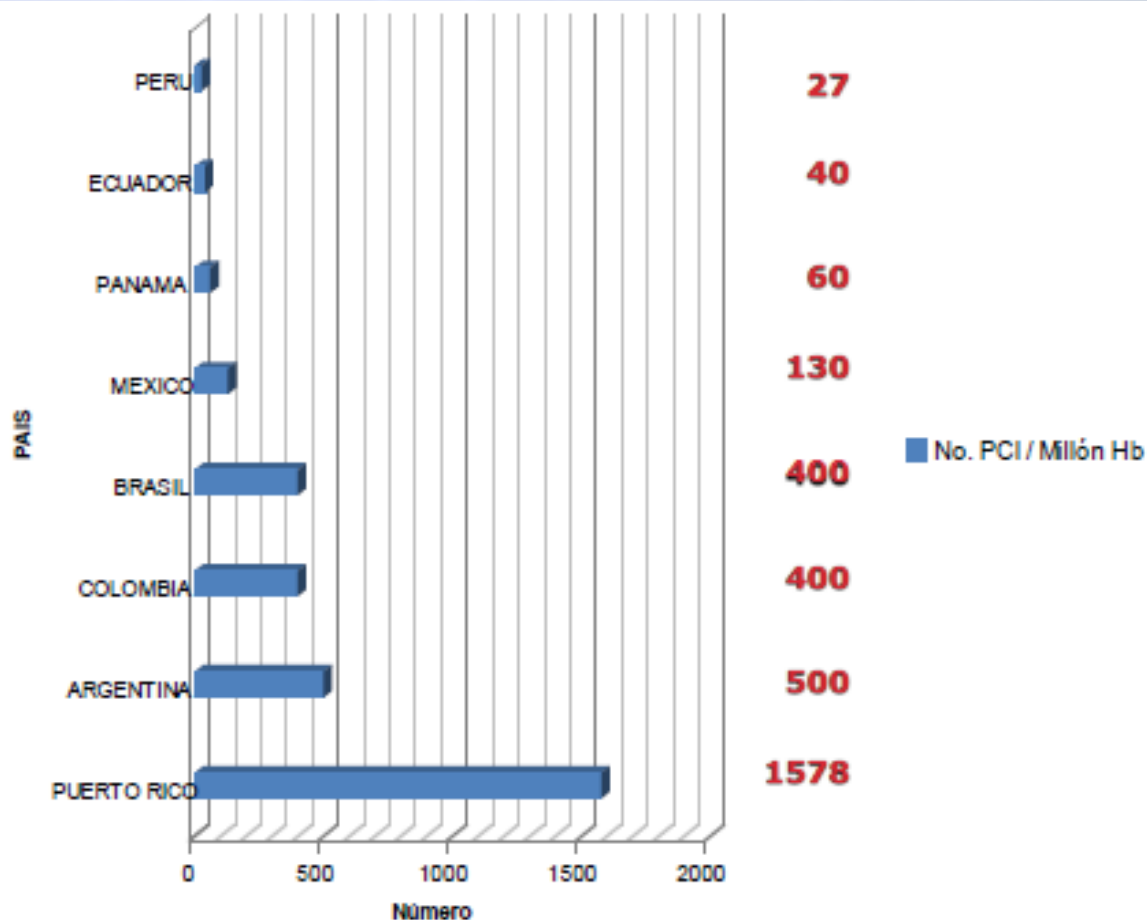
# No. PCI / AÑO - LA



Fuente: Reunión Presidentes Sociedades de Intervencionismo Cardiovascular de LA. Miami, Abril 2011.



# PCI / Millón Hb - LA





# Estado Actual de la Cardiología Intervencionista en Venezuela

---

- 55 Centros en total con Laboratorios de Hemodinámica
- 42 Centros Privados (76 %) solo 3% está asegurada
- 13 Centros Públicos / 42 Hospitales
- 30 % de los Centros Públicos cuentan con Laboratorio de Hemodinámica.
- 75 % se encuentran en el Dtto. Capital
- sí se va a infartar en Venezuela, por favor HAGALO EN CARACAS

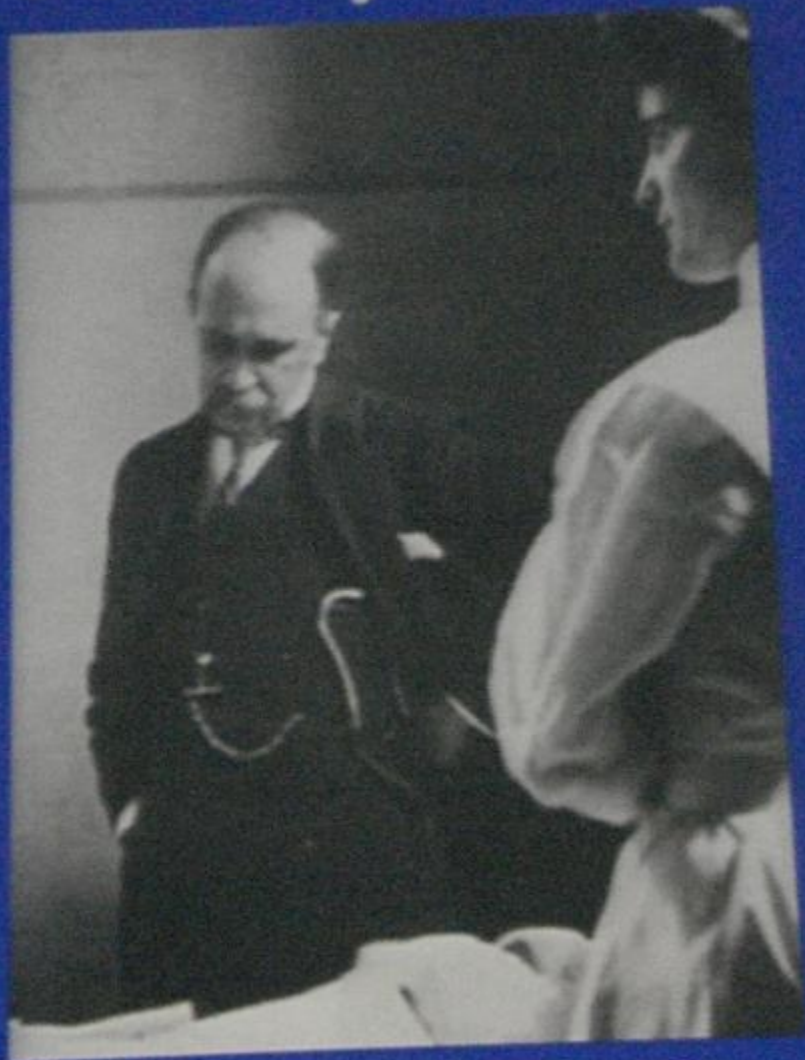


# Estado Actual de la Cardiología en Venezuela

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- Registro Nacional RESCA : 497 pacientes / 2010
- Hospitales públicos y privados
- Trombolisis: 15 %
- Angioplastia: 6 %
- 79% Sin Estrategia de reperfusión !!!!!!!!

