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72° CONGRESSO BRASILEIRO DE CARDIOLOGIA
03 a 05 Novembro | 2017
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MOVIDOS PELO CORAÇÃO

Mesa-Redonda

Avaliação do Paciente com Estenose Aórtica de Moderado e Alto Risco Cirúrgico

Visão do Cirurgião Cardíaco

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Instituto de cardiologia
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UFCSPA
Universidade Federal de Ciências da Saúde de Porto Alegre

Declaração de Potencial Conflito de Interesse

Nome do Palestrante:

Renato A. K. Kalil

Título da Apresentação:

Avaliação do Paciente com Estenose Aórtica de Moderado e Alto Risco Cirúrgico

Visão do Cirurgião Cardíaco

Não possuo nenhum conflito de interesse relacionado a esta apresentação

Definição do Risco

Escores mais utilizados tem base em pacientes com cardiopatia isquêmica

STS score (http:209.220.160.181/STSWebRiskCalc261/)

Euroscore I e II (www.euroscore.org/calc.html)

Para valvulares:

Ambler: Ambler, G., Omar, R.Z., Royston, P. et al. Generic, simple risk stratification model for heart valve surgery. *Circulation*. 2005; 112: 224–231

Guaragna:**Guaragna** JC, Bodanese LC, Bueno FL, Goldani MA. Arq Bras Cardiol. 2010 Apr;94(4):541-8

Escores mais específicos, incluindo itens como fragilidade, agilidade e força, tem sido propostos

