

Angioplastia Coronaria de Alto Riesgo en la República Argentina

Acto fallido:
pensamiento subconscient



Dr. Alejandro Palacios

Angioplastia Coronaria de Alto Riesgo en la República Argentina

- Formación Profesional, distracción.
- Equipamiento.
- Materiales:

Resolución Ministerio de Salud. 255/94 (30 años)

b) aquellos incluidos en el Anexo I de la presente resolución, que podrán ser utilizados un limitado número de veces, aun cuando sus fabricantes los recomienden para un solo uso y cuyos rótulos los definen atóxicos, estériles y libres de piretógenos.

Catéteres para coronariografía y arteriografía. Balones de contrapulsación. Catéteres intervencionistas sobre arterias coronarias, viscerales, cerebrales o de miembros. Guías metálicas. Catéteres de Swan-Ganz con punta óptica. Catéteres para estudios electrofisiológicos. Shunts carotídeo. Cánulas de retroplegia.

- Retribución económica.
- Costos.
- Multitareas: Cansancio y Agotamiento Laboral.

LA FATIGA y Sus Proyecciones Sociales. Dr. Alfredo L. Palacios; Facultad de Ciencias Económicas, UBA. 1922.

The economic costs and consequences of (insufficient) sleep: a case study from Latin America , The European journal of Health Economics. Original papers Nov 2024 Diego Golombek .

30% de la población duerme mal y redundo en una caída de productividad del 1,27 % del PBI.

Angioplastia Coronaria de Alto Riesgo en la Republica Argentina

PELIGRO

VS

RIESGO

HAZARD

VS

RISK

A **HAZARD** is something that has the potential to harm you



RISK is the likelihood of a hazard causing harm



Suggested criteria	Assessment risk index	Suggested criteria
Intolerable region	5A, 5B, 5C, 4A, 4B, 3A	Inaceptable en las circunstancias actuales
Tolerable region	5D, 5E, 4C, 4D 4E, 3B, 3C, 3D 2A, 2B, 2C, 1A	Acceptable basado en la mitigación de riesgos. Puede requerir una decisión de gestión.
Acceptable region	3E, 2D, 2E 1B, 1C, 1D, 1E	Acceptable



Angioplastia Coronaria en Pacientes de Alto Riesgo en la República Argentina

Dr. Alejandro Palacios

“High-risk” PTCA. Definition, Results, and Recommendations

G. O. Hartzler

Kansas City, Missouri, USA

1970

Patient-dependent risk factors include:

- advanced age;
- poor LV function;
- prior bypass-surgery.

Procedural risk factors include:

- PTCA of left main coronary artery;
- PTCA in acute myocardial infarction;
- multilesion PTCA.

For this paper, 8000 PTCA procedures were evaluated. All risk factors mentioned above were found in a considerable number of cases. The exact figures are shown in Table 1.

Circulation: Cardiovascular Interventions

ORIGINAL ARTICLE

Feasibility and Safety of High-Risk Percutaneous Coronary Intervention Without Mechanical Circulatory Support

Nauman Khalid MD, Toby Rogers MD, PhD, Rebecca Torguson, MPH, Cheng Zhang, PhD, Corey Shea, MS, Evan Shlofmitz DO, Yuefeng Chen, MD, PhD, Anees Musallam, MD, Jason P. Wermers BS, Brian Case, MD, Hayder Hashim, MD, Itzik Ben-Dor, MD, Nelson L. Bernardo, MD, Lowell Satler, MD, Ron Waksman MD

Circ Cardiovasc Interv. 2021;14:e009960. DOI: 10.1161/CIRC

Actualmente, no existe una definición clara de PCI de alto riesgo.

Los criterios clínicos son insuficientes para definir insuficiencia renal crónica.

La anatomía y complejidad de la enfermedad coronaria

El estado hemodinámico ej. disfunción sistólica ventricular izquierda.