Just 50 years ago









*Les propongo señoras y señores :*

*!!! Hoy lo importante sea  
conocer **NUESTRA***

***REALIDAD***

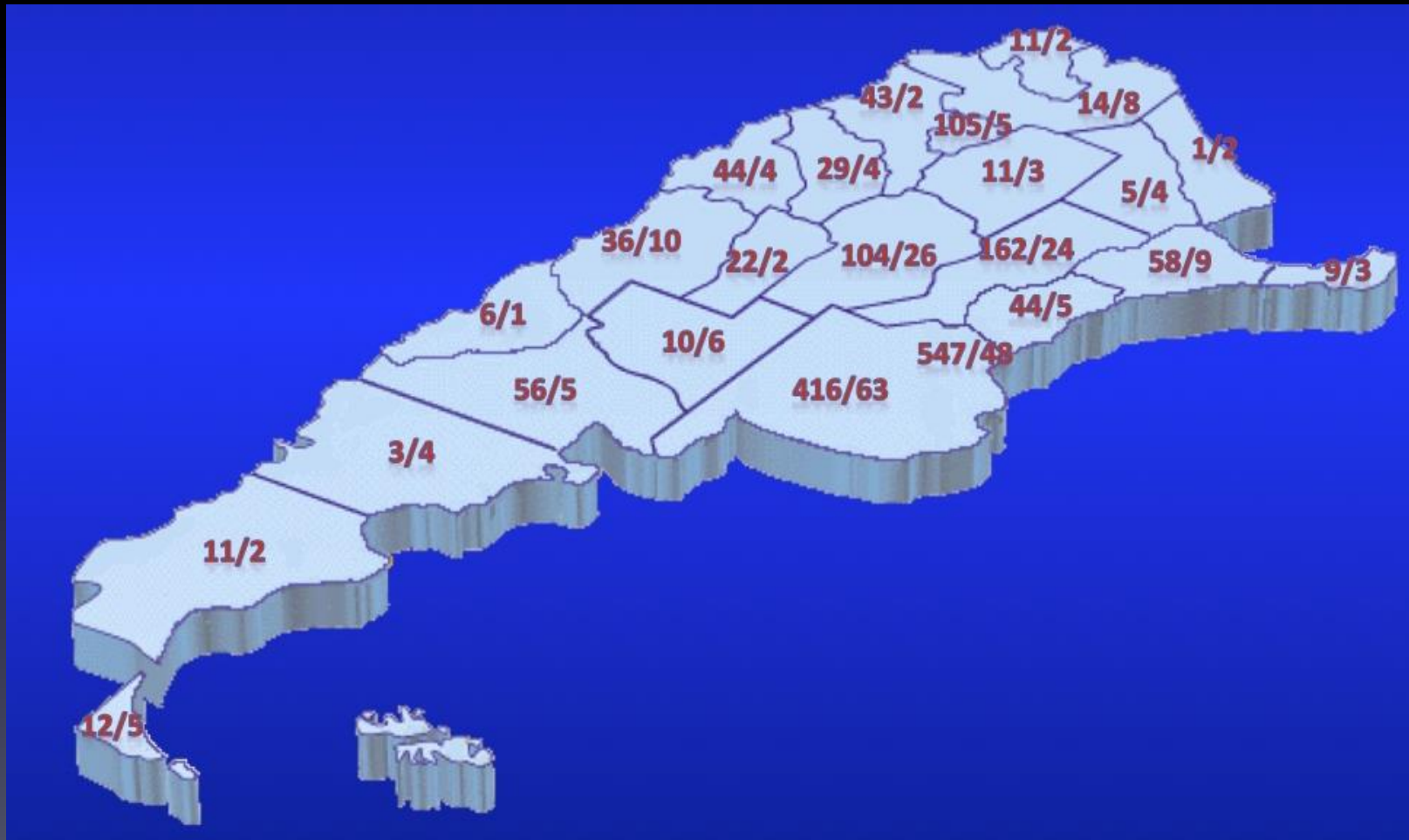
*latinoamericana*

***LES PARECE???***



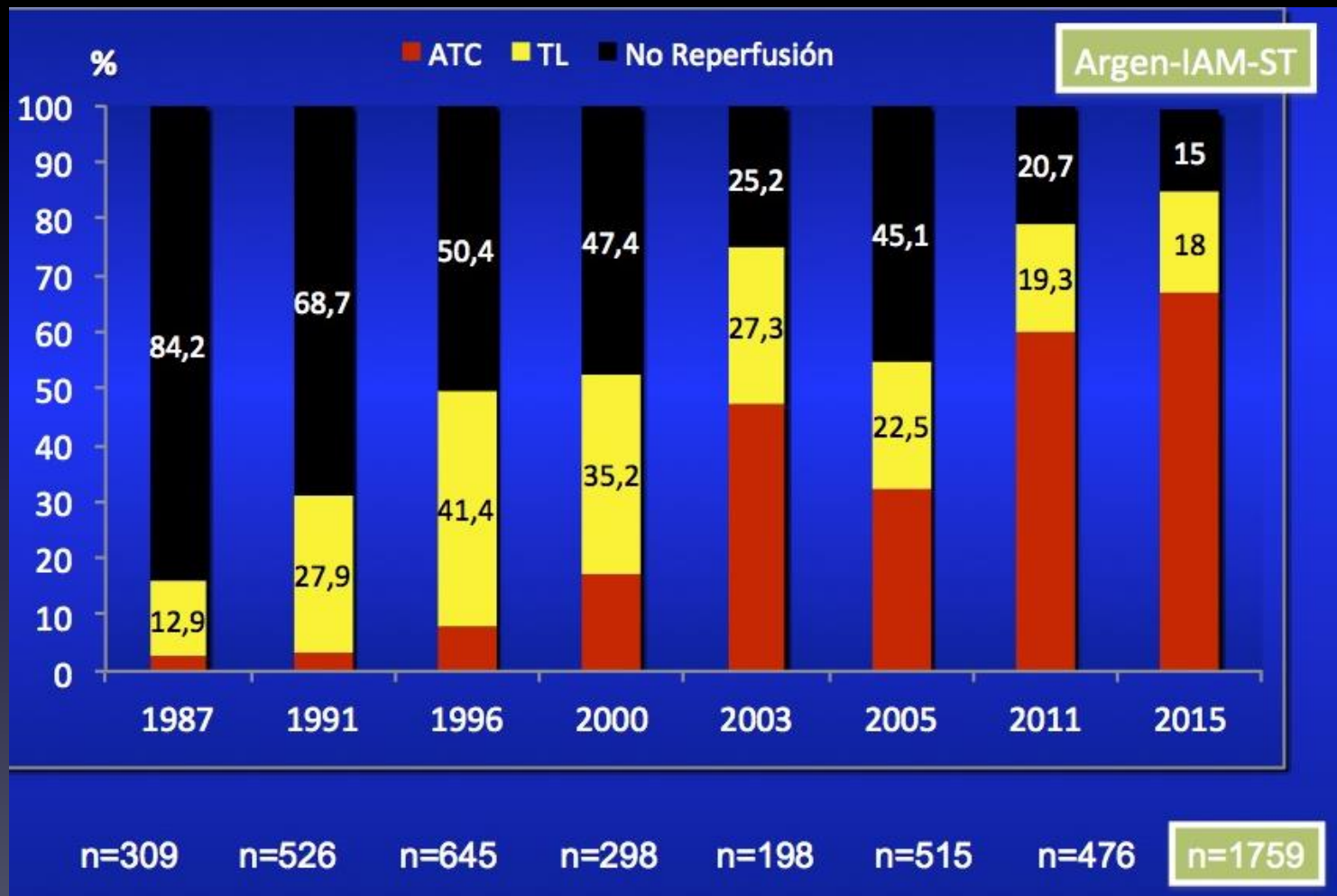


# Número de IAM / Centros



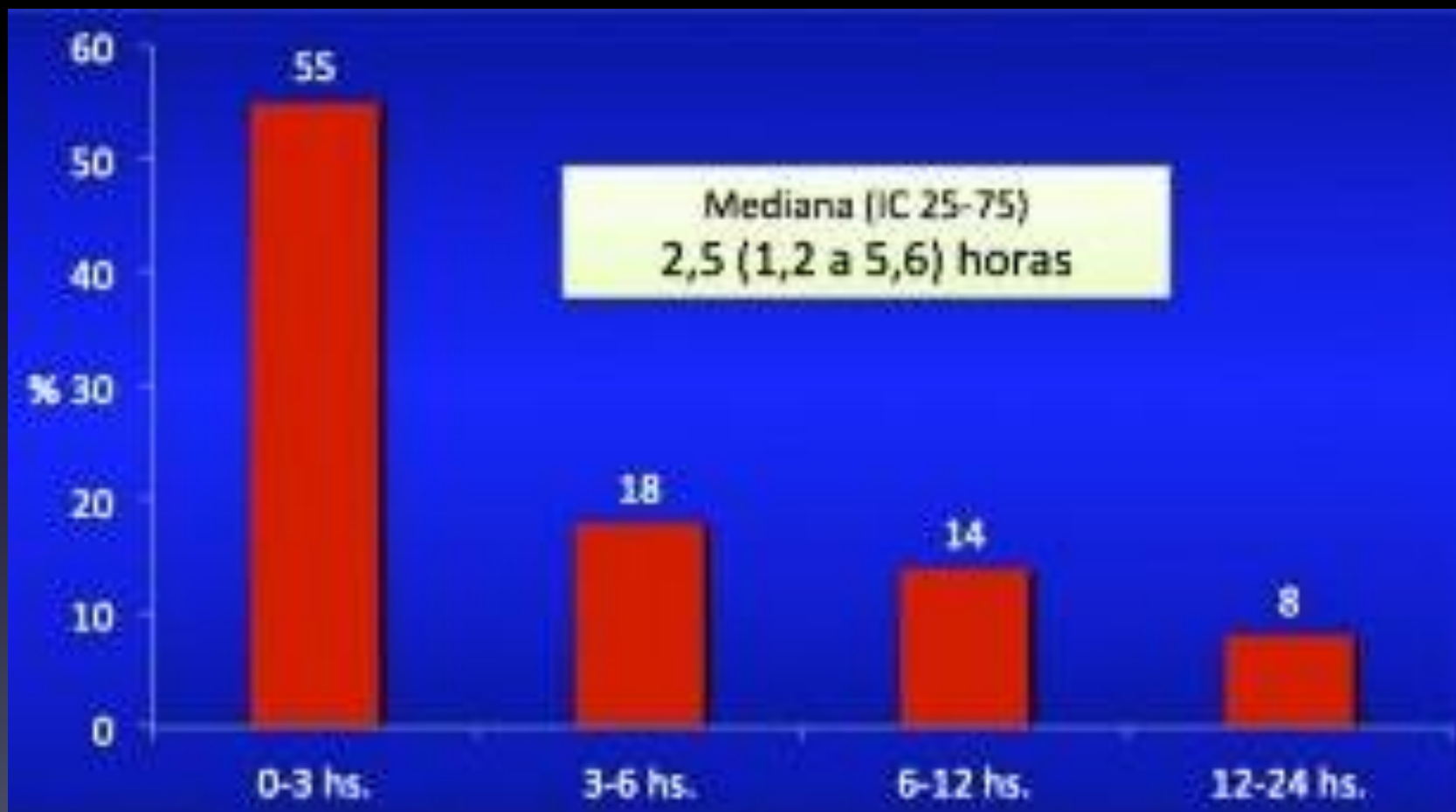


# Evolución de la reperfusión en Argentina





## Demora dolor – ingreso (n=1670)





# EPICOR Study

## Data from Venezuela

Pedro Hidalgo

Congreso Venezolano de Cardiología, 2015



# Objetivo principal

Describir las pautas de manejo antitrombótico (PMA) en el marco de la práctica clínica real en pacientes hospitalizados con síndrome coronario agudo (es decir, IMCEST, SCASEST)

# Manejo intervencionista de los SCA

## Estudio EPICOR SCA- Venezuela

	STEMI (n=241)	NSTEMI (n=274)
Time (h) from symptom onset to ECG:		
median	3.6	4.0
range	0.1-250	0.1-81
n	212	222
PCI		
median	15	28
range	0-361	0-144
n	81	47
Subjects with any procedure, n (%)	98 (41%)	87 (32%)
Number of stents, n (%)		
0	6 (6%)	0 (0%)
1	51 (52%)	30 (34%)
2	20 (20%)	9 (10%)
≥3	1 (1%)	1 (1%)



**ORDEM E PROGRESSO**



## ST-Elevation Myocardial Infarction Network: Systematization in 205 Cases Reduced Clinical Events in the Public Health Care System

Ana Christina Vellozo Caluza<sup>2</sup>, Adriano H. Barbosa<sup>1</sup>, Iran Gonçalves<sup>1</sup>, Carlos Alexandre L. de Oliveira<sup>1</sup>, Livia Nascimento de Matos<sup>1</sup>, Claus Zeefried<sup>2</sup>, Antonio Célio C. Moreno<sup>3</sup>, Elcio Tarkieltaub<sup>4</sup>, Cláudia Maria R. Alves<sup>1</sup>, Antonio Carlos Carvalho<sup>1</sup>  