Validade dos Escores de Risco

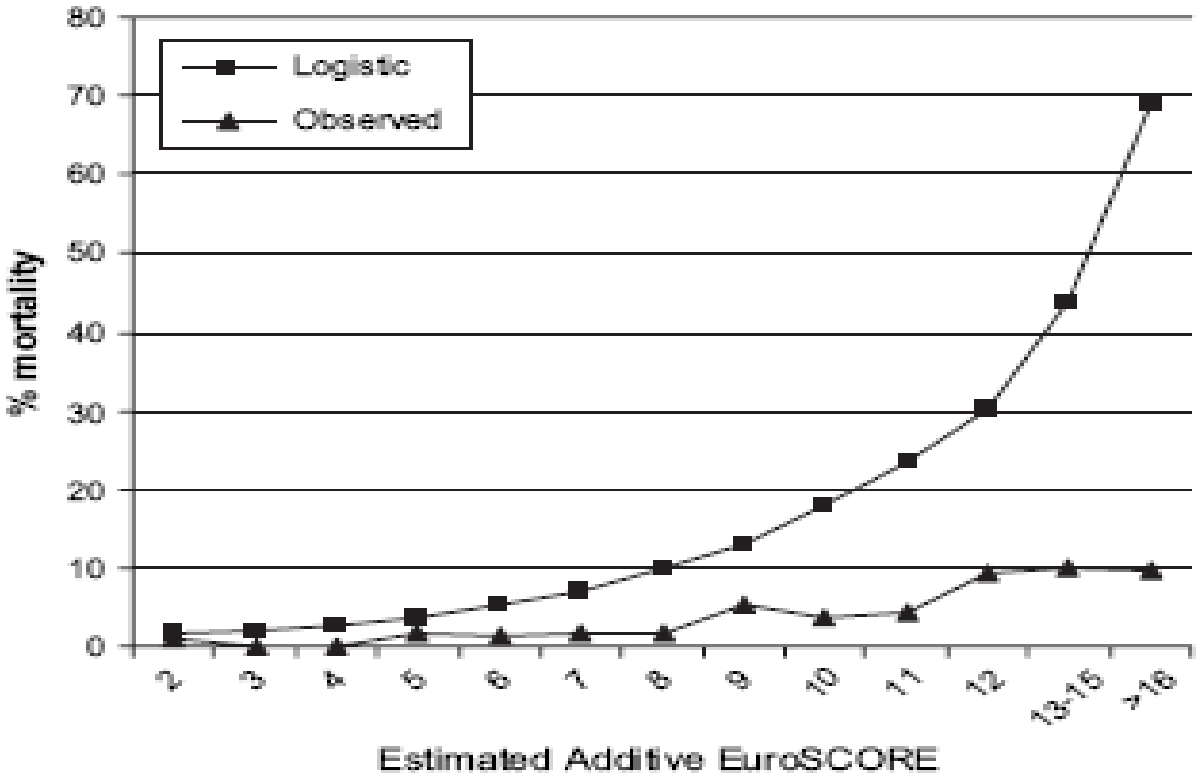
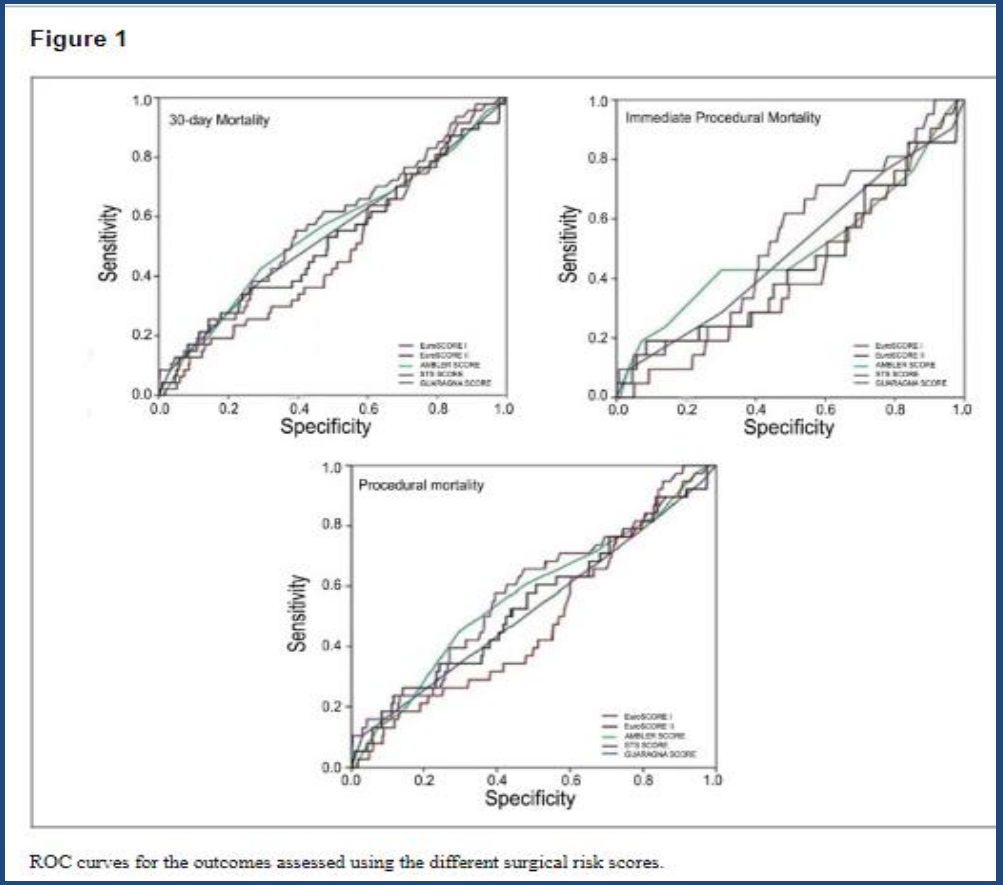


Figure 2. Actual and predicted mortality for the logistic EuroSCORE model. The mortality rate is on the Y axis, and patients are divided into groups on the basis of the predicted additive EuroSCOREs on the X axis.

Is the European System for Cardiac Operative Risk Evaluation model valid for estimating the operative risk of patients considered for percutaneous aortic valve replacement?

Morgan L. Brown, MD (Mayo Clinic) J Thorac Cardiovasc Surg 2008;136:566-71

Performance of surgical risk scores to predict mortality after transcatheter aortic valve implantation.



CONCLUSIONS:

In this real world Brazilian registry, the surgical risk scores were inaccurate in predicting mortality after TAVI. Risk models specifically developed for TAVI are required.

Silva LS, Caramori PR, Nunes Filho AC, Katz M, Guaragna JC, Lemos P, Lima V, Abizaid A, Tarasoutchi F, Brito Jr FS. Arq Bras Cardiol 2015 Sep;105(3):241-7.