Varias sociedades cardiovasculares han desarrollado protocolos

y guías individualizadas basados en el paciente para intervenciones

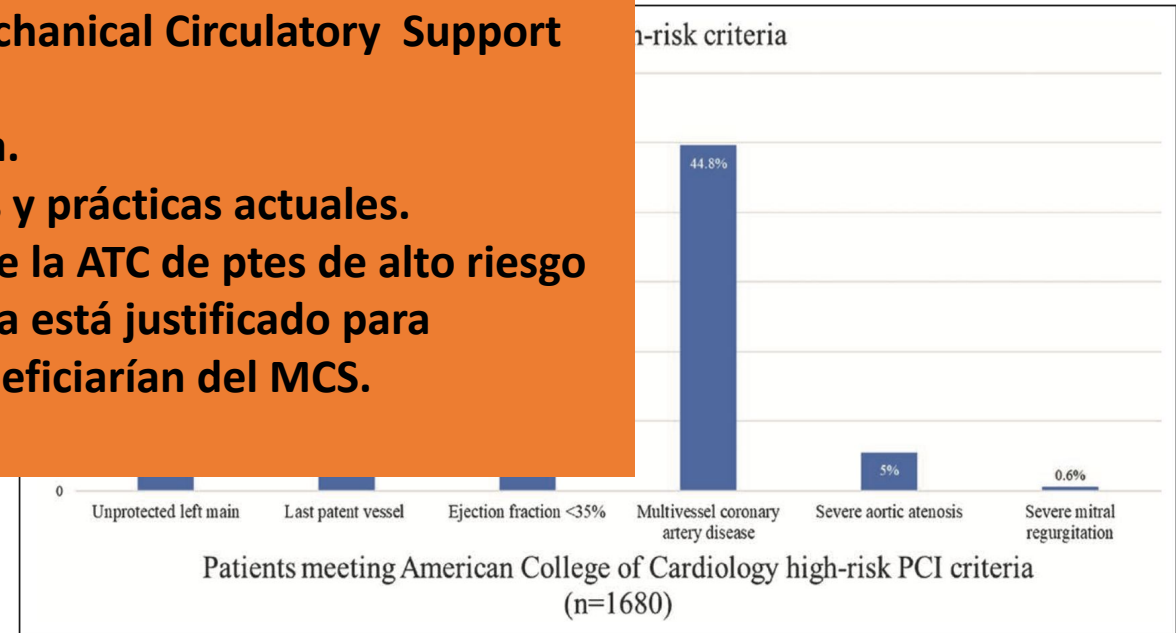
de alto riesgo, y los criterios de inclusión demuestran una variabilidad significativa.

La ATC en ptes de alto riesgo según la definición de las sociedades profesionales sin Mechanical Circulatory Support electiva.

Es factible y segura en la mayoría.

Desafiando las recomendaciones y prácticas actuales.

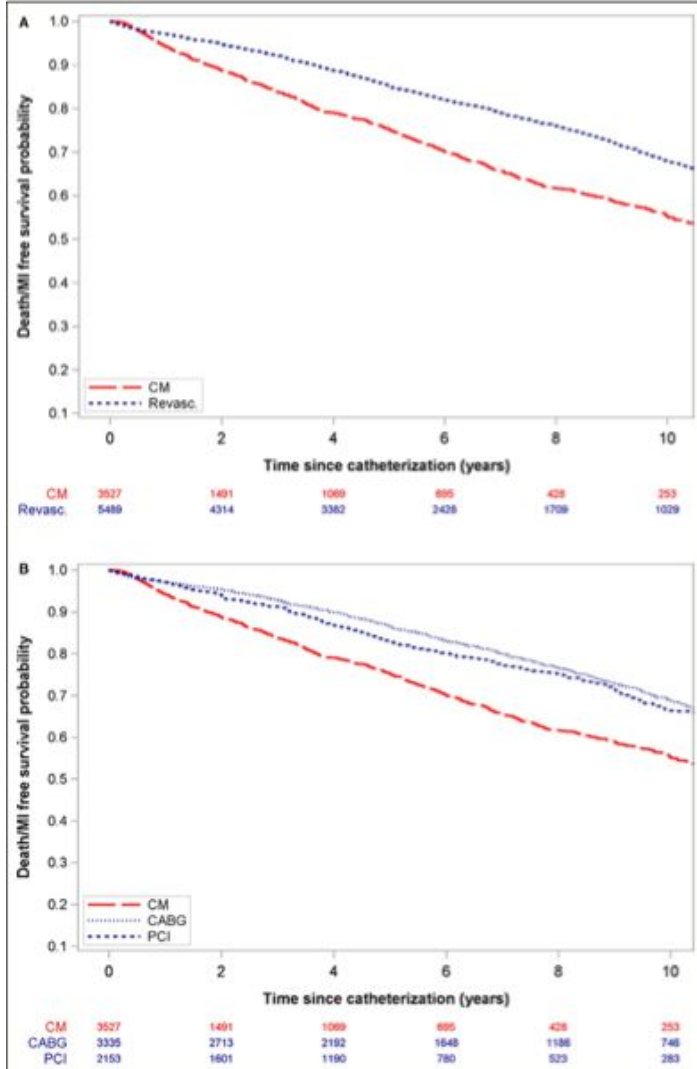
Un ensayo aleatorio que compare la ATC de ptes de alto riesgo no protegida frente a la protegida está justificado para determinar qué pacientes se beneficiarían del MCS.



