



Evaluación Cardiológica

Candidatos Trasplante Renal

**Congreso de la Sociedad
Gallega de Nefrología**

Ferrol 23-24 Octubre 2015

Guillermo Aldama López
Servicio de Cardiología



SERVIZO
GALEGO
de SAÚDE

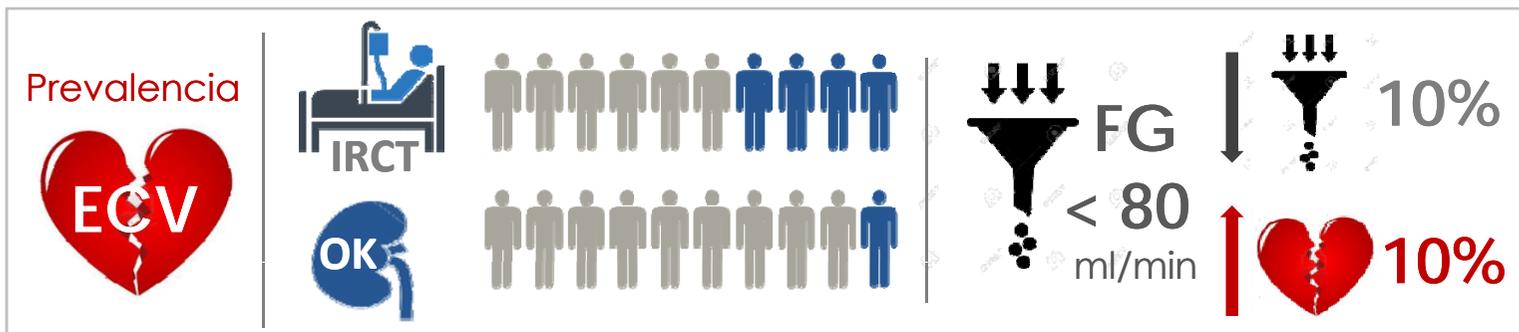
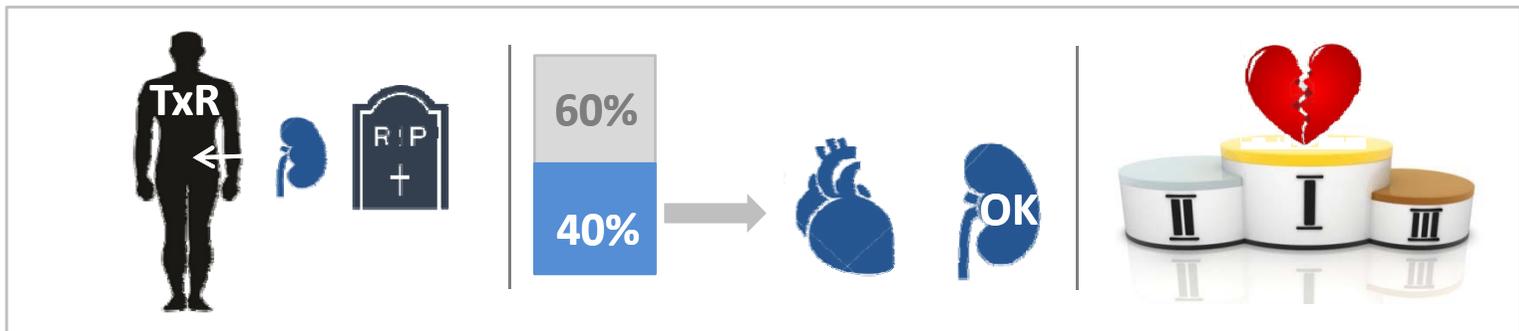
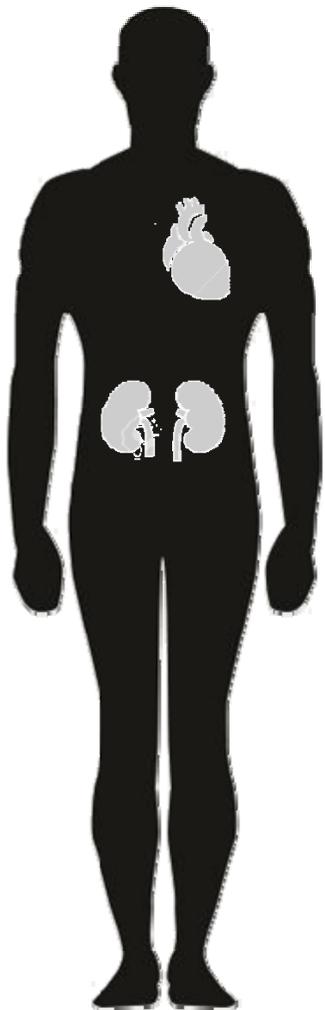
**Complexo Hospitalario
Universitario A Coruña
A Coruña**



Los peligros de la percepción



IRC y Corazón | Algunos datos



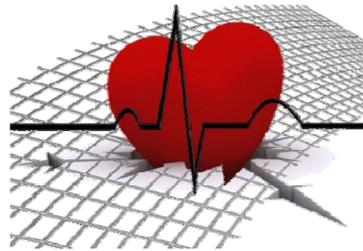


Candidatos a Tx renal...

Sintomáticos

1. SCA
2. ICC
3. Arritmias
4. Enf. Valvular

Consulta
Cardiología

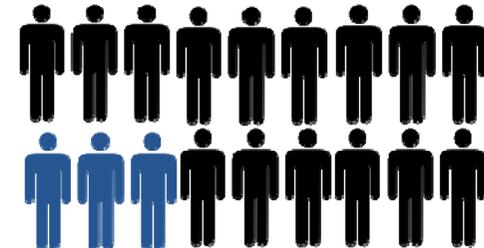


Suspender/Retrasar
Cirugía de Tx



Asintomáticos

¿Cuál es la mejor estrategia para mejorar el pronóstico de estos pacientes?





¿Para qué Screening
en ECV silente?

en IRCT

1

Disminuir el IAM y la mortalidad perioperatoria (TxR)

2

Mejorar la supervivencia del injerto y
del individuo a largo plazo

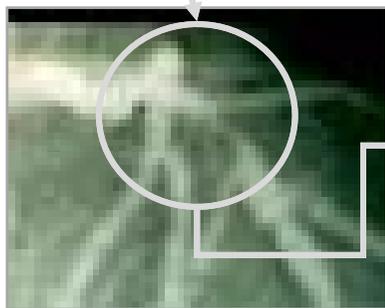
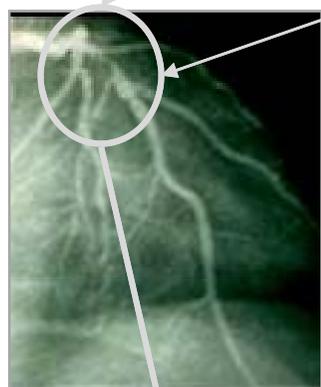
3

Seleccionar a los mejores candidatos

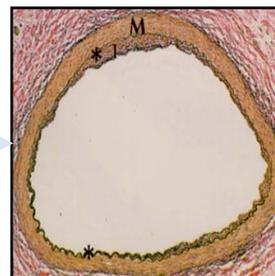
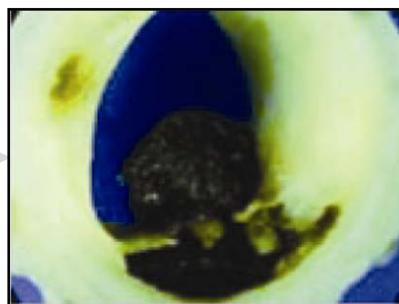
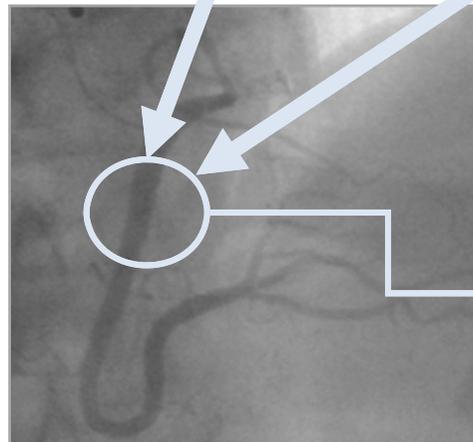