UNIFESP - Escola Paulista de Medicina - Disciplina de Cardiologia<sup>1</sup>; Serviço de Atendimento Móvel de Urgência - SAMU<sup>2</sup>; Coordenadoria Técnica de Cardiologia - Secretaria de Saúde da Prefeitura Municipal de São Paulo<sup>3</sup>; Hospital Municipal Prof. Dr. Allpio Correa Netto<sup>4</sup>, São Paulo, SP - Brazil

### Abstract

**Background:** The major cause of death in the city of São Paulo (SP) is cardiac events. At its periphery, in-hospital mortality in acute myocardial infarction is estimated to range between 15% and 20% due to difficulties inherent in large metropolises.

**Objective:** To describe in-hospital mortality in ST-segment elevation acute myocardial infarction (STEMI) of patients admitted via ambulance or peripheral hospitals, which are part of a structured training network (STEMI Network).

**Methods:** Health care teams of four emergency services (Ermelino Matarazzo, Campo Limpo, Tatuapé and Saboya) of the periphery of the city of São Paulo and advanced ambulances of the Emergency Mobile Health Care Service (abbreviation in Portuguese, SAMU) were trained to use tenecteplase or to refer for primary angioplasty. A central office for electrocardiogram reading was used. After thrombolysis, the patient was sent to a tertiary reference hospital to undergo cardiac catheterization immediately (in case of failed thrombolysis) or in 6 to 24 hours, if the patient was stable. Quantitative and qualitative variables were assessed by use of uni- and multivariate analysis.