ORIGINAL RESEARCH

Long-Term Clinical Outcomes Following Revascularization in High-Risk Coronary Anatomy Patients With Stable Ischemic Heart Disease

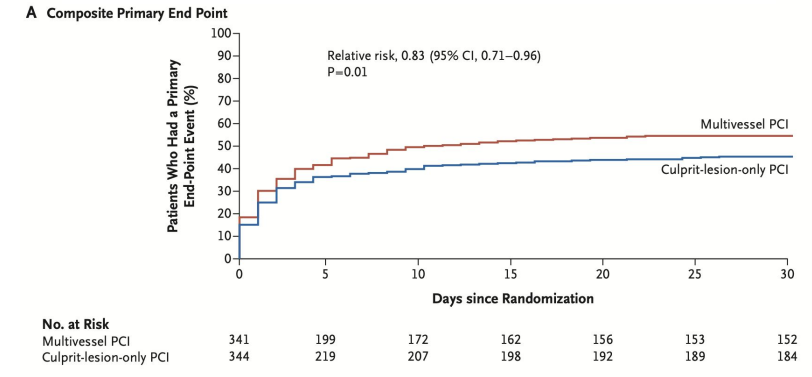
Kevin R. Bainey¹, MD, MSc; Wendimagegn Alemayehu², PhD; Robert C. Welsh, MD; Arnav Kumar, MD, MSCR; Spencer B. King III, MD; Ajay J. Kirtane³, MD, SM



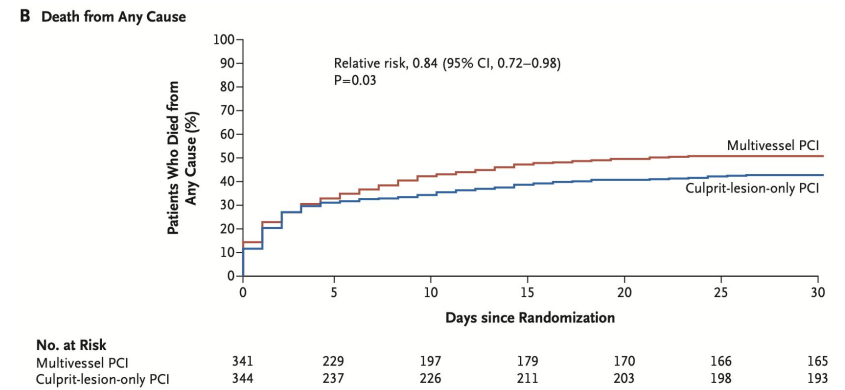
CONCLUSION:
 La revascularización en pacientes con cuadros estables y anatomía coronaria de alto riesgo se asoció con un mejor resultado a largo plazo en comparación con la terapia conservadora. Se debe considerar el perfil anatómico coronario cuando se considere el tratamiento de síndromes coronarios estables.

Lo que se debe hacer REVASCULARIZAR

The NEW ENGLAND JOURNAL of MEDICINE
 ESTABLISHED IN 1812 DECEMBER 21, 2017 VOL. 377 NO. 25
 n engl j med 377;25 nejm.org December 21, 2017
PCI Strategies in Patients with Acute Myocardial Infarction and Cardiogenic Shock
 H. Thiele, I. Akin, M. Sandri, G. Fuernau, S. de Waha, R. Meyer-Saraei, P. Nordbeck, T. Geisler, U. Landmesser, C. Skurk, A. Fach, H. Lapp, J.J. Piek, M. Noc, T. Goslar, S.B. Felix, L.S. Maier, J. Stepinska, K. Oldroyd, P. Serpytis, G. Montalescot, O. Barthelemy, K. Huber, S. Windecker, S. Savonitto, P. Torremante, C. Vrints, S. Schneider, S. Desch, and U. Zeymer, for the CULPRIT-SHOCK Investigators*



CONCLUSION:
 Entre los pacientes que tenían enfermedad múltiples vasos coronarias e infarto agudo de miocardio con shock cardiogénico El riesgo de 30 días de una muerte o insuficiencia renal grave fue menor entre aquellos que inicialmente se sometieron a ATC de la lesión culpable solo, que entre aquellos que se sometieron a ATC múltiples vasos.



PCI de alto riesgo: un dispositivo no puede arreglarlo todo

High-risk PCI: one device cannot fix it all

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On the other hand, it's essential to acknowledge the primary limitation of this study, as recognised by the authors. This analysis is a *post hoc* evaluation, and the investigators did not gather specific data elucidating the rationale or pathology underlying the operator's decision to retain the MCS device post-procedure. Therefore, it is not possible to exclude potential operator bias attributable to experience or preference, which could have influenced the outcomes. Thus, further studies are imperative to elucidate the appropriate postprocedural management of MCS devices and guide physician decision-making. PROTEC III STUDY

Es esencial reconocer la limitación principal de este estudio, como lo reconocen los autores. Este análisis es una evaluación post hoc, y los investigadores no recopilaban datos específicos que dilucidan la justificación o patología subyacente a la decisión del operador de retener el dispositivo MCS después del procedimiento. **Por lo tanto, no es posible excluir el posible sesgo del operador atribuible a la experiencia o preferencia, que podría haber influido en los resultados.** Por lo tanto, los estudios adicionales son imperativos para dilucidar la gestión post procedimiento adecuada de los dispositivos MCS y guiar la toma de decisiones del médico.