Assessment of Commonly Used Frailty Markers for High- and Extreme-Risk Patients Undergoing Transcatheter Aortic Valve Replacement

4 itens:

albumina sérica
teste caminhada
força, *grip strenght,*
índice Katz de independência atividade diária

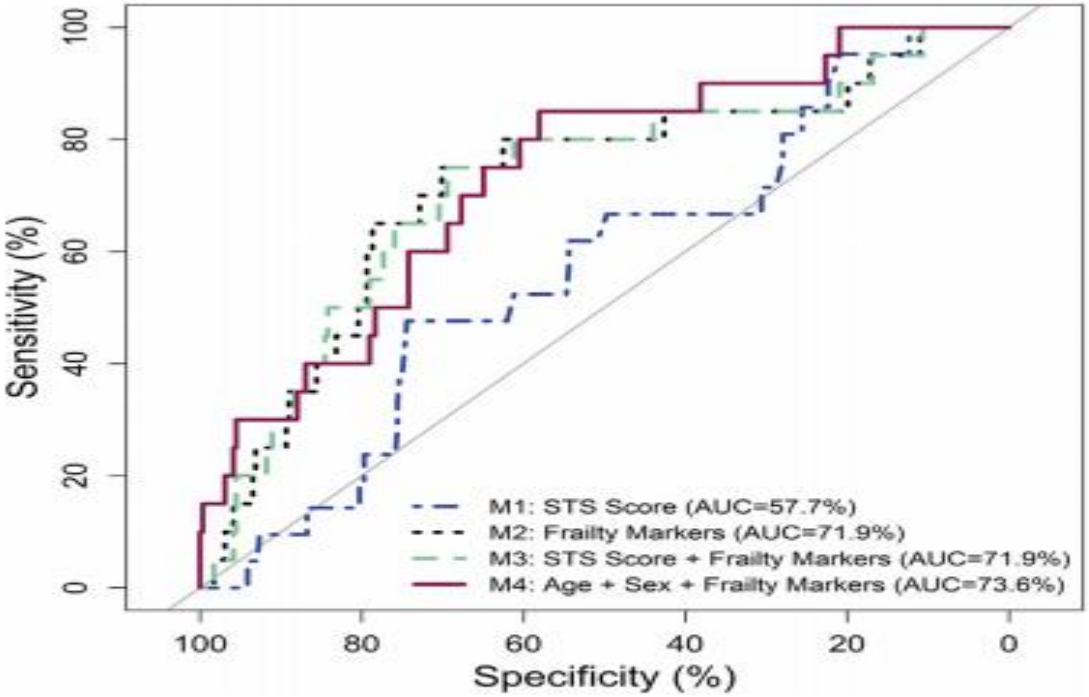


Fig 1. Receiver-operating characteristics curves for 30-day mortality (M): M1 (blue line) The Society of Thoracic Surgeons (STS) score (area under the curve [AUC] = 57.7%; M2 (black line) frailty markers (AUC = 71.9%); M3 (green line) STS score plus frailty makers (AUC = 71.9%); and M4 (purple line) age plus sex plus frailty markers (AUC = 73.6%).

Forcillo et al: Ann Thor Surg 2017 (Epub)