**Results:** From January 2010 to June 2011, 205 consecutive patients used the STEMI Network, and the findings were as follows: 87 anterior wall infarctions; 11 left bundle-branch blocks; 14 complete atrioventricular blocks; and 14 resuscitations after initial cardiorespiratory arrest. In-hospital mortality was 6.8% (14 patients), most of which due to cardiogenic shock, one hemorrhagic cerebrovascular accident, and one bleeding.

**Conclusion:** The organization in the public health care system of a network for the treatment of STEMI, involving diagnosis, reperfusion, immediate transfer, and tertiary reference hospital, resulted in immediate improvement of STEMI outcomes. (Arq Bras Cardiol 2012;99(5):1040-1048)

**Keywords:** Myocardial infarction; guidelines; emergencies; quality of health care.

### Introduction

Acute myocardial infarction (AMI) is the major cause of death in the majority of developed countries, which is expected to occur in the next decades in developing countries<sup>1,2</sup>. In Brazil, data of the Unified Public Health Care System (abbreviation in Portuguese, SUS) have shown that cardiovascular causes account for 35% of the deaths, cerebrovascular accident (CVA) being the major cause in the North and Northeastern regions, and AMI in the cities of São Paulo, Rio de Janeiro, Curitiba, and Porto Alegre<sup>3-5</sup>.

In São Paulo, a city with more than 11 million inhabitants, the distribution of emergency services (ESs) and public hospitals is heterogeneous, with scarcity in peripheral zones. That heterogeneity of resources also involves the quality of the medical care provided.

Consequently, there is great difficulty in the clinical and electrocardiographic diagnosis of AMI, which delays the beginning of the treatment for cardiovascular emergencies. The ST-segment elevation AMI (STEMI) has immediate myocardial reperfusion as the basis of its treatment. The difficulties previously mentioned in the city of São Paulo contribute to maintain the mean mortality due to STEMI ranging from 15% to 20%<sup>6</sup>. Such figures are very different from the mortality found in centers that perform systematic reperfusion, where mortality ranges from 5% to 7%<sup>6-8</sup>.

This article aimed at describing the pilot operation of the STEMI network in the periphery of the city of São Paulo. In addition, this study also provides the results obtained at the hospital of the public health care system, which is part of the project, after systematization of STEMI management.

### Methods

This report, as a registry, comprises all cases diagnosed in the STEMI network and treated as STEMI according to a protocol, with no exclusion. The Hospital São Paulo of the Universidade Federal de São Paulo (Unifesp) was the tertiary



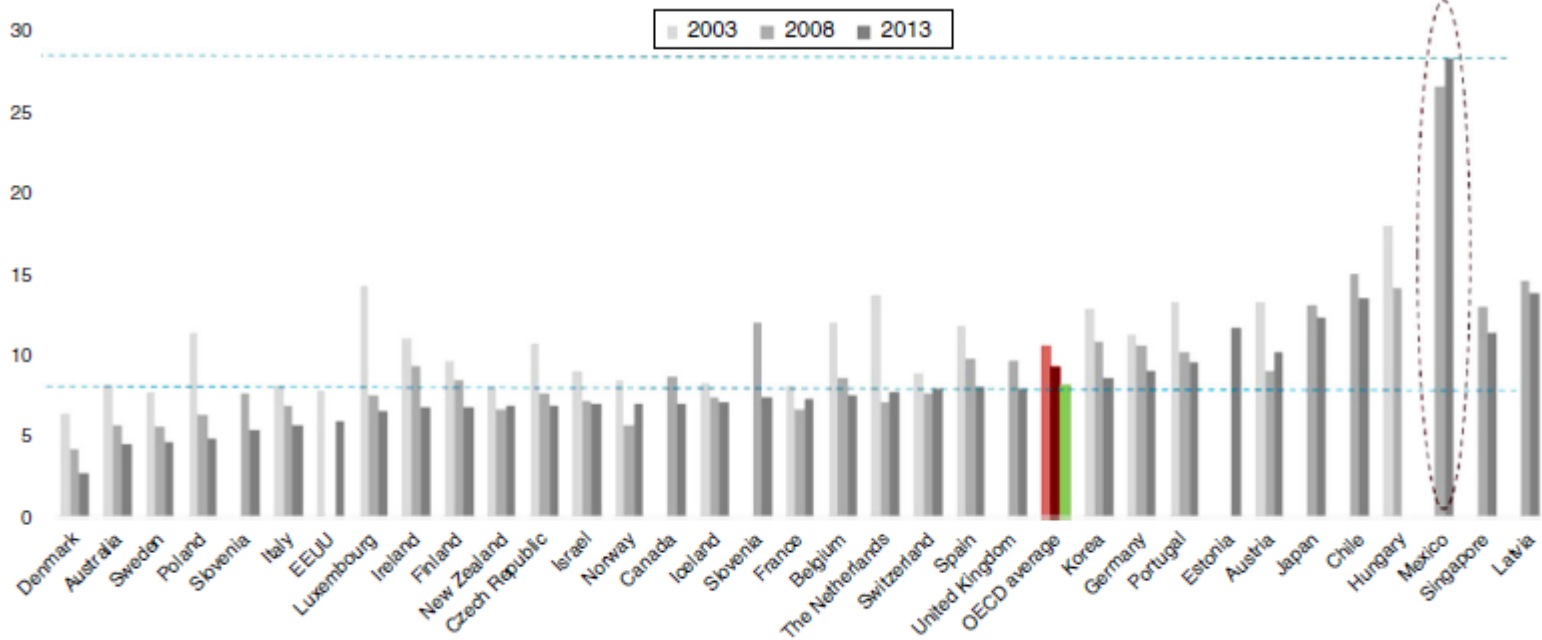


Figure 1 30-day myocardial infarction mortality in patients aged 45 and older. Reproduced from Ref. 5.

Martínez-Sánchez C, et al. Reperfusion therapy of myocardial infarction in Mexico: A challenge for modern cardiology. Arch Cardiol Mex. 2017.



REVIEW ARTICLE

## Reperfusion therapy of myocardial infarction in Mexico: A challenge for modern cardiology

Carlos Martínez-Sánchez<sup>a</sup>, Alexandra Arias-Mendoza<sup>a,\*</sup>, Héctor González-Pacheco<sup>a</sup>, Diego Araiza-Garaygordobil<sup>b</sup>, Luis Alfonso Marroquín-Donday<sup>b</sup>, Jorge Padilla-Ibarra<sup>b</sup>, Carlos Sierra-Fernández<sup>a</sup>, Alfredo Altamirano-Castillo<sup>a</sup>, Amada Álvarez-Sangabriel<sup>a</sup>, Francisco Javier Azar-Manzur<sup>a</sup>, José Luis Briseño-de la Cruz<sup>a</sup>, Salvador Mendoza-García<sup>a</sup>, Yígal Piña-Reyna<sup>a</sup>, Marco Antonio Martínez-Ríos<sup>c</sup>

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Received 10 August 2016; accepted 21 December 2016

### KEYWORDS

Pharmacoinvasive;  
Strategy;  
Mexico;  
Myocardial;  
Infarction;  
Reperfusion

**Abstract** Mexico has been positioned as the country with the highest mortality attributed to myocardial infarction among the members of the Organization for Economic Cooperation and Development. This rate responds to multiple factors, including a low rate of reperfusion therapy and the absence of a coordinated system of care. Primary angioplasty is the reperfusion method recommended by the guidelines, but requires multiple conditions that are not reached at all times. Early pharmacological reperfusion of the culprit coronary artery and early coronary angiography (pharmacoinvasive strategy) can be the solution to the logistical problem that primary angioplasty rises. Several studies have demonstrated pharmacoinvasive strategy as effective and safe as primary angioplasty ST-elevation myocardial infarction, which is postulated as the choice to follow in communities where access to PPCI is limited. The Mexico City Government together with the National Institute of Cardiology have developed a pharmacoinvasive reperfusion treatment program to ensure effective and timely reperfusion in STEMI. The model comprises a network of care at all three levels of health, including a system for early pharmacological reperfusion in primary care centers, a digital telemedicine system,

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E-mail address: [aariasam@yahoo.com](mailto:aariasam@yahoo.com) (A. Arias-Mendoza).