Controversies in cardiovascular medicine

Shock in acute myocardial infarction: the Cape Horn for trials?

Holger Thiele^{1*†}, Bachir Allam^{2†}, Gilles Chatellier², Gerhard Schuler¹, and Antoine Lafont^{2*}

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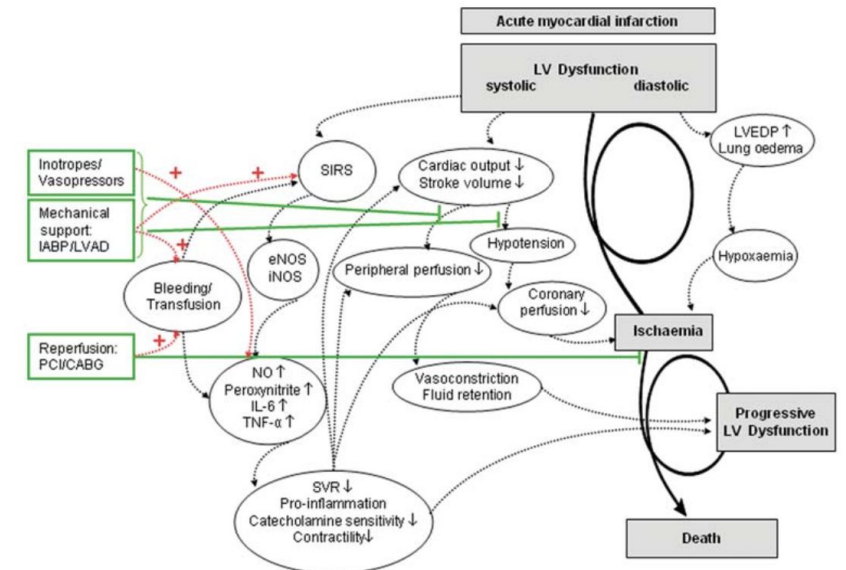


Figure 1 Current concept of CS pathophysiology. The classic shock spiral (bold spiral), induced by left ventricular (LV) dysfunction leading to death by further promotion of ischaemia and progressive LV dysfunction if not interrupted by treatment, is shown. The shock spiral is further negatively influenced by (i) systolic dysfunction with decreased cardiac output and stroke volume leading to peripheral impaired perfusion and hypotension; (ii) diastolic dysfunction leading to hypoxaemia owing to pulmonary congestion; and (iii) promotion of the systemic inflammation response syndrome (SIRS) by endothelial and inducible nitric oxide synthase (eNOS and iNOS), interleukin-6 (IL-6), tumour necrosis factor- α (TNF- α) leading to paradoxical reduced systemic vascular resistance (SVR). Adapted according to Reynolds & Hochman (2008).¹⁴ The pathophysiological concept is expanded by bleeding complications and subsequent transfusions, which both also negatively contribute to inflammation and subsequently the shock spiral. Treatment options such as (i) reperfusion by percutaneous coronary intervention (PCI) or coronary artery bypass grafting (CABG); (ii) mechanical support by intra-aortic balloon pumping (IABP) or left ventricular assist devices (LVADs); and (iii) inotropes or vasopressors to reverse the shock spiral are shown in green. Potential drawbacks of therapeutic interventions including bleeding complications and influence on SIRS are shown in red.

Intra-Aortic Balloon Pump for High-Risk Percutaneous Coronary Intervention

Tiffany Patterson, MBBS, BSc, MRCP; Divaka Perera, MB BChir, MD, FRCP; Simon R. Redwood, MBBS, MD, FRCP

Circ Cardiovasc Interv is available at <http://circinterventions.ahajournals.org>