Fisiopatología del IAMP

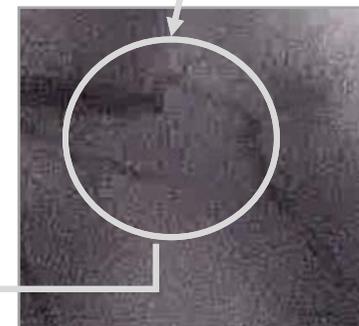
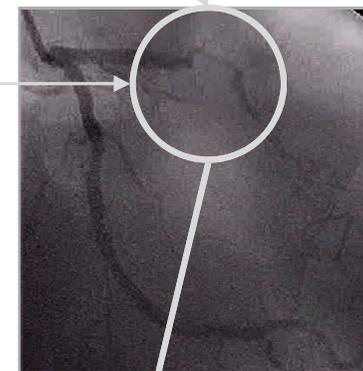
SCASEST



SCA perioperatorio (SCAP)



SCACEST



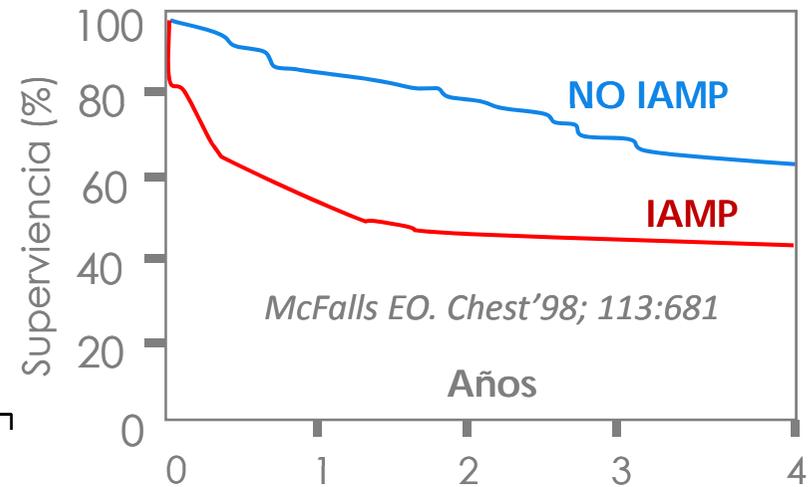
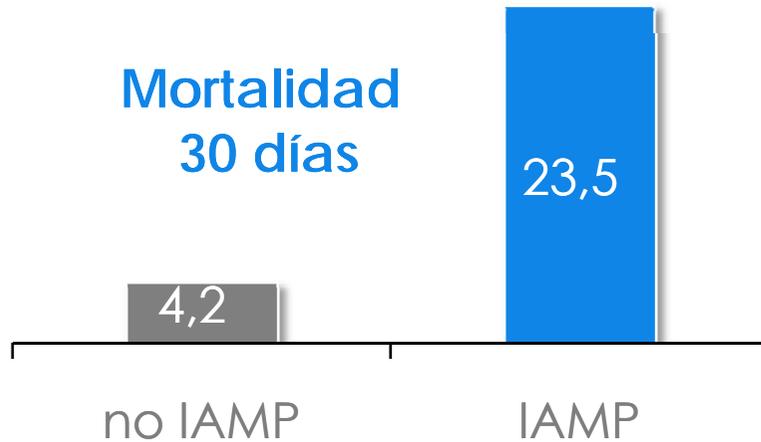


IAM perioperatorio

Cx NO CARDÍACA

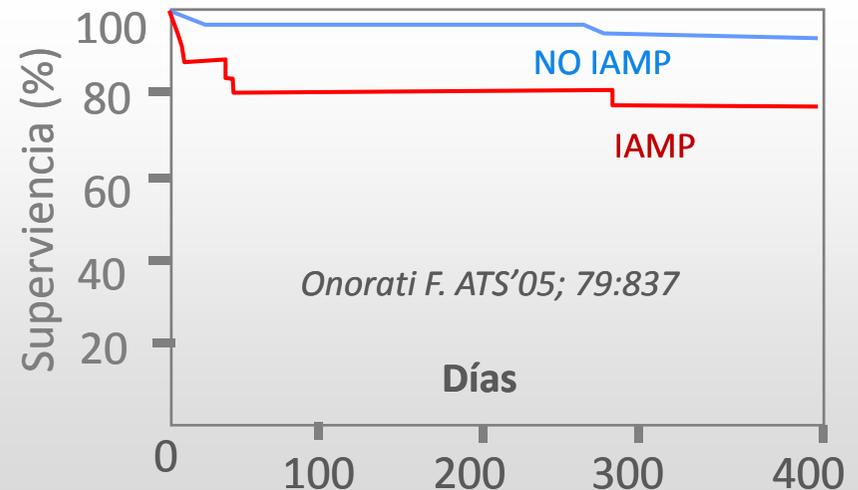
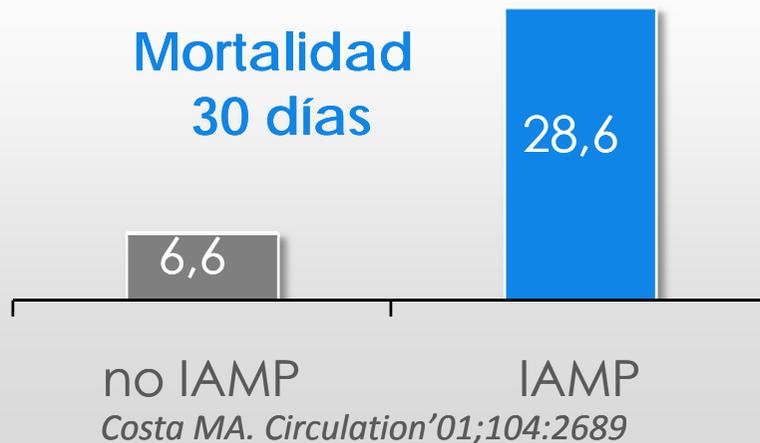
Le Manach. Anesthesiology'05; 102:885