Resultados da Cirurgia Convencional Aberta

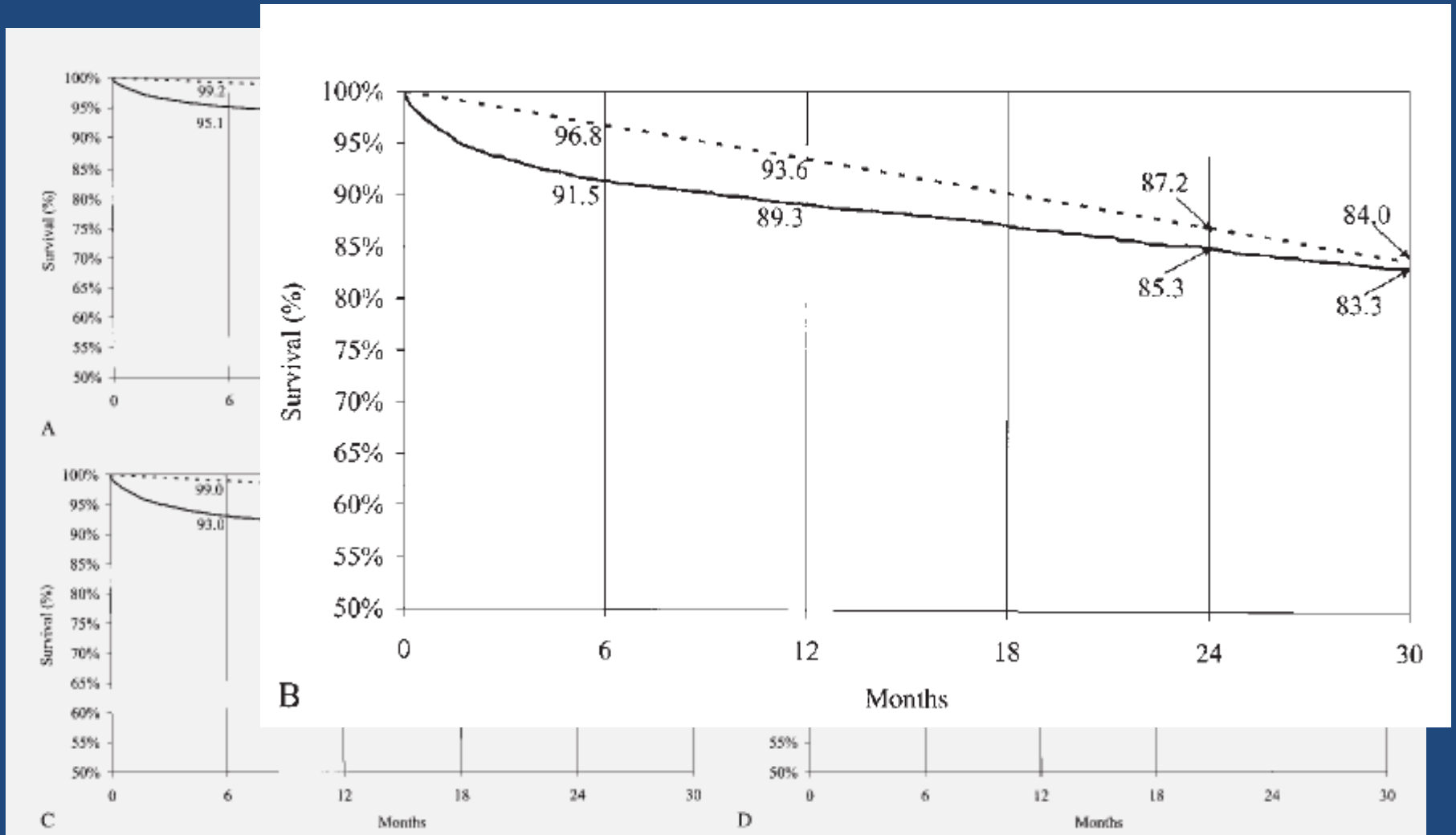


Fig 2. Survival after aortic valve replacement according to patient age. Dashed lines are survival for age- and sex-matched US population. Solid lines represent risk-adjusted survival in selected age and surgery subgroups. (A) Nonelderly patients (age < 75 years) with isolated aortic valve replacement. (B) Elderly patients (age > 75 years) with isolated aortic valve replacement. (C) Nonelderly patients undergoing aortic valve replacement with coronary artery bypass graft surgery. (D) Elderly patients undergoing aortic valve replacement with coronary artery bypass graft surgery.

Hannan, Registro de NY
AnnThoracSurg.2009Jun;87(6):1741-9

- **Table 3 Multivariable Predictors for 30-Month Survival in Patients With Severe Aortic Stenosis Undergoing Aortic Valve Replacement Surgery in New York State From 2003 to 2005**

Predictor		Prevalence	Coefficient	*p* Value	HazardRatio
Age	<65 y	17.57	Reference	1.00	
	65–74	28.75	0.453	0.003	1.57
	75–84	44.36	0.7807	<0.0001	2.18
	>85	9.33	1.3767	<0.0001	3.96