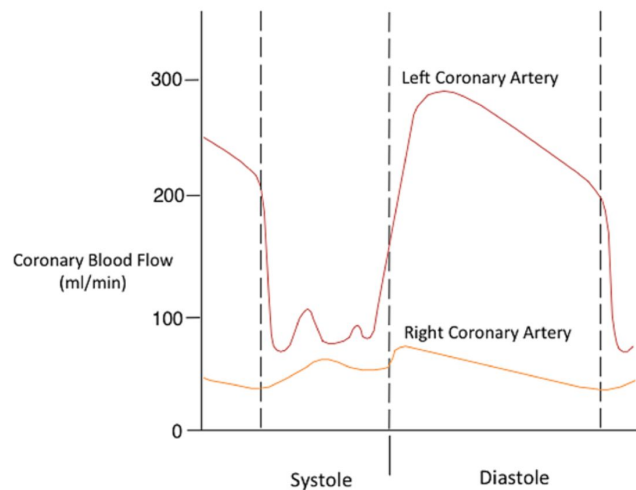


Figure 1. Coronary perfusion. Coronary flow is predominantly diastolic and further enhanced by counterpulsation, which augments diastolic blood flow and thus coronary perfusion. In addition, aortic recoil during diastole further improves efficiency of the left ventricle.

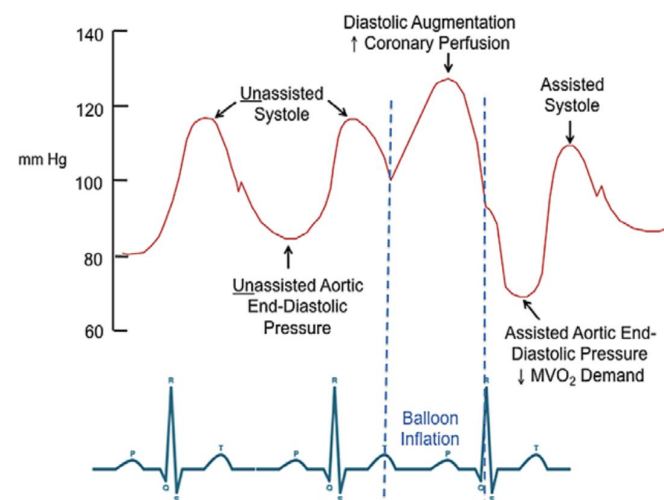


Figure 2. Systemic arterial pressure waveform on introduction of intra-aortic balloon pump–assisted diastolic augmentation. The intra-aortic balloon pump inflates at the aortic valve, leading to peak-augmented diastolic pressure. As the balloon deflates, assisted end diastolic pressure is seen to be lower than unassisted end diastolic pressure and assisted systolic pressure is lower than unassisted systolic pressure. Peak diastolic augmentation should be greater than the unassisted systolic pressure and both assisted pressures should be less than the unassisted pressures.

Augmentation of Coronary Blood Flow by Intra-aortic Balloon Pumping in Patients After Coronary Angioplasty

Circulation 1993;87:500-511

Morton J. Kern, MD, FACC; Frank Aguirre, MD, FACC; Richard Bach, MD; Thomas Donohue, MD; Robert Siegel, MD; and Jerome Segal, MD, FACC

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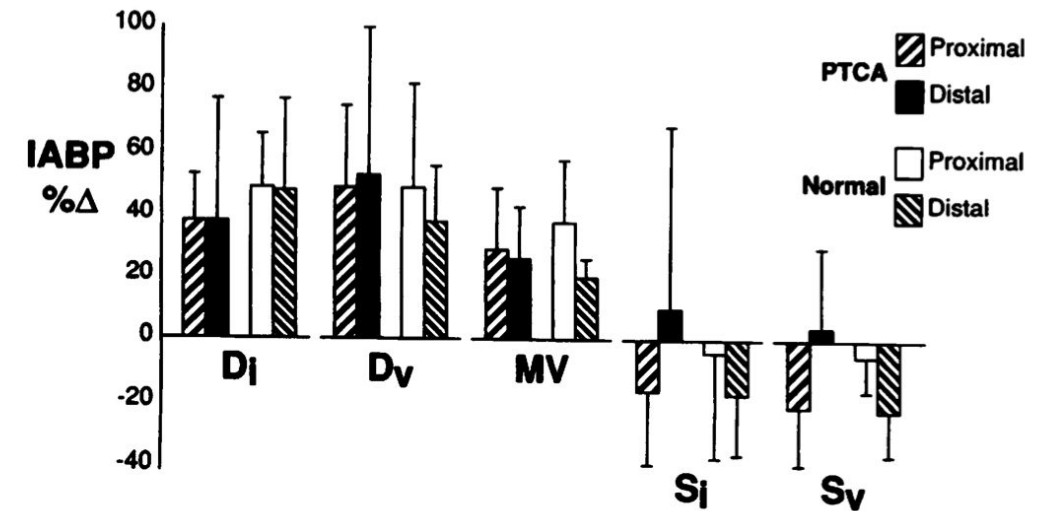


FIGURE 5. Bar graph of percent change ($\% \Delta$) during intra-aortic balloon pumping (IABP) in the proximal and distal arterial segments in both postangioplasty (PTCA) and angiographically normal reference arteries. D_i , diastolic flow velocity integral; D_v , peak diastolic velocity; MV , mean velocity; S_i , systolic flow velocity integral; S_v , peak systolic velocity. Only the proximal S_i and S_v were statistically different from distal values ($p < 0.05$, Table 3).

de las velocidades de flujo sanguíneo proximal y distal después de la mejora de las obstrucciones coronarias graves en pacientes después de una angioplastia coronaria exitosa.