Mortalidad
30 días



Cx CARDÍACA

Mortalidad
30 días



Revascularización Profiláctica

The NEW ENGLAND JOURNAL of MEDICINE 2004;351:2795

CARP TRIAL

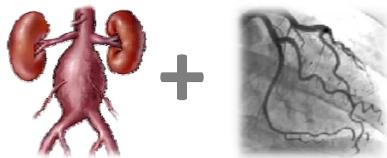
Mortalidad a largo plazo



18

510

EXCLUSION
TCI
FEVI <20%
EAo severa



252



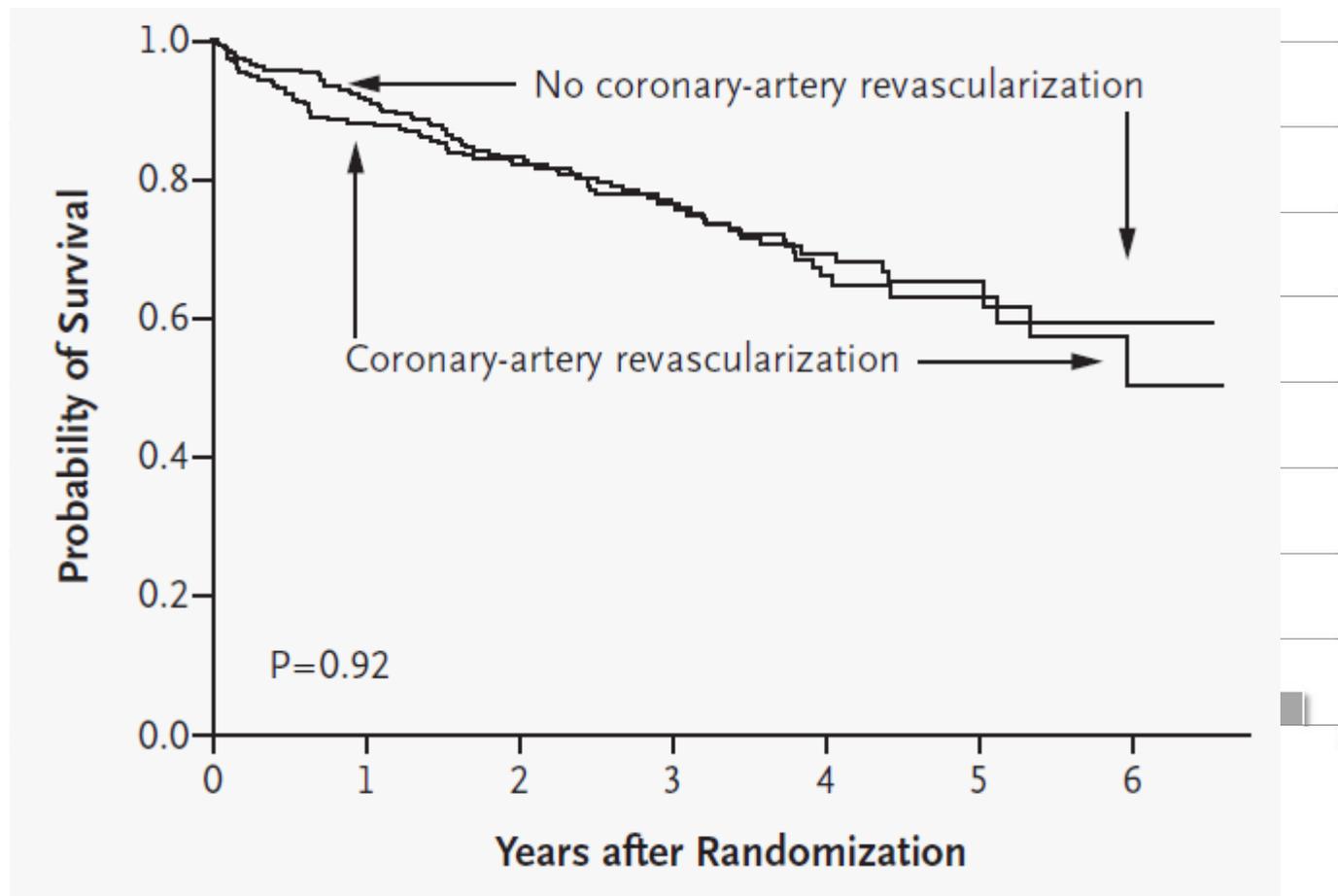
Tto médico



258



ICP Profiláctica



Revascularización Profiláctica



AMERICAN COLLEGE of CARDIOLOGY 2007;49:1763

DECREASED V



6



101

> 2FR
>70ª, IAM, ICC
DM, IRC, ACV



Extensa +



49 Tto médico

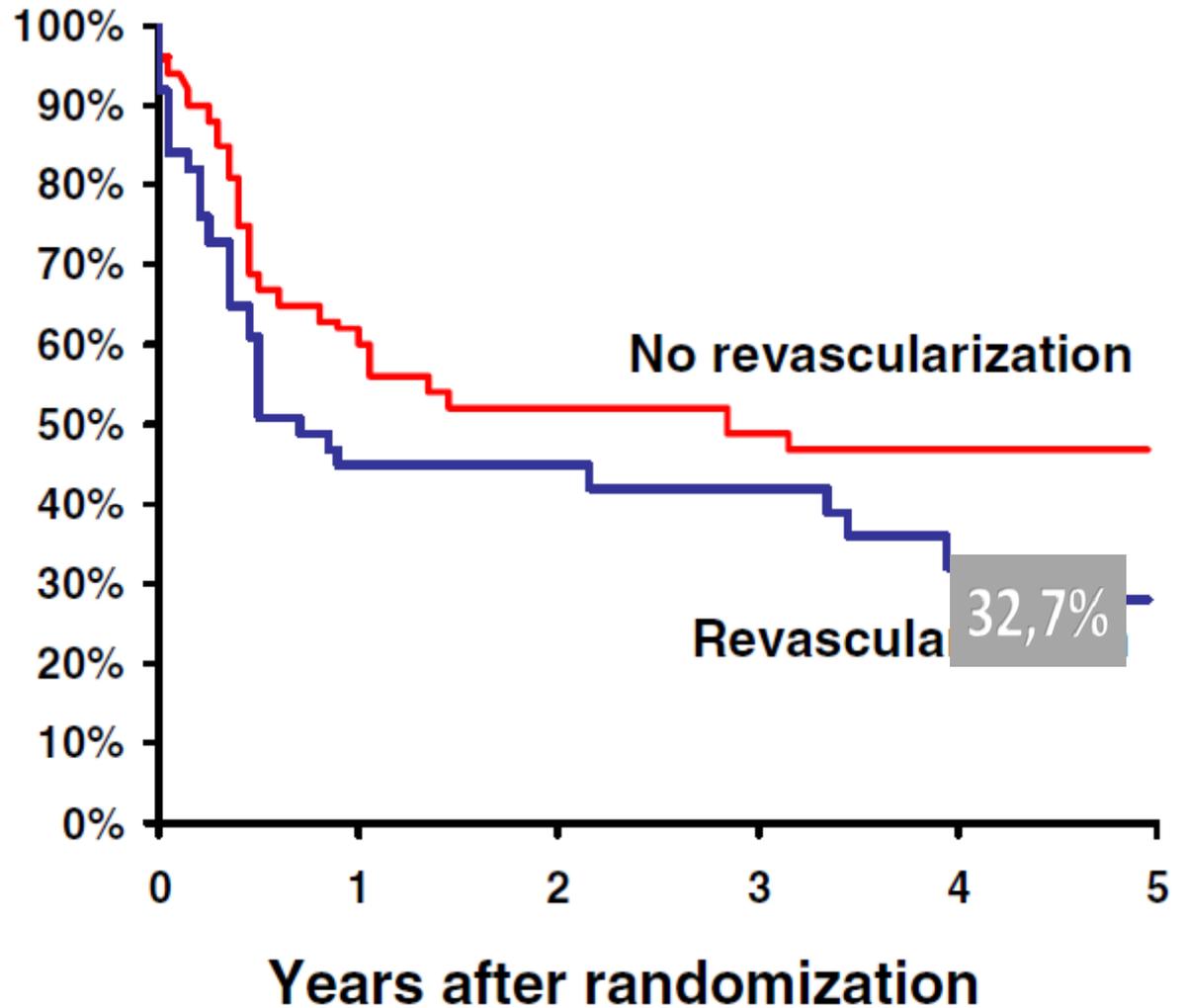


52



ICP Profiláctica

Overall survival (%)
Cardiac event free survival (%)





¿Para qué detectar
ECV silente?

en IRCT



No

1

Disminuir el IAM y la mortalidad perioperatoria (TxR)

2

Mejorar la supervivencia del injerto y
del individuo a largo plazo

3

Seleccionar a los mejores candidatos



Candidatos a Tx renal...