Mortalidade hospitalar média 3,97% para Ao isolada

Hannan, Ann Thorac Surg 2009

Relação Sobrevida X Idade

Ann Thorac Surg
2013;95:S1–S66

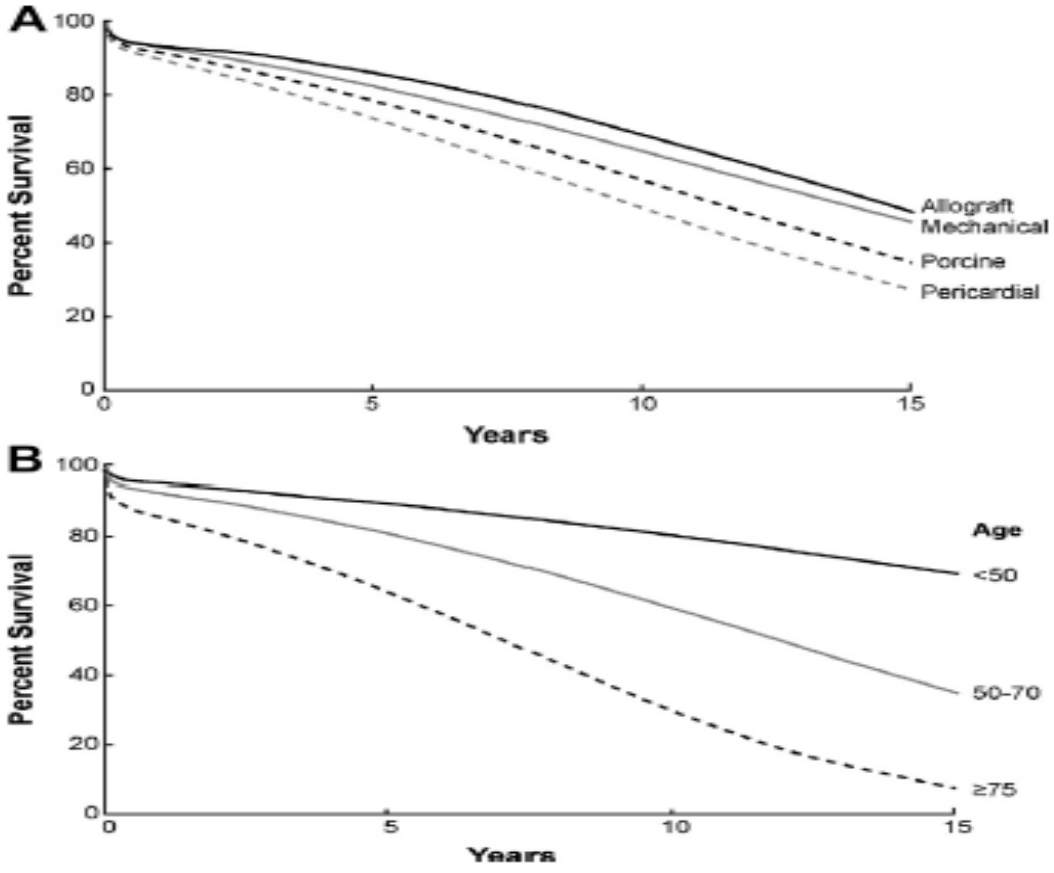
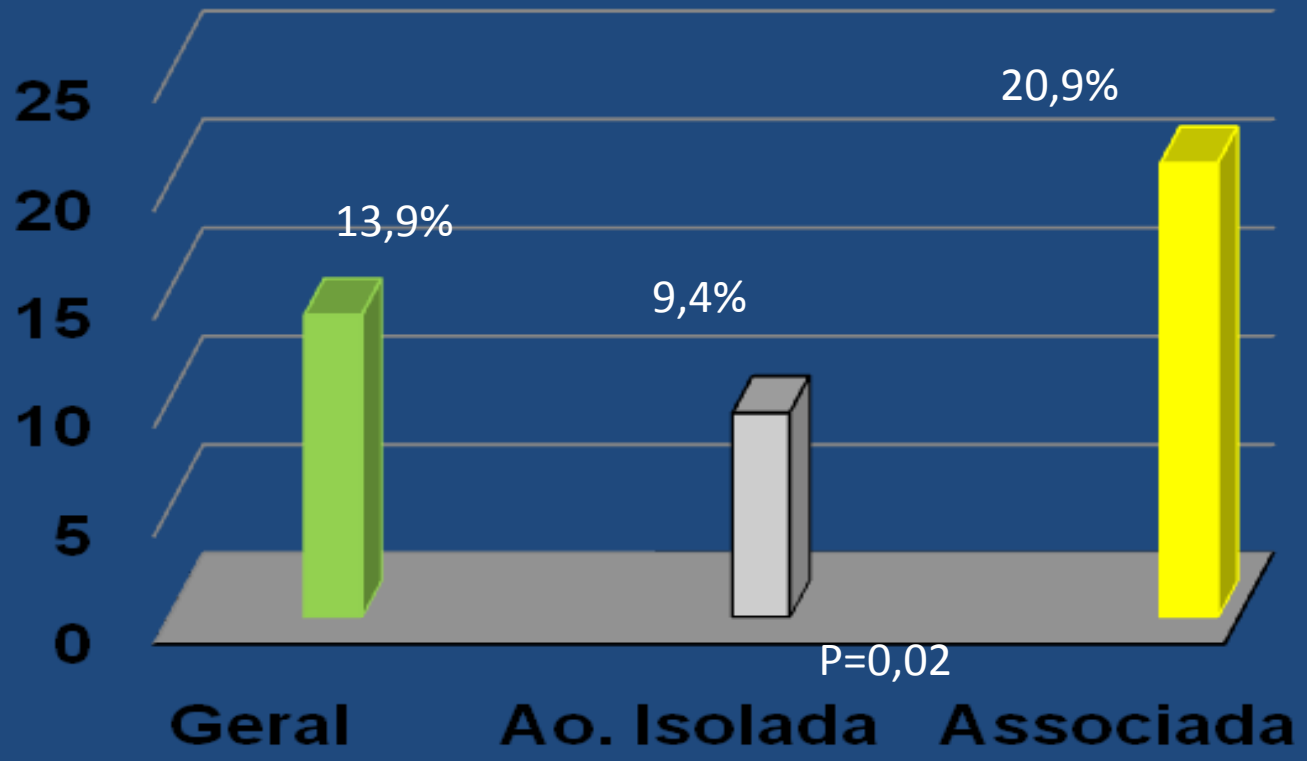