Survival of patients treated with intra-aortic balloon counterpulsation at a tertiary care center in Pakistan – patient characteristics and predictors of in-hospital mortality

Fahim H Jafary*¹, Sohail A Khan¹, Haresh Kumar¹, Numaan F Malik¹, Khawar A Kazmi¹, Sajid Dhakam¹, Azam Shafquat^{1,2}, Aamir Hameed¹, Javed Tai¹ and Najaf Nadeem¹

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* Corresponding author

95 pacientes (edad media 58,8 (± 10,4) años; 78,9 % de hombres) que se sometieron a IABP entre 2000 y 2002. Se utilizó la regresión logística para determinar los predictores uni y multivariantes de mortalidad en el hospital.

La tasa general de mortalidad hospitalaria fue del 34,7%.

Conclusión: Los pacientes que requieren IABC representan un grupo de alto riesgo con mortalidad hospitalaria importante.

A pesar de esta alta mortalidad, más de dos tercios de los pacientes salen vivos del hospital, lo que sugiere que el IABC es un dispositivo terapéutico factible, incluso en un país en desarrollo.

Table 2: Indications for Intra-aortic balloon counterpulsation

Indication	N (%)
Cardiogenic shock	22 (23.2)
Cardiogenic shock with mechanical complication	24 (25.3)
Left Main disease, no chest pain	9 (9.5)
Left Main disease, chest pain in laboratory	6 (6.3)
Refractory heart failure	8 (8.4)
Refractory Ischemia	23 (24.2)
Complication during PCI	2 (2.1)

PCI = percutaneous coronary intervention (includes abrupt closure, severe "no-reflow")

Table 3: Univariate Predictors of In-Hospital Mortality

	Survived (%) (n = 62)	Died (%) (n = 33)	Unadjusted OR (95% CI)	p value
Age (SD)	56.9 (10.1)	62.5 (10.3)	1.06 (1.01–1.11) *	0.016
Male Gender	51 (82.3)	24 (72.7)	0.58 (0.21–1.57)	0.281
Diabetes	20 (32.3)	21 (63.6)	3.68 (1.51–8.92)	0.004
Hypertension	32 (51.6)	21 (63.6)	1.64 (0.69–3.93)	0.263
Smoking	25 (40.3)	11 (33.3)	1.35 (0.56–3.27)	0.504
Previous PCI	20 (32.3)	9 (27.3)	0.79 (0.31–2.0)	0.616
Previous CABG	40 (64.5)	6 (18.2)	0.12 (0.04–0.34)	<0.001
Cardiogenic Shock	22 (35.5)	24 (72.7)	4.85 (1.92–12.2)	0.001
3-vessel disease**	44 (72.1)	28 (87.5)	2.70 (0.83–8.89)	0.101
LV dysfunction ***	30 (48.4)	20 (60.6)	1.64 (0.70–3.87)	0.258
Revascularized	58 (95.1)	16 (48.5)	0.05 (0.01–0.19)	< 0.001

SD = standard deviation. PCI = percutaneous coronary intervention. CABG = coronary artery bypass graft. LV = left ventricular

* for every 1 year increase in age

** vs. no 3-vessel disease

*** moderate/severely impaired LV function vs. normal/mildly impaired



Long-term mortality and costs following use of Impella® for mechanical circulatory support: a population-based cohort study

Mortalité à long terme et coûts liés à l'utilisation de l'Impella® pour une assistance circulatoire mécanique: une étude de cohorte populationnelle

Shannon M. Fernando, MD, MSc · Dania Qureshi, MSc · Peter Tanuseputro, MD, MHS · Robert Talarico, MSc · Benjamin Hibbert, MD, PhD · Rebecca Mathew, MD · Bram Rochweg, MD, MSc · Emilie P. Belley-Côté, MD, PhD · Eddy Fan, MD, PhD · Alain Combes, MD, PhD · Daniel Brodie, MD · Matthieu Schmidt, MD, PhD · Trevor Simard, MD · Pietro Di Santo, MD · Kwadwo Kyeremanteng, MD, MHA

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Original article

The cost-effectiveness of a new percutaneous ventricular assist device for high-risk PCI patients: mid-stage evaluation from the European perspective

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 Essen University Hospital, Essen, Germany

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 Synercus AB, Stockholm, Sweden

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 University of Amsterdam-Academic Medical Center, Amsterdam, The Netherlands

Este estudio de cohorte (162 p) muestra una alta mortalidad hospitalaria (56,8%) entre los pacientes adultos con SC. Solo una minoría de pacientes que recibieron Impella finalmente pudieron ser dados de alta a un entorno doméstico independiente, y la mayoría de los sobrevivientes requirieron asistencia de atención domiciliaria o residencia de atención a largo plazo.