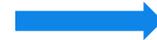
Prevalencia



40%



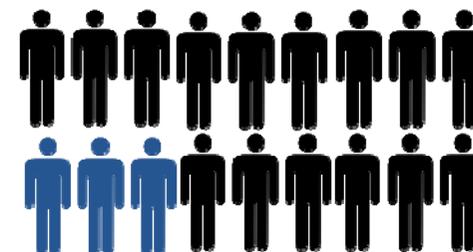
70%



10%

Asintomáticos

¿Aplicamos las guías válidas en la población general a pacientes con IRC preTx?





Qué dicen las guías

Kidney Disease Outcomes Quality Initiative (KDOQI 2005)



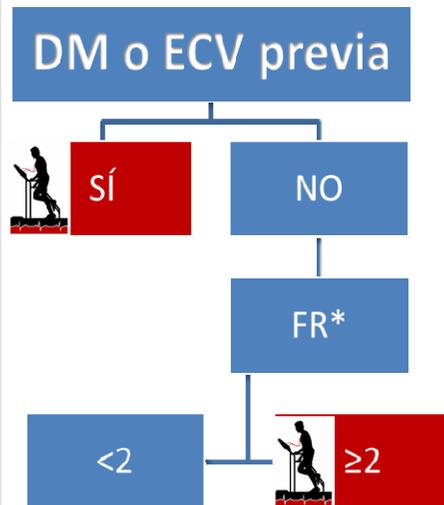
100%



(-)

12m

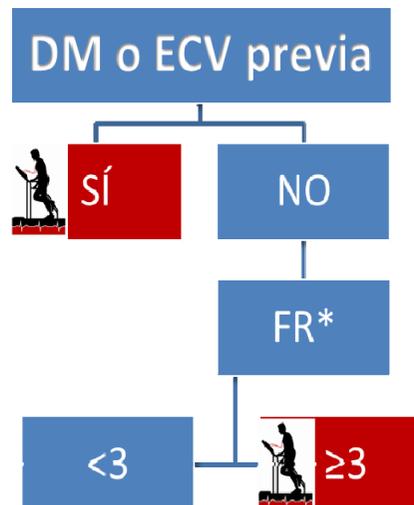
American Society of Transplantation (AST 2001)



**Factores de Riesgo:
Edad (>45 varón, 55 mujer),
Fumador, HVI, DL, Hª familiar
CI*

Lisbon Conference

2007



**Factores de Riesgo:
HVI, HTA, >1 año
diálisis, Edad>60ª, DL*



AMERICAN COLLEGE of CARDIOLOGY



American Heart Association

Cardiac Disease Evaluation and Management Among Kidney and Liver Transplantation Candidates

2012

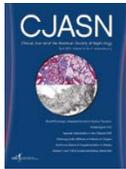


**Factores de Riesgo:
DM, DL, HTA, HVI, ECV, Diálisis
>1 a, Fumador, Edad>60ª*

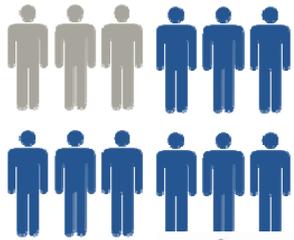


Cúal es la mejor?

Clin J Am Soc Nephrol '11;
6:1185



204 Pre TxR



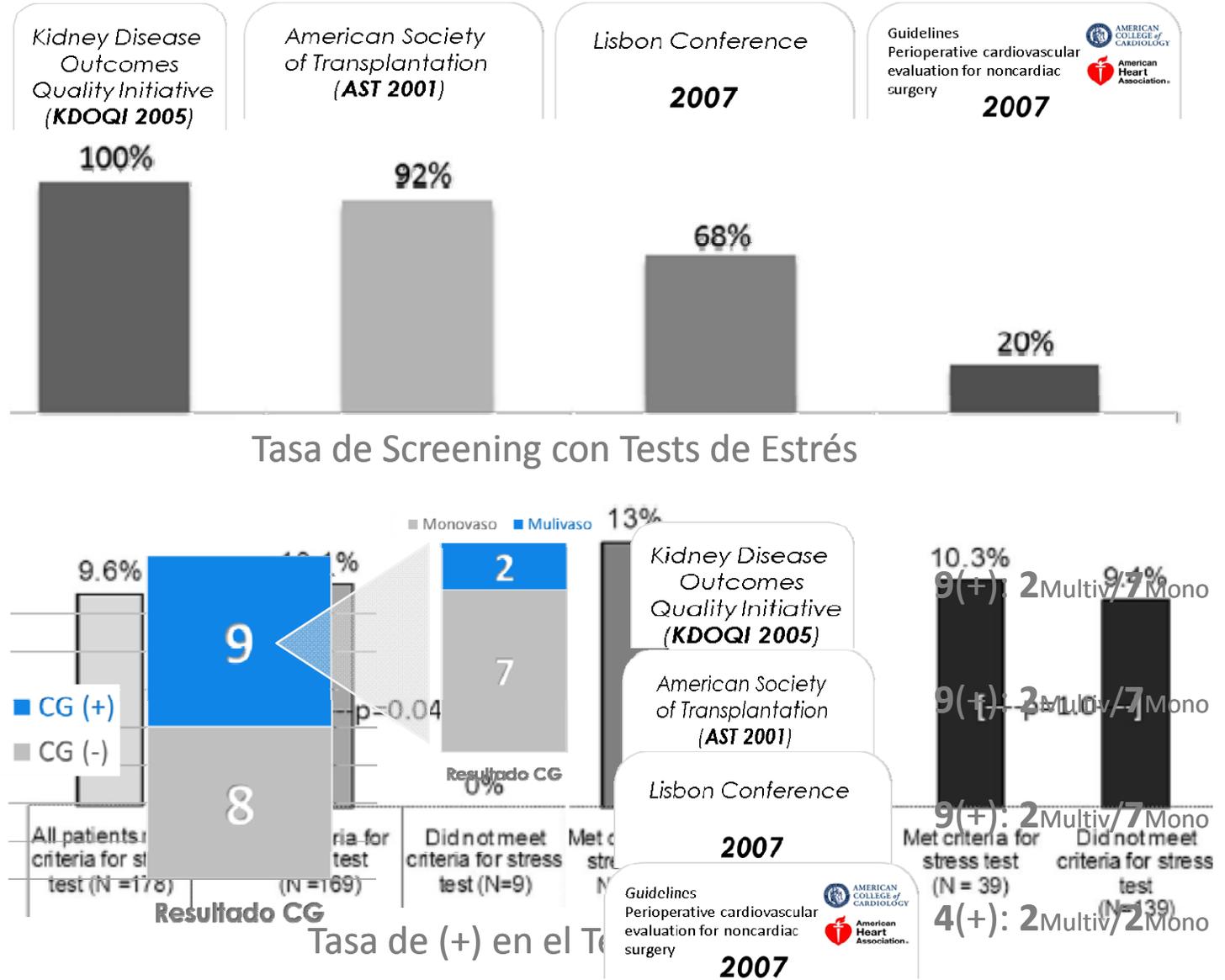
178



9,6%
(17)



5%
(9)