<http://dx.doi.org/10.1016/j.acmx.2016.12.007>

1405-9940/© 2016 Instituto Nacional de Cardiología Ignacio Chávez. Published by Masson Doyma México S.A. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Congreso CACI 2019

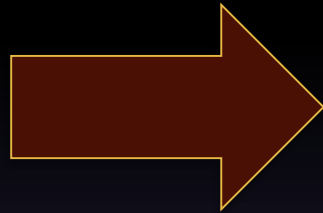
*“Pienso que la Angioplastia primaria perse, no es una solución para las masas en latinoamerica ”*

*Dr. Pedro Hidalgo*

# Cual camino seguimos ?



# scacst



## FIBRINOLITICOS

< 2 hs.





# SCAcEST



# Evidencias clínicas en la estrategia Fármaco-Invasiva



ORIGINAL ARTICLE

## Impact of a pharmacoinvasive strategy when delays to primary PCI are prolonged

Anthony H Gershlick,<sup>1</sup> Cynthia M Westerhout,<sup>2</sup> Paul W Armstrong,<sup>2</sup> Kurt Huber,<sup>3</sup> Sigrun Halvorsen,<sup>4</sup> Philippe Gabriel Steg,<sup>5</sup> Miodrag Ostojic, Patrick Goldstein,<sup>6,7</sup> Antonio C Carvalho,<sup>8</sup> Frans Van de Werf,<sup>9</sup> Robert G Wilcox<sup>10</sup>

Gershlick AH, *et al.* *Heart* 2015;**0**:1–7. doi:10.1136/heartjnl-2014-306686

# STREAM

**Circulation**  
JOURNAL OF THE AMERICAN HEART ASSOCIATION



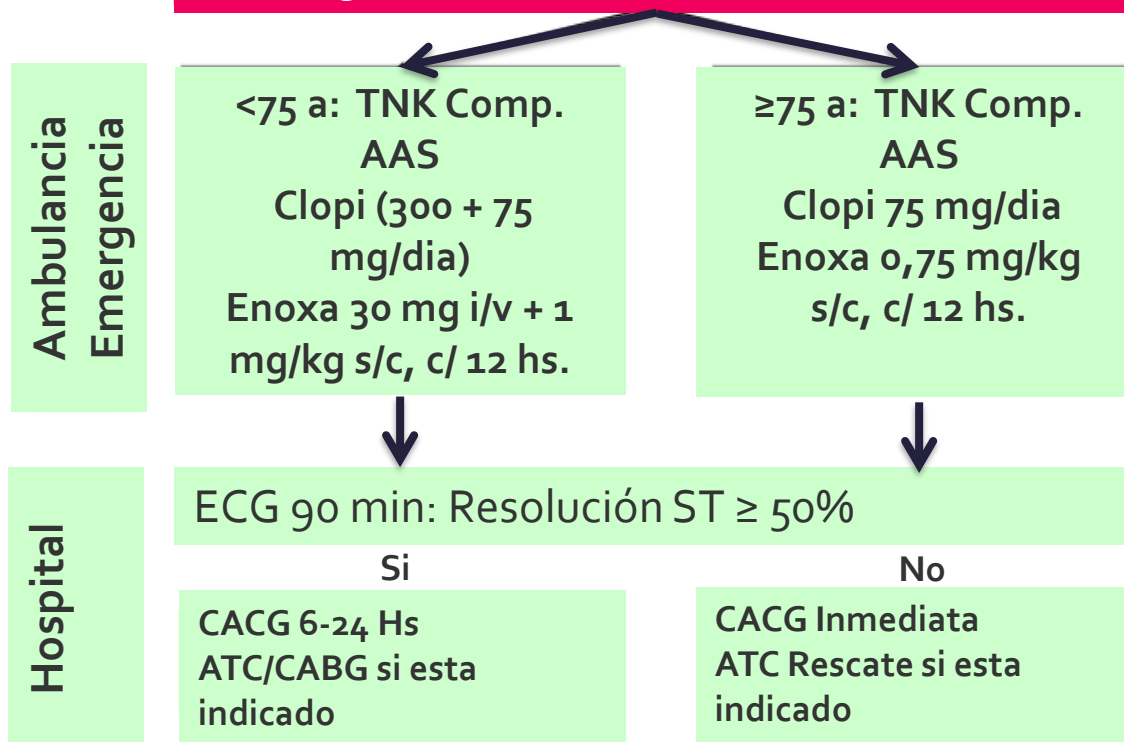
**ST–Segment-Elevation Myocardial Infarction Patients Randomized to a  
Pharmaco-Invasive Strategy or Primary Percutaneous Coronary Intervention: Strategic  
Reperfusion Early After Myocardial Infarction (STREAM) 1-Year Mortality Follow-Up**

Peter R. Sinnaeve, Paul W. Armstrong, Anthony H. Gershlick, Patrick Goldstein, Robert  
Wilcox, Yves Lambert, Thierry Danays, Louis Soulat, Sigrun Halvorsen, Fernando Rosell Ortiz,  
Katleen Vandenberghe, Anne Regelin, Erich Bluhmki, Kris Bogaerts and Frans Van de Werf  
for the STREAM investigators\*

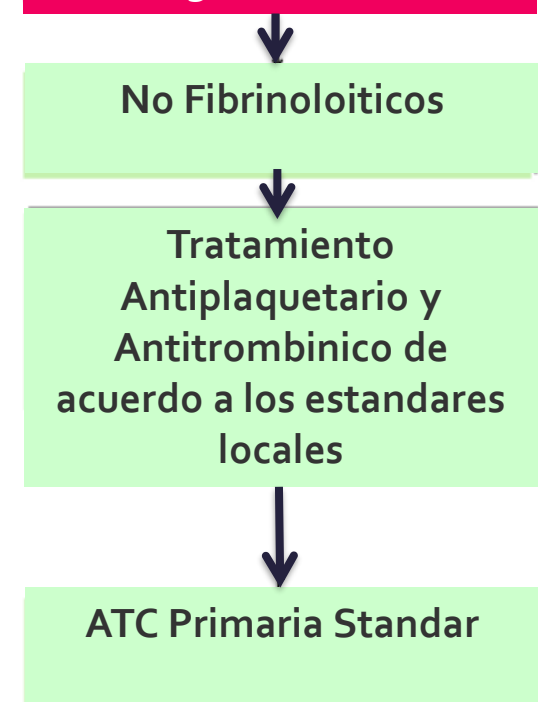
# PROTOCOLO DE ESTUDIO

SCAcST < 3 Hs de evol. de inicio, ATC no posible < 60 min,  
2 mm supra en x lo menos 2 derivaciones. Randomización 1:1