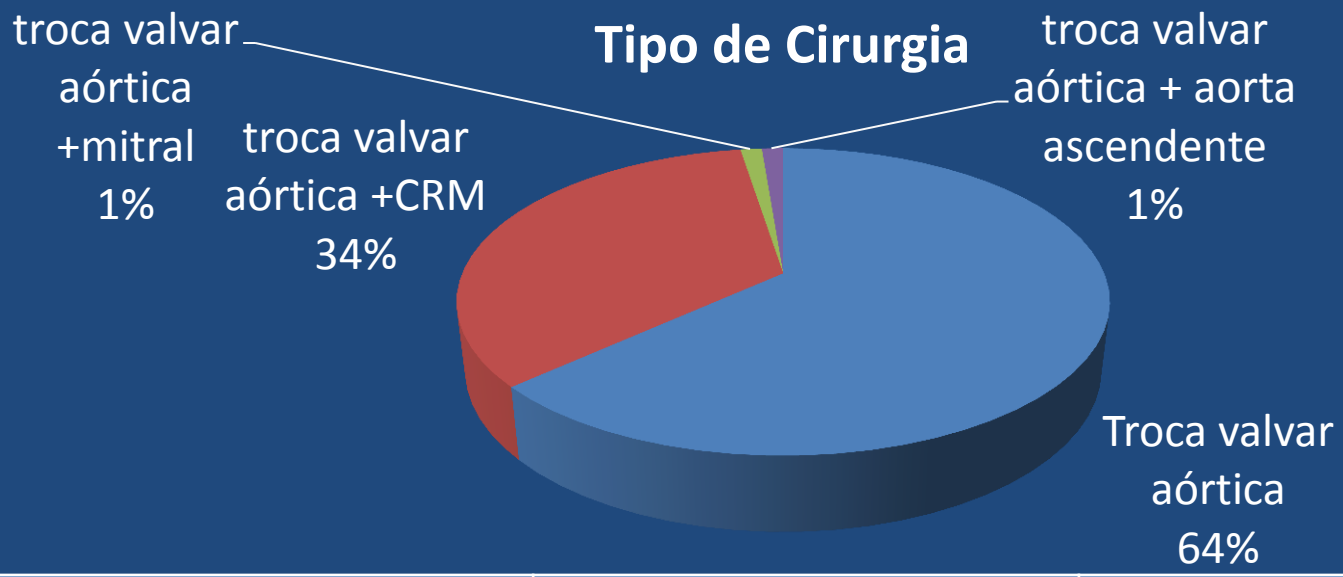
Fig 2. (A) Relationship of late survival to years after aortic valve insertion in 13,258 patients, divided by aortic valve prosthesis. (B) Survival by age.

Cirurgia EAo >75anos no IC/FUC
Período 2002-2007
n = 230
Mortalidade hospitalar



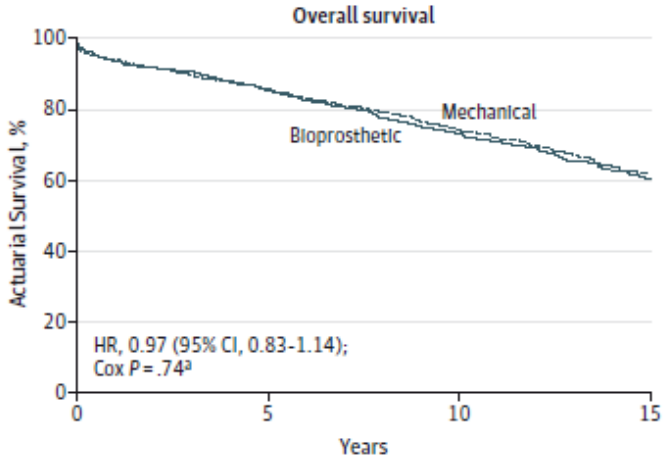
Valle F e cols Arq Bras Cardiol 2010;94(6): 720-725