Screening en asintomáticos

JAMA®

The Journal of the American Medical Association

2009;301(15):1547



1123



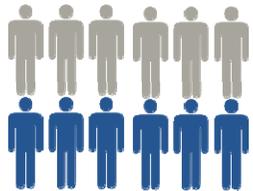
DM

Asintomáticos

562



No Screening



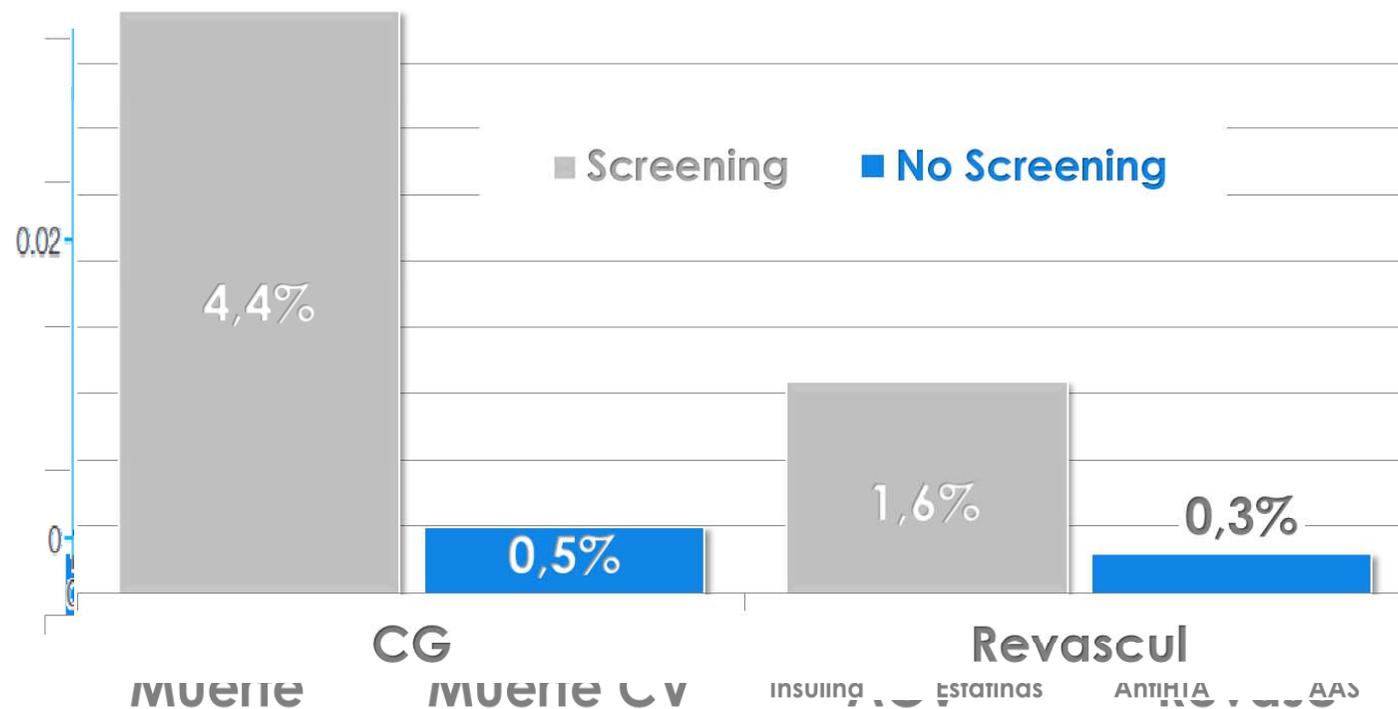
561

Screening



DIAD TRIAL

Incidencia de eventos cardiovasculares
Tasa de CG y Revascularización



Muerte

CG

Muerte CV

Insulina

Estatinas

Revascularización

Antihipertensivos

Aspirina



Screening en asintomáticos

JAMA[®]

The Journal of the American Medical Association

2014;312(21):2234



45



900



DM

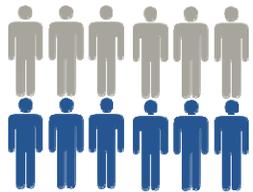
Asintomáticos

3-5 años

448



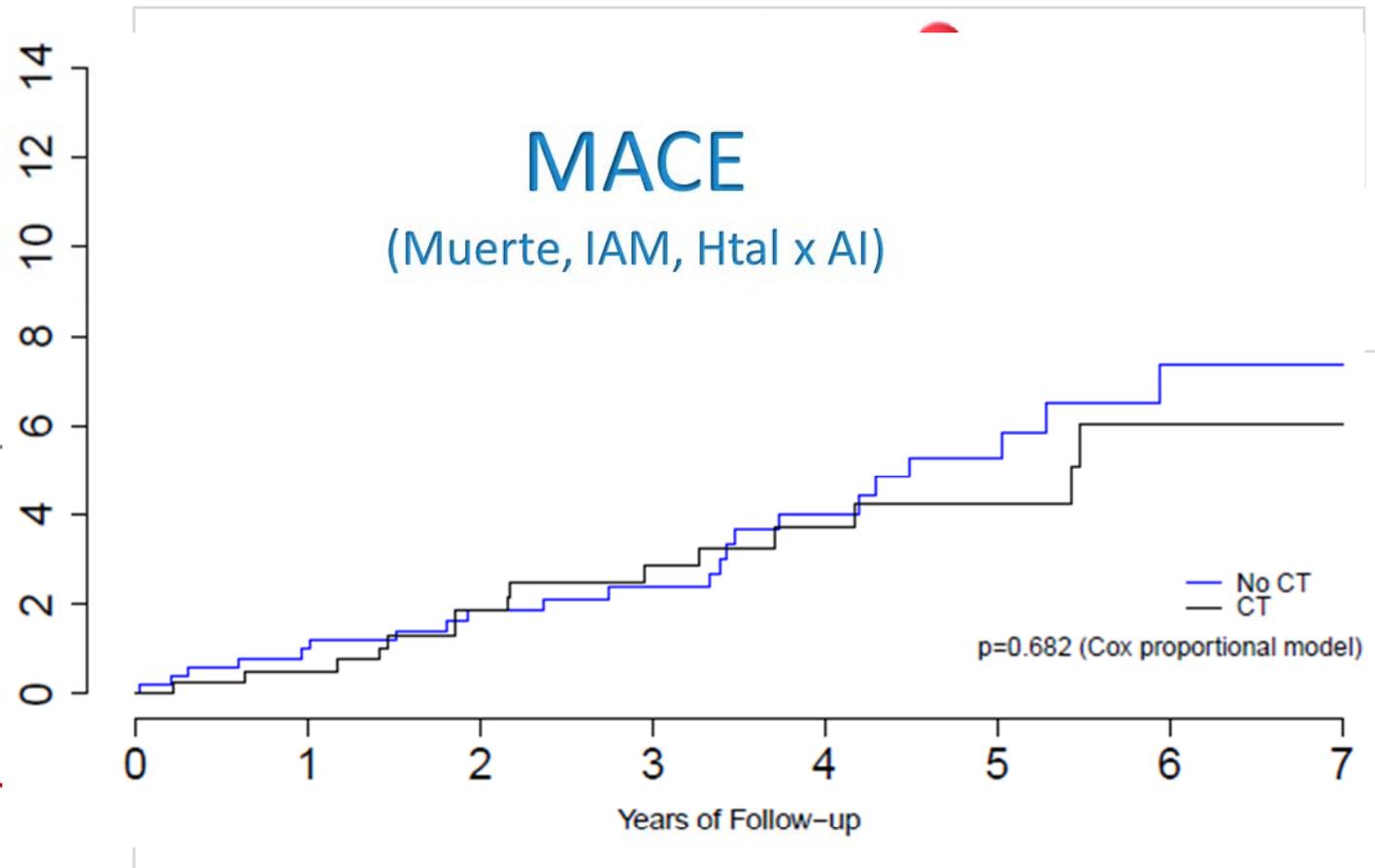
No Screening



452

Screening

FACTOR 64





Tests de estrés en IRCT

El rendimiento de un test Dx depende:

1. La precisión del test
2. La población a la que se aplique

S	E	Prev	VPP	VPN
90%	90%			
90%	90%			
90%	90%			
90%	90%			

Población	n	% DM	Test	CG	Prev	S	E	VPP	VPN
CTxR	80	100%							
CTxR	50	78%							
CTxR	89								
CTxR	125	39%							



¿Es isquemia lo que pretendemos detectar en estos pacientes?