## Estrategia A: Farmaco-Invasiva



## Estrategia B: ATC Pr.

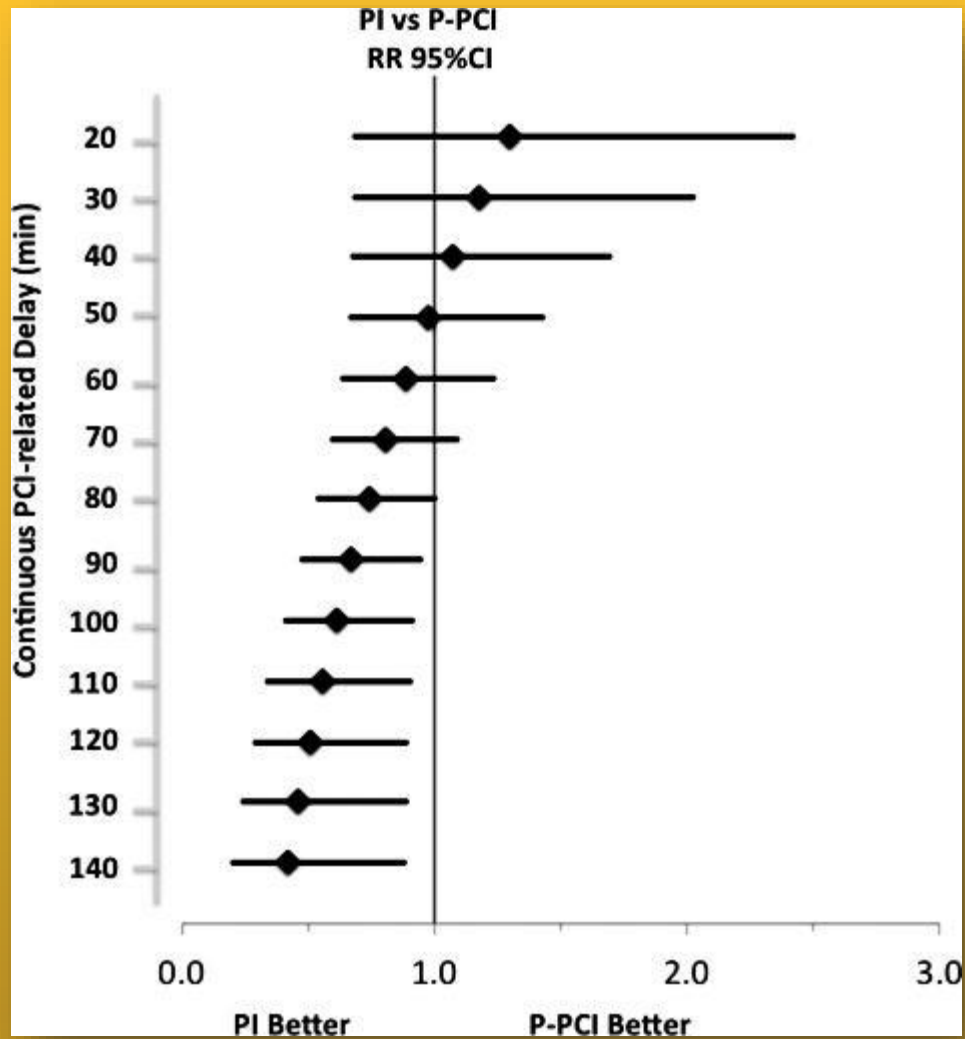


## End Point 1°

- Compuesto muerte x todas las causas/shock/ICC/reinf. 30 dias
- Mortalidad x cualquier causa o CV al año.

# STREAM Trial

## 30-Dias. Muerte/ICC/Shock/Infarto



# STEMI Patients Randomized to a Pharmacoinvasive Strategy or Primary PCI

STREAM trial: 1,872 SCACST. Pacientes que no pueden someterse a una ATC 1º dentro de 1 hora de contacto médico

1-Year Follow-Up	Tenecteplase (n = 944)	Primary PCI (n = 948)	P Value
All-Cause Mortality	6.7%	5.9%	.49
Cardiac Mortality	4.0%	4.1%	.93

Todas las causas de mortalidad fueron similares an ambos subgrupos.

**Conclusion:** Cuando la ATC 1º no es practicable en tiempos adecuados, la terapia farmaco invasiva siguiendo las guidelines, tiene resultados comparables en mortalidad.

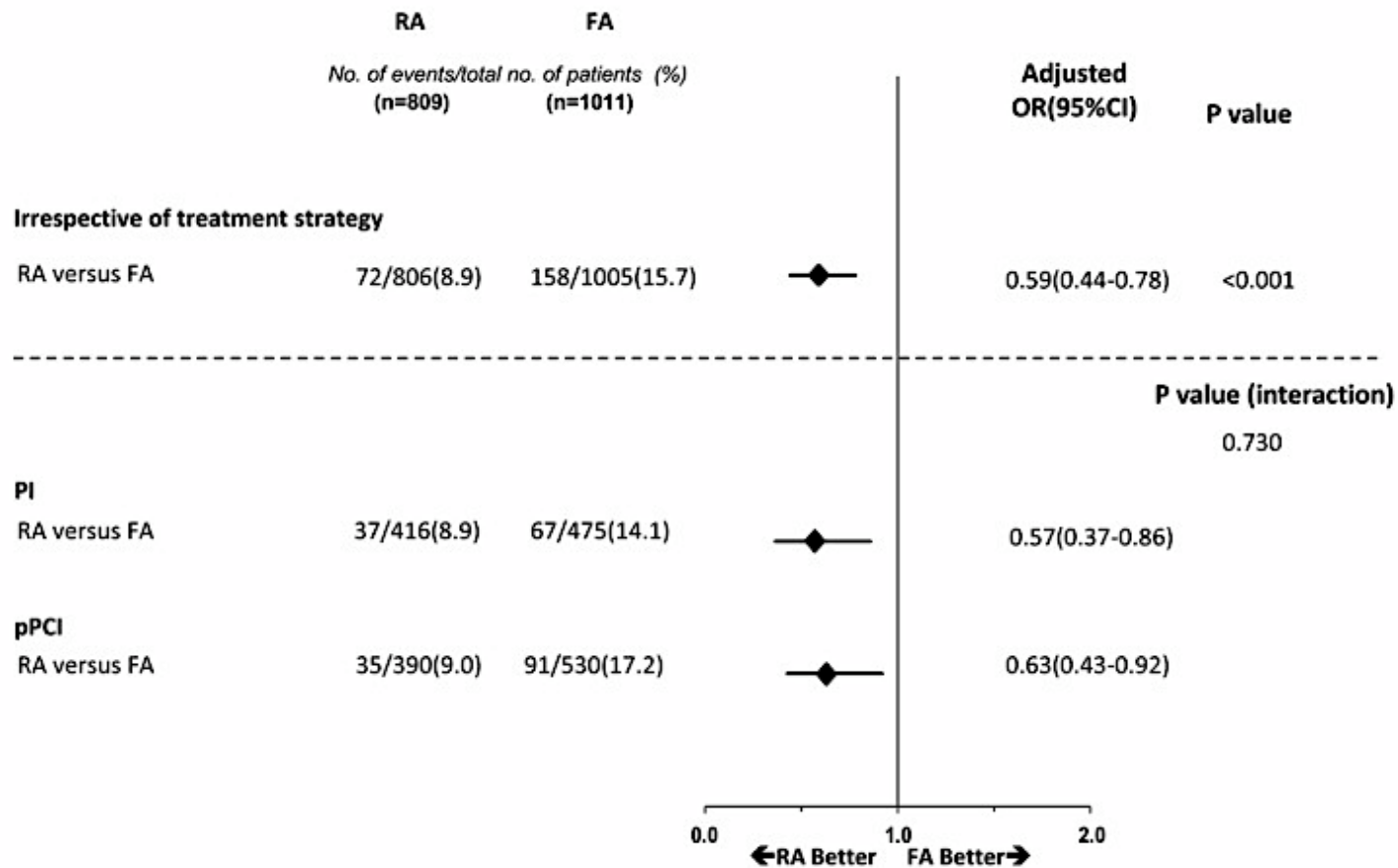
**Table 2.** Clinical Efficacy End Points, Angiographic Findings, and Procedures Performed within 30 Days.\*