Finalmente, los pacientes de Impella acumularon costos significativos de hospitalización, aunque estos costos fueron menores que las poblaciones típicas de alto costo.

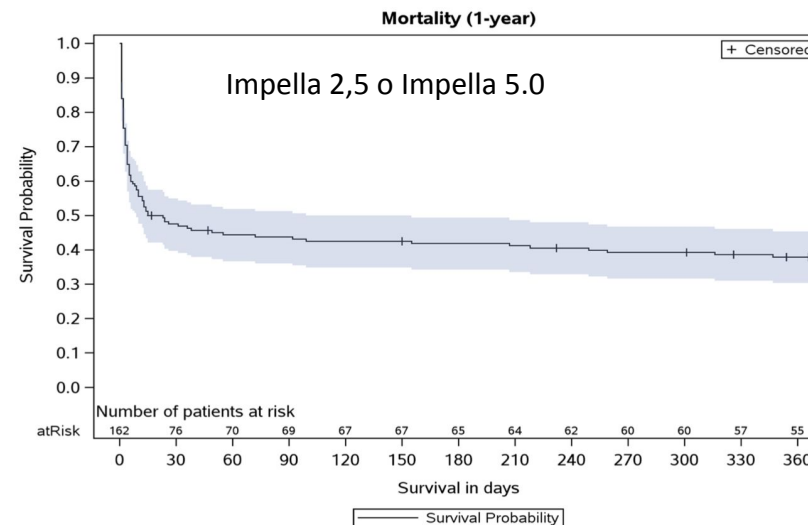


Table 2. Incremental cost-effectiveness ratio base case values.

Intervention	Costs (€)	QALY	ICER/QALY	LYG	ICER/LYG
<i>Euro registry</i> ¹⁵					
ECMO	23,246	2.79		4.11	
IABP	27,792	3.84	4326	5.63	3003
pVAD	36,169	4.06	38,069	5.93	27,193
<i>US registry</i> ¹¹					
ECMO	23,246	2.79		4.11	
IABP	27,792	3.84	4326	5.63	3003
pVAD	36,391	4.11	31,727	6.01	22,694

ECMO, Extracorporeal membrane oxygenation; IABP, Intra-aortic balloon pump; ICER, Incremental cost-effectiveness ratio; LYG, Life-years gained; QALY, Quality-adjusted life-years; pVAD, percutaneous ventricular assist device.

Conclusiones:

En comparación con el IABP, el pVAD es una intervención rentable para pacientes con ATC de alto riesgo, con ICER (Relación Incremental Costo Beneficio), muy por debajo del umbral de rentabilidad convencional.

Controversies in cardiovascular medicine

Shock in acute myocardial infarction: the Cape Horn for trials?

Holger Thiele^{1*†}, Bachir Allam^{2†}, Gilles Chatellier², Gerhard Schuler¹, and Antoine Lafont^{2*}