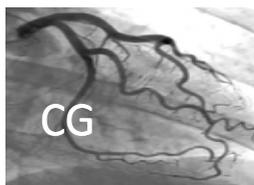
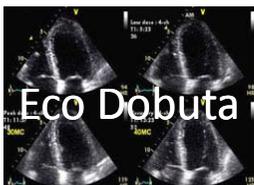
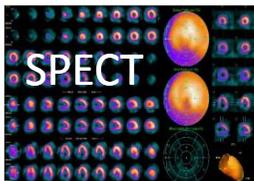
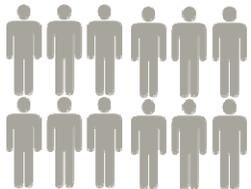


Valor Px de los test

Metanálisis

 52
7401

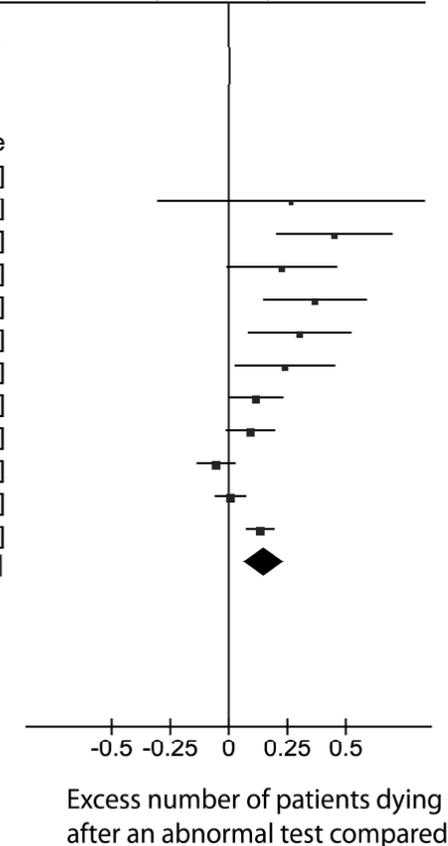
Screening CTxR



Prognostic Value of Cardiac Tests in Potential Kidney Transplant Recipients: A Systematic Review

MORTALIDAD

Study or Subgroup	Abnormal test		Normal test		Weight	Risk Difference M-H, Random, 95% CI	Risk Difference M-H, Random, 95% CI
	Events	Total	Events	Total			
6.1.1 Myocardial perfusion scintigraphy							
6.1.2 Dobutamine stress echocardiography							
6.1.3 Coronary angiography							
Manske 1992	6	26	0	0		Not estimable	
Bennett 1978(70%stenosis)	2	4	4	7	0.0%	-0.07 [-0.68, 0.54]	
Bennett 1978(50%stenosis)	4	6	2	5	1.9%	0.27 [-0.30, 0.84]	
Atkinson 2011	19	23	9	24	6.4%	0.45 [0.20, 0.70]	
Worthley 2003	4	15	1	25	6.7%	0.23 [-0.01, 0.46]	
Philipson 1986	10	23	2	30	7.2%	0.37 [0.15, 0.59]	
Enkiri 2011	9	23	3	34	7.2%	0.30 [0.08, 0.52]	
Braun 1984	17	25	33	75	7.5%	0.24 [0.03, 0.45]	
Sharma 2005	5	36	2	89	11.4%	0.12 [-0.00, 0.23]	
Gowdak 2007 NDT	41	124	39	164	11.9%	0.09 [-0.01, 0.20]	
Eschertzhuber 2005	0	52	2	37	12.8%	-0.05 [-0.14, 0.03]	
Kahn 2011	25	212	16	145	13.4%	0.01 [-0.06, 0.07]	
Kumar 2011	36	184	29	473	13.6%	0.13 [0.07, 0.20]	
Subtotal (95% CI)		749		1101	100.0%	0.15 [0.07, 0.24]	
Total events	176		138				
Heterogeneity: Tau ² = 0.01; Chi ² = 44.57, df = 10 (P < 0.00001); I ² = 78%							
Test for overall effect: Z = 3.57 (P = 0.0004)							



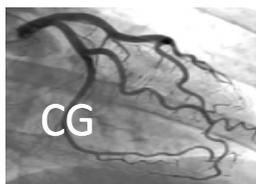
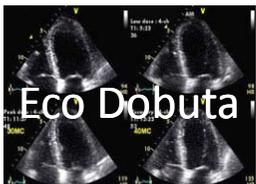
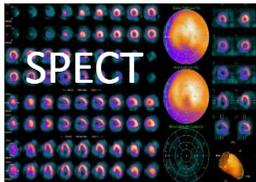
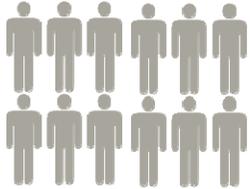


Valor Px de los test

Metanálisis

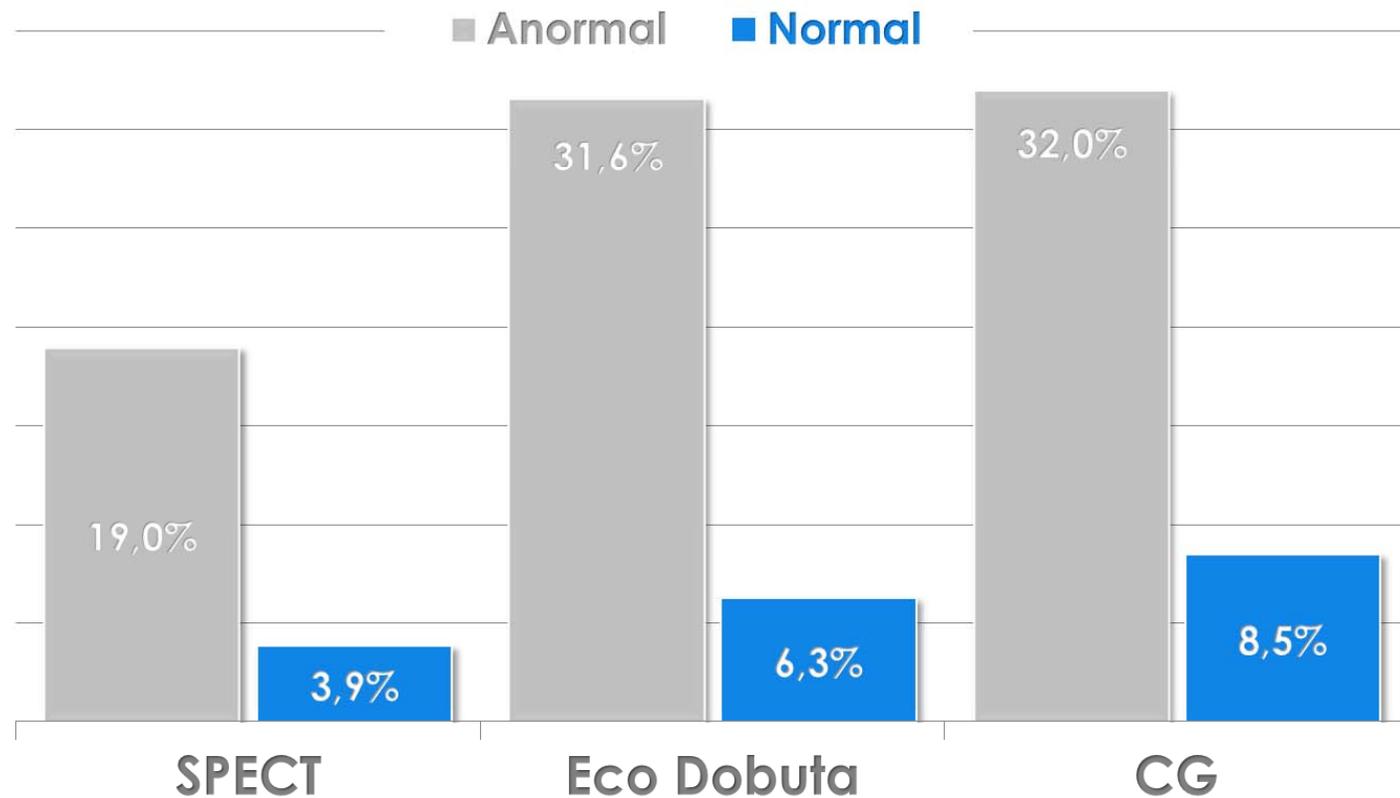
 52
7401

Screening CTxR



Prognostic Value of Cardiac Tests in Potential Kidney Transplant Recipients: A Systematic Review