Variable	Fibrinolysis (N=944)	Primary PCI (N=948)	P Value
	<i>no./total no. (%)</i>		
<b>End Point</b>			
Primary composite end point: death, shock, congestive heart failure, or reinfarction at 30 days	116/939 (12.4)	135/943 (14.3)	0.21
Death from any cause	43/939 (4.6)	42/946 (4.4)	0.88
Cardiogenic shock	41/939 (4.4)	56/944 (5.9)	0.13
Congestive heart failure	57/939 (6.1)	72/943 (7.6)	0.18
Reinfarction	23/938 (2.5)	21/944 (2.2)	0.74
Death from cardiovascular causes	31/939 (3.3)	32/946 (3.4)	0.92
Rehospitalization for cardiac causes	45/939 (4.8)	41/943 (4.3)	0.64
<b>TIMI blood flow on angiography<sup>†</sup></b>			
Before PCI			<0.001
0	141/884 (16.0)	534/900 (59.3)	
1	88/884 (10.0)	91/900 (10.1)	
2	138/884 (15.6)	89/900 (9.9)	
<b>3</b>	<b>517/884 (58.5)</b>	<b>186/900 (20.7)</b>	
After PCI			0.41
0	18/819 (2.2)	24/884 (2.7)	
1	12/819 (1.5)	11/884 (1.2)	
2	43/819 (5.3)	33/884 (3.7)	
3	746/819 (91.1)	816/884 (92.3)	
<b>Procedure</b>			
Urgent coronary angiography	331/911 (36.3)	NA	
PCI	736/915 (80.4)	838/933 (89.8)	<0.001
Coronary-artery bypass grafting after study angiography or PCI	44/943 (4.7)	20/947 (2.1)	0.002
Stent placement	704/736 (95.7)	801/838 (95.6)	0.95



# Stream Resultados

## End Point 1º según acceso



# Safety and Efficacy of a Pharmacoinvasive Strategy in ST-Segment Elevation Myocardial Infarction



## A Patient Population Study Comparing a Pharmacoinvasive Strategy With a Primary Percutaneous Coronary Intervention Strategy Within a Regional System

Mohammed K. Rashid, BHSc,<sup>a,b</sup> Nita Guron, MD,<sup>c</sup> Jordan Bernick, MSc,<sup>a</sup> George A. Wells, PhD,<sup>b</sup> Melissa Blondeau, BSc,<sup>a</sup> Aun-Yeong Chong, MD,<sup>a</sup> Alexander Dick, MD,<sup>a</sup> Michael P.V. Froeschl, MD,<sup>a</sup> Chris A. Glover, MD,<sup>a</sup> Benjamin Hibbert, MD,<sup>a</sup> Marino Labinaz, MD,<sup>a</sup> Jean-François Marquis, MD,<sup>a</sup> Christina Osborne, BSc,<sup>a</sup> Derek Y. So, MD,<sup>a</sup> Michel R. Le May, MD<sup>a</sup>

### ABSTRACT

**OBJECTIVES** This study investigated the safety and efficacy of a pharmacoinvasive strategy compared with a primary percutaneous coronary intervention (PCI) strategy for ST-segment elevation myocardial infarction (STEMI) in the context of a real-world system.

**BACKGROUND** Primary PCI continues to be the optimal reperfusion therapy; however, in areas where PCI centers are not readily available, a pharmacoinvasive strategy has been proposed.

**METHODS** The University of Ottawa Heart Institute regional STEMI system provides a primary PCI strategy for patients presenting within a 90-km radius from the PCI center, and a pharmacoinvasive strategy for patients outside this limit. We included all confirmed STEMI patients between April 2009 and May 2011. The primary efficacy outcome was a composite of mortality, reinfarction, or stroke and the primary safety outcome was major bleeding.

**RESULTS** We identified 236 and 980 consecutive patients enrolled in pharmacoinvasive and primary PCI strategies, respectively. The median door-to-needle time was 31 min in the pharmacoinvasive group and the median door-to-balloon time was 95 min in the primary PCI group. In a multivariable model, there was no significant difference in the primary efficacy outcome (odds ratio: 1.54;  $p = 0.21$ ); however, the propensity for more bleeding with a pharmacoinvasive strategy approached statistical significance (odds ratio: 2.02;  $p = 0.08$ ).

**TABLE 3 Procedure and Angiographic Results at 24 h of Presentation**

	Pharmacoinvasive (n = 236)	Primary PCI (n = 980)	p Value
<b>Procedural results</b>			
Coronary angiogram	221 (93.6)	968 (98.8)	<0.0001
PCI performed	201 (85.2)	904 (92.2)	0.0007
Stent insertion	198 (83.9)	885 (90.3)	0.005
Balloon or device only	3 (1.3)	19 (1.9)	0.49
Femoral access	98/216 (45.4)	812/968 (83.9)	<0.0001
Bivalirudin administered	125/230 (54.3)	781/980 (79.7)	<0.0001
<b>Angiographic results</b>			
Multivessel disease	114/221 (51.6)	555/968 (57.3)	0.12
Infarct related artery			0.26
Left main coronary	3/221 (1.4)	7/968 (0.7)	
Left anterior descending	77/221 (34.8)	408/968 (42.1)	
Left circumflex	22/221 (10.0)	112/968 (11.6)	
Right coronary	111/221 (50.2)	415/968 (42.9)	
Bypass graft	4/221 (1.8)	11/968 (1.1)	
Unknown	4/221 (1.8)	15/968 (1.5)	
Coronary flow at baseline TIMI grade			<0.0001
0	56/220 (25.5)	558/965 (57.8)	
1	11/220 (5.0)	64/965 (6.6)	
2	28/220 (12.7)	123/965 (12.7)	
3	127/220 (57.7)	220/965 (22.8)	
Coronary flow after procedure, TIMI grade			0.07
0	3/220 (1.4)	43/965 (4.5)	
1	0/220 (0)	6/965 (0.6)	
2	7/220 (3.2)	43/965 (4.5)	
3	212/220 (96.4)	873/965 (90.5)	
<b>Diameter stenosis, % of luminal diameter</b>			
Before procedure	91 ± 13.9	97.4 ± 7.8	<0.0001
After procedure	0.9 ± 6.2	1.3 ± 10.1	0.52

Values are n (%), n/N (%), or mean ± SD.