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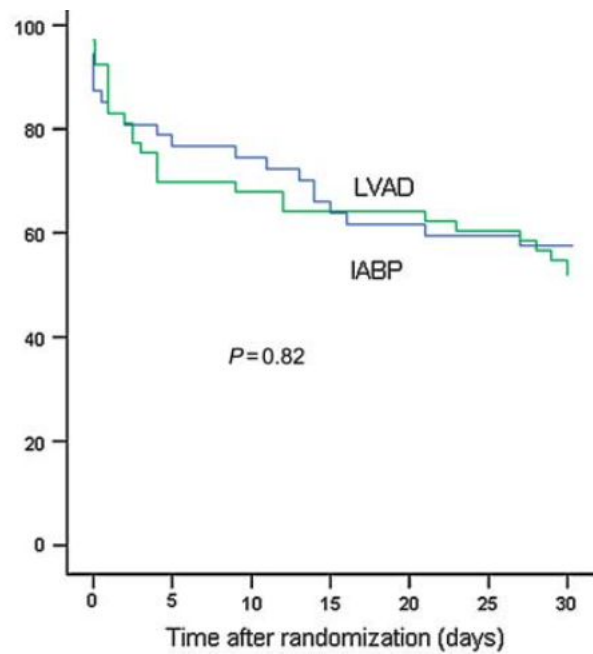
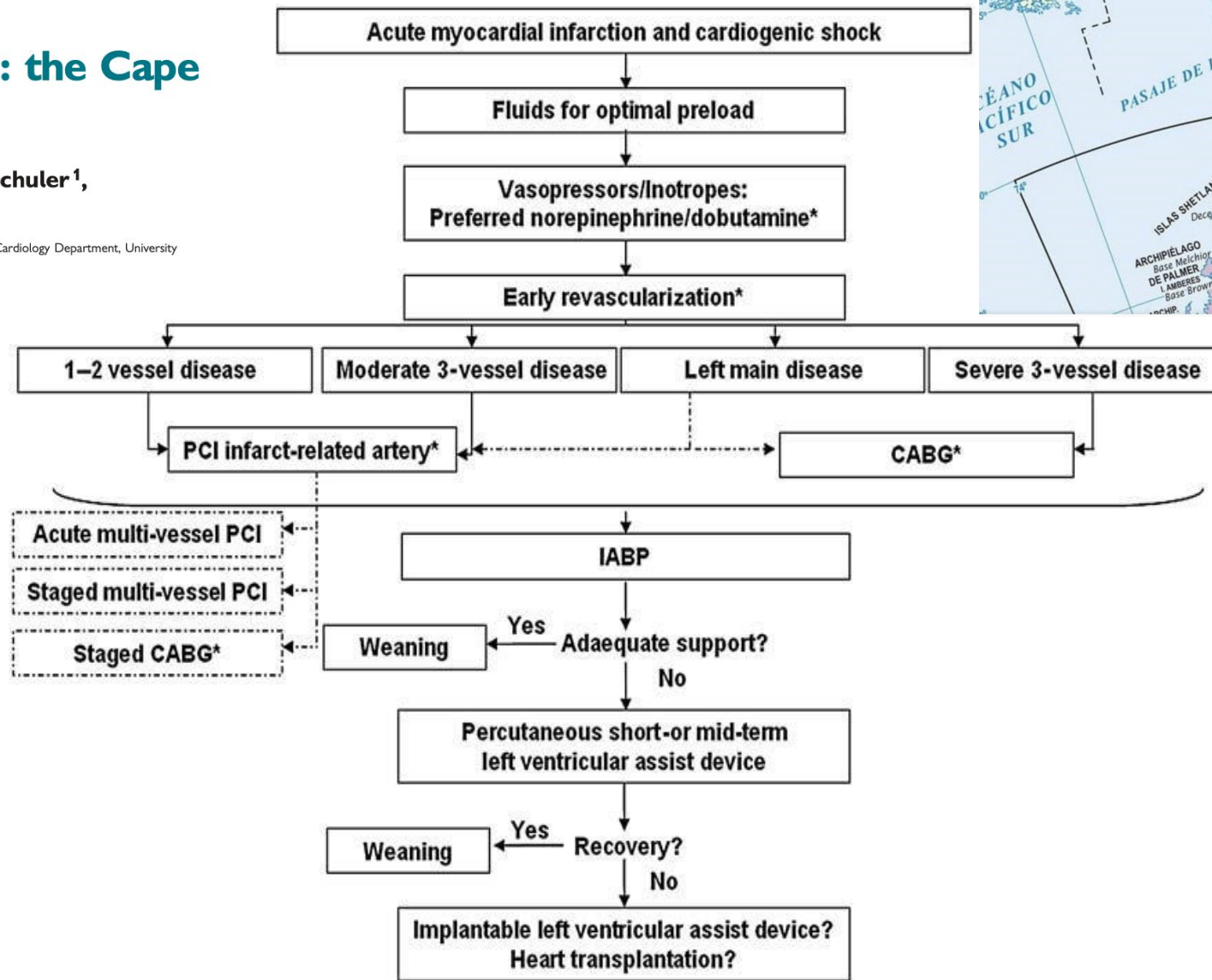


Figure 5 Kaplan–Meier curve for an individual patient-based meta-analysis of the three randomized studies comparing LVADs vs. IABP therapy.^{10,51,52}

Durante siglos, el cabo de Hornos fue uno de los hitos de las rutas comerciales de navegación de embarcaciones a vela. Todas estas rutas eran reconocidamente peligrosas debido a los Williwaws, *repentinas ráfagas de vientos catabaticos* a su vez altas olas, las cuales pueden alcanzar grandes dimensiones al rodear el planeta sin encontrar obstáculos terrestres. En 1525, el marino español Francisco de Hoces lo descubre.



CONCLUSIONES

- ANGIOPLASTIA EN RIESGO EN ARGENTINA.

GRACIAS

- ANGIOPLASTIA DE PACIENTES DE ALTO RIESGO EN ARGENTINA.
- BALON DE CONTRAPULSACION.
- SISTEMAS PERCUTANEOS DE ASISTENCIA VENTRICULAR.