MACE



Transplantation 2015;99: 731



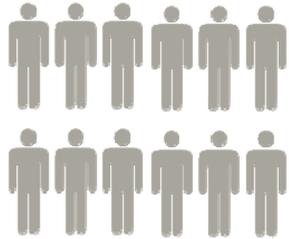
Valor Px del ecocardiograma



Clin J Am Soc Nephrol '10; 5:1793



1254

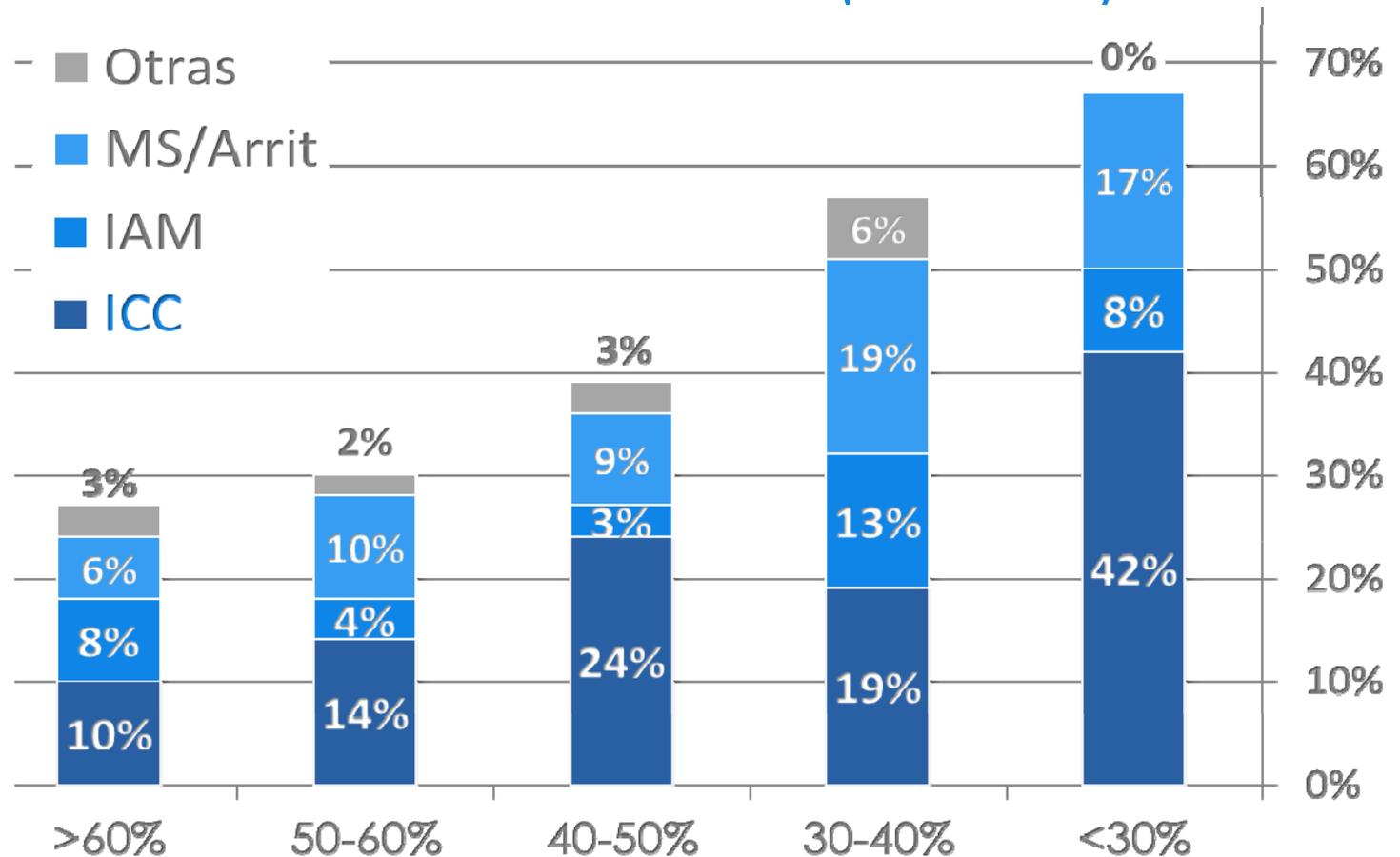


1º mes HD



Prognostic Value of Reduced Left Ventricular Ejection Fraction at Start of Hemodialysis Therapy on Cardiovascular and All-Cause Mortality in End-Stage Renal Disease Patients

Causas mortalidad CV (7,5 años)





¿Para qué detectar
ECV silente?

en IRCT

1

Disminuir el IAM y la mortalidad perioperatoria (TxR)