TIMI – Thrombolysis In Myocardial Infarction; other abbreviation as in Table 2.

# Vital heart Response Registry.

n = 3287 pacientes

IAMCEST(2006-2016):

1805(54,9%)terapia fármaco-invasiva con TNK (27,3% rescate 72,7% atc precoz)

Vs. 1482 atc primaria(45,1%)

**MUERTE, ICC,SHOCK o RE-IM a 12 meses**

**16,3%**

**Resolución ST 75,8%**

**23,1%**

**p=0,033 (IC 95% 0,72-0,99)**

**Resolución ST 64,3% P<0,001**

# Transferencia para ICP Post Fibrinólisis

## *Directrices*

Transfer to a PCI-capable centre following fibrinolysis		
Is indicated in all patients after fibrinolysis.	I	A
Interventions following fibrinolysis		
Rescue PCI is indicated immediately when fibrinolysis has failed (<50% ST-segment resolution at 60 min).	I	A
Emergency PCI is indicated in the case of recurrent ischaemia or evidence of reocclusion after initial successful fibrinolysis.	I	B
Emergency angiography with a view to revascularization is indicated in heart failure/shock patients.	I	A
Angiography with a view to revascularization (of the infarct-related artery) is indicated after successful fibrinolysis.	I	A
Optimal timing of angiography for stable patients after successful lysis: 3–24 h.	IIa	A

### Class IIa

**Transfer to a PCI-capable hospital for coronary angiography is reasonable for patients with STEMI who have received fibrinolytic therapy even when hemodynamically stable<sup>§</sup> and with clinical evidence of successful reperfusion. Angiography can be performed as soon as logistically feasible at the receiving hospital, and ideally within 24 hours, but should not be performed within the first 2 to 3 hours after administration of fibrinolytic therapy.<sup>133–138</sup> (Level of Evidence: B)**



# 2017 ESC Guidelines for the management of acute myocardial infarction



Armstrong PW, Gershlick AH, et.al. STREAM Investigative Team. Fibrinolysis or primary PCI in ST-

## Traslado luego de la Fibrinolisis

El traslado a un centro con capacidad de Angioplastia Post Fibrinolíticos, ESTA INDICADO EN TODOS LOS PACIENTES, inmediatamente luego de la Fibrinolisis

121,124,126–130,234

I

A



Cantor WJ, Fitchett D, et.al. TRANSFER-AMI Trial Investigators. Routine early angioplasty after fibrinolysis for acute myocardial infarction. N Engl J Med 2009;360(26):2705–2718

D'Souza SP, Mamas MA, Fraser DG, Fath-Ordoubadi F. Routine early coronary . angioplasty versus ischaemia-guided angioplasty after thrombolysis in acute ST- elevation myocardial infarction: a meta-analysis. Eur Heart J 201



Fernandez-Aviles F, Alonso JJ, et.al. GRACIA Group. Routine invasive strategy within 24 hours of thrombolysis versus ischaemia-guided conservative approach for acute myocardial infarction with ST-segment elevation (GRACIA-1): a randomised controlled trial. Lancet 2004;364(9439):1045–1053.

# Manejo del infarto agudo



Tiempo es músculo

## Metas:

- Evitar la muerte
- Minimizar la incomodidad y el sufrimiento del paciente
- Limitar el alcance del daño al miocardio

## Estrategia:

- Restablecer la reperfusión miocárdica antes de que ocurra daño irreversible:
  - *Mecánicamente (intervención coronaria percutánea)*
  - *Farmacológicamente (inducción de la trombolisis con un fibrinolítico)*

# ER - TIMI

1.200 Pacientes. > 18 años. IAM < 12 horas



**Trombolisis Reteplase pre hospitalaria. Doble bolus de 10 ui**

**Trombolisis hospitalaria inmediata. Doble bolus de 10 ui**

**Tiempo de inicio**

**31 minutos**

**63 minutos**

**$P < 0.0001$**

**Tiempo de resolución del ST**

**120 minutos**

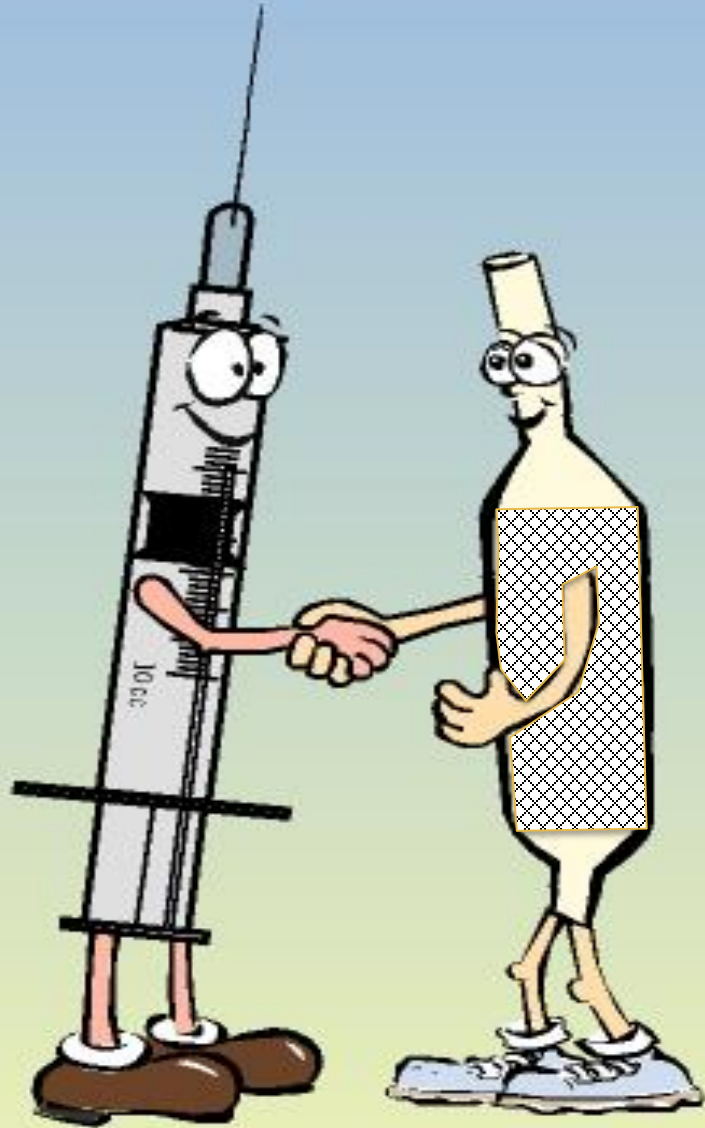
**150 minutos**

**$P < 0.0001$**

# Conclusión

- La *Estrategia Farmacoinvasiva* es Segura, Eficaz y comparable en sus resultados con la angioplastia primaria, por lo que siempre debemos de considerarla si el tiempo total de traslado a un centro con posibilidades de ATC 1º es mayor de 2 hs.
- ***ESTA ESTRATEGIA ES ABSOLUTAMENTE APLICABLE A LA REALIDAD ASISTENCIAL EN LATINOAMERICA***

*Amigos!!!*



A large suspension bridge with multiple yellow towers and cables spans across a blue body of water. In the foreground, a small yellow boat with two people is moving across the water, leaving a white wake. The sky is a clear, light blue.

*Muchas  
Gracias*

*Dr. Pedro Hidalgo Useche*