2

Mejorar la supervivencia del injerto y
del individuo a largo plazo

3

Seleccionar a los mejores candidatos



Contraindicaciones al TxR



Neoplasia activa



Enfermedad Pulmonar severa



Enfermedad vascular periférica severa



Enfermedad Hepática severa



Enfermedad coronaria no revascularizable



Deterioro cognitivo severo



Adicción activa alcohol o drogas



Falta de adherencia al tratamiento



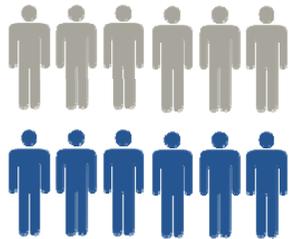
Causas exclusión lista TxR



Clin J Am Soc Nephrol '11; 6:1912

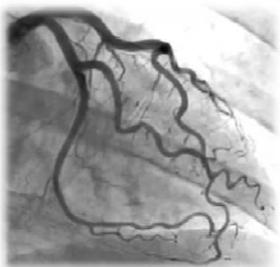


1304 PreTxR

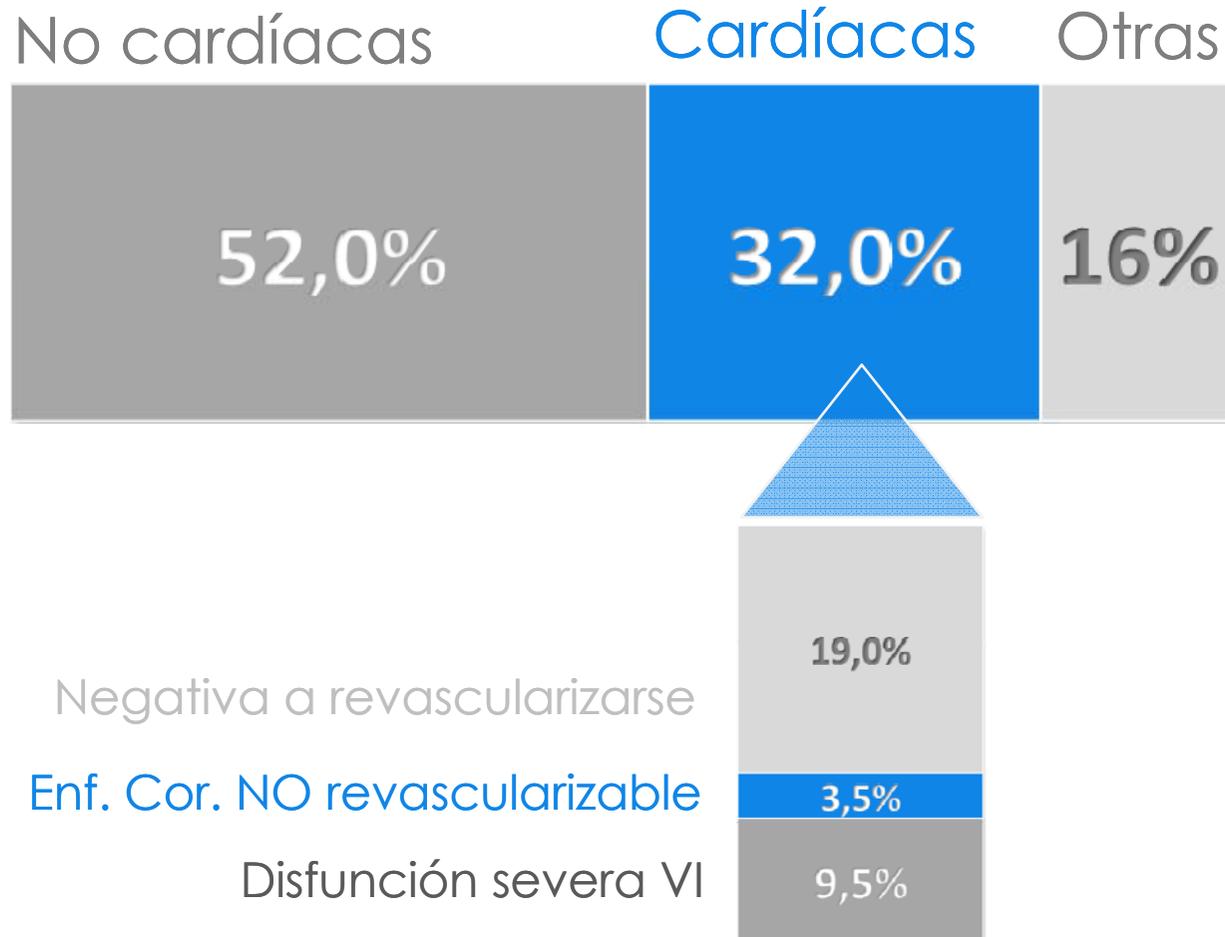


657

>50 a
DM
Síntomas
Alts ECG



Cardiac Survival after Pre-emptive Coronary Angiography in Transplant Patients and Those Awaiting Transplantation



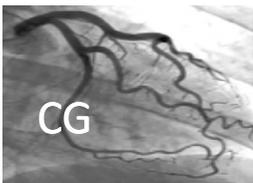
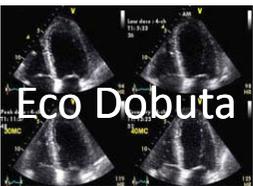
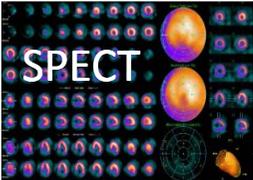
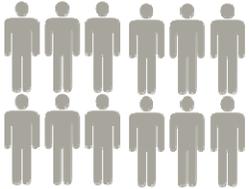


Seleccionando candidatos

Metanálisis

 52
7401

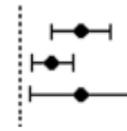
Screening CTxR



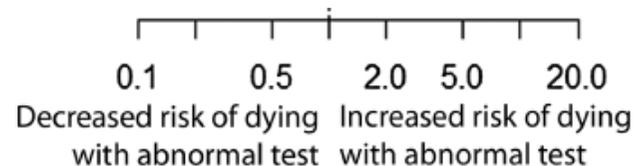
Prognostic Value of Cardiac Tests in Potential Kidney Transplant Recipients: A Systematic Review

Test
Coronary angiography
Myocardial perfusion scintigraphy
Dobutamine stress echocardiography

All cause mortality



¿Cuándo NO nos ayudan los test a seleccionar los mejores candidatos?





Un resumen por favor...



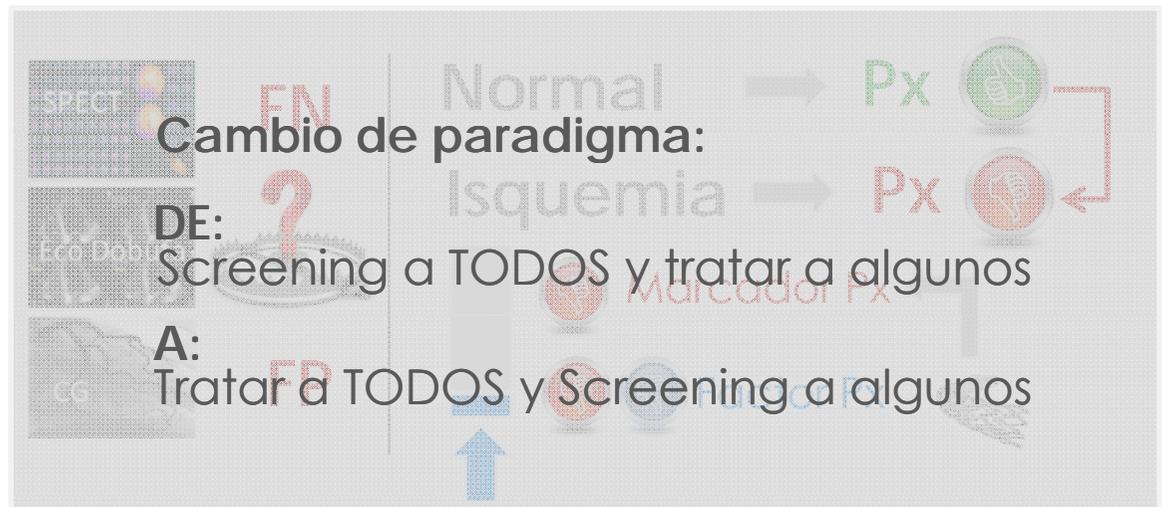
TRUE



▲ Prevalencia



No



¿Es isquemia lo que pretendemos detectar en estos pacientes?

Yes



¿Entonces qué hacemos?

CTxR asintomáticos



H^a
CLÍNICA

AMERICAN COLLEGE of CARDIOLOGY **American Heart Association**
Cardiac Disease Evaluation and Management Among Kidney and Liver Transplantation Candidates 2012

D₂

DM
Dislipemia

E

ECV

A

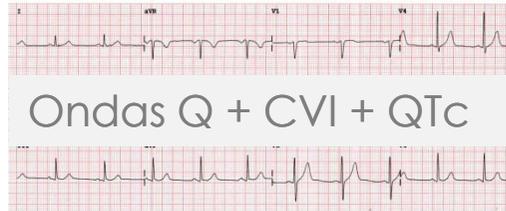
Age > 60

T₂

Tabaco
T' diálisis > 1a

H

HTA + HVI



Válv.
ØVI
HVI
FEVI
PSAP

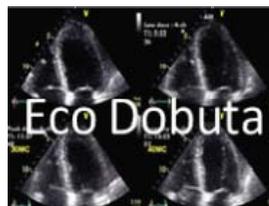
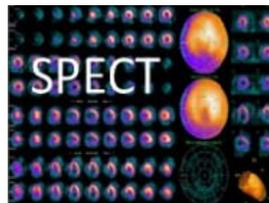


LDL <70 mg/dl
HDL >50 mg/dl
TG <150 mg/dl
PAs <120 mmHg

Revisión
clínica/a

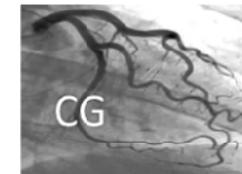
ETT/2a

≥3



Isquemia Extensa

FN
FP



Marcador Px



Factor Px