Pacientes acima de 70 anos submetidos a troca valvar aórtica por estenose no IC-FUC entre 2015-2016 n=79



Mortalidade Geral:	**8 (10,1%)**	
Mortalidade por tipo de cirurgia:	Troca valvar aórtica isolada: 5 de 49 (10,2%)	Cirurgia combinada: 3 de 30(10,0%)
Mortalidade por grupo etário:	70-75 anos: 1 (1,2%)	>75 anos: 7 (8,8%)
Causa do óbito:	Cardiovasc: 3 (3,79%)	Não Cardiovasc: 5 (6,3%)

Figure 1. Overall Survival Among Propensity-Matched Patients Aged 50 to 69 Years After Bioprosthetic vs Mechanical Aortic Valve Replacement



No. at risk

Bioprosthetic	1001	860	589	91
Mechanical	1001	856	611	89

There were 322 all-cause deaths in the bioprosthesis group vs 318 in the mechanical prosthesis group.

[a] *P* value calculated using a marginal Cox model with a robust sandwich variance estimator.

Survival and Long-term Outcomes Following Bioprosthetic vs Mechanical Aortic Valve Replacement in Patients Aged 50 to 69 Years

DESIGN, SETTING, AND PARTICIPANTS Retrospective cohort analysis of 4253 patients aged 50 to 69 years who underwent primary isolated aortic valve replacement using bioprosthetic vs mechanical valves in New York State from 1997 through 2004, identified using the Statewide Planning and Research Cooperative System. Median follow-up time was 10.8 years (range, 0 to 16.9 years); the last follow-up date for mortality was November 30, 2013. Propensity matching yielded 1001 patient pairs.

Based on NY Registry

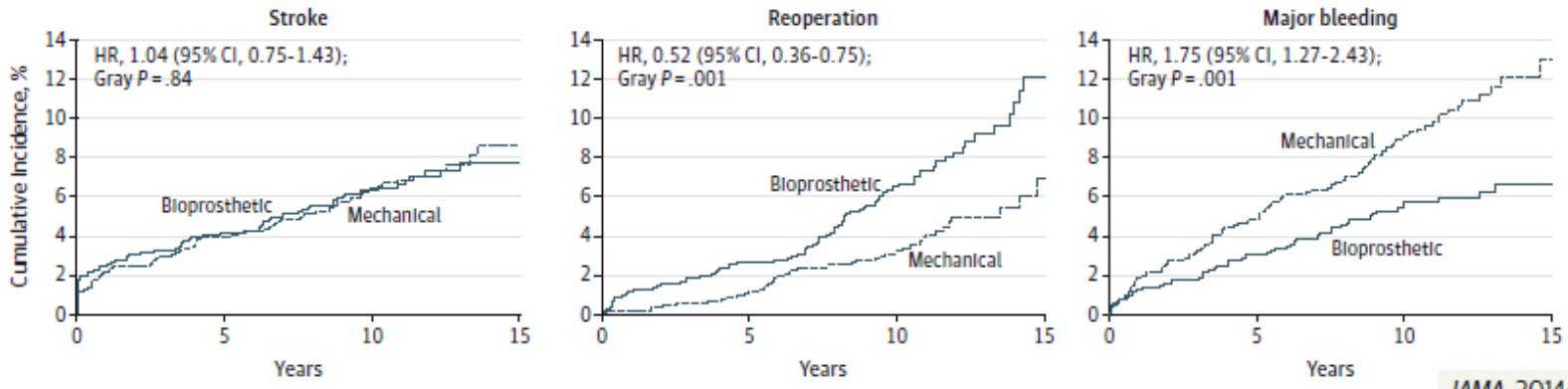
Mortality after complications:

18,7% after stroke

9,0% after reoperation

13,2% after major bleeding

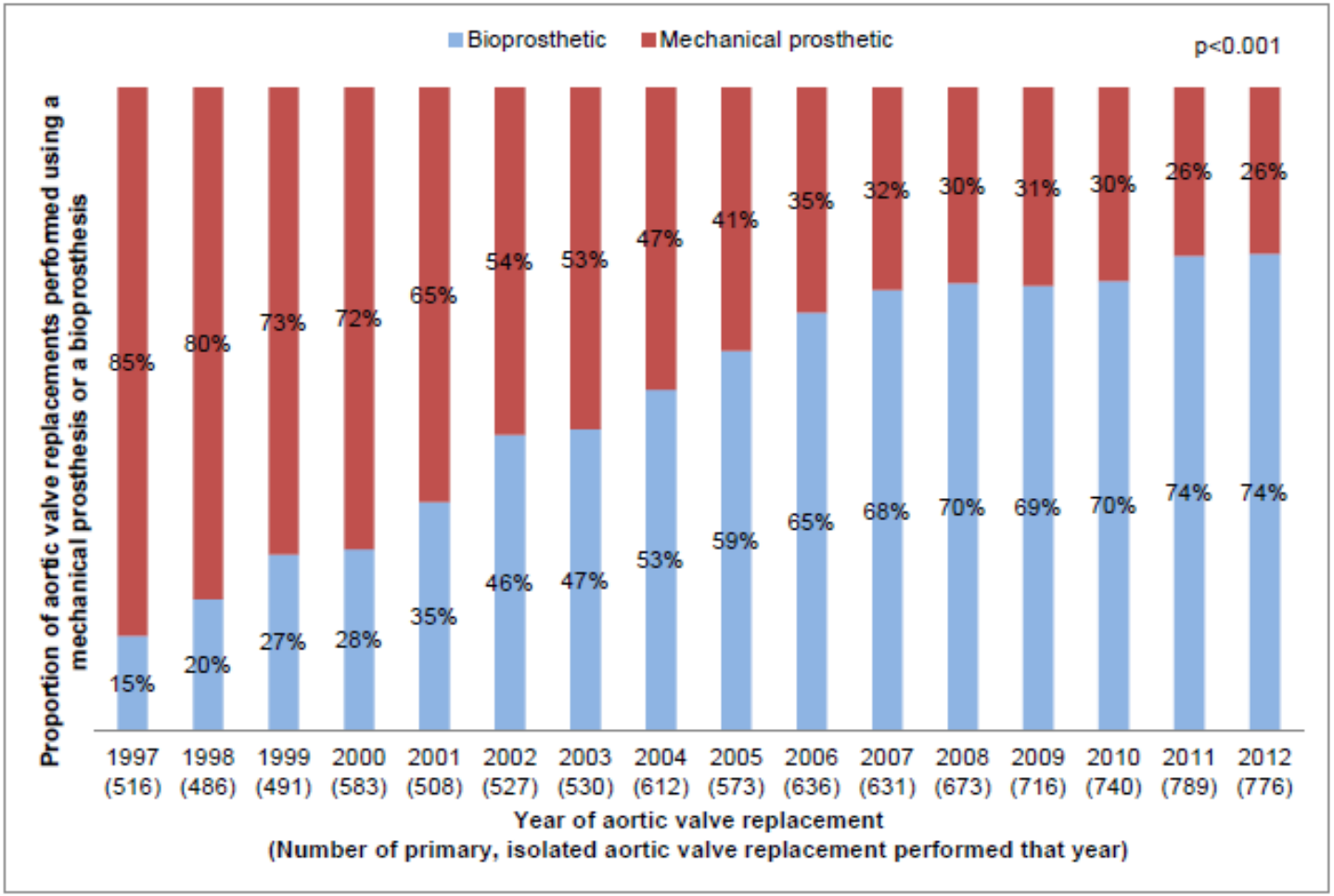
Figure 2. Cumulative Incidence of Major Morbidity (Stroke, Reoperation, Major Bleeding) Among Propensity-Matched Patients Aged 50 to 69 Years After Bioprosthetic vs Mechanical Aortic Valve Replacement



Chiang et al *JAMA*. 2014;312(13):1323-1329.

Survival and Long-term Outcomes Following Bioprosthetic vs Mechanical Aortic Valve Replacement in Patients Aged 50 to 69 Years

eFigure 2. Trend in Mechanical versus Bioprosthetic Valve Usage for Aortic Valve Replacement in Patients Aged 50 to 69 in New York State[a]



Based on NY Registry - Chiang et al

JAMA. 2014;312(13):1323-1329.

Há tipos de bioprótese de maior durabilidade?

n=2979
>65anos
período
1993-2007,
Mayo,
Mass Gen e
Brigham

Ann Thorac Surg
2012;93:1868–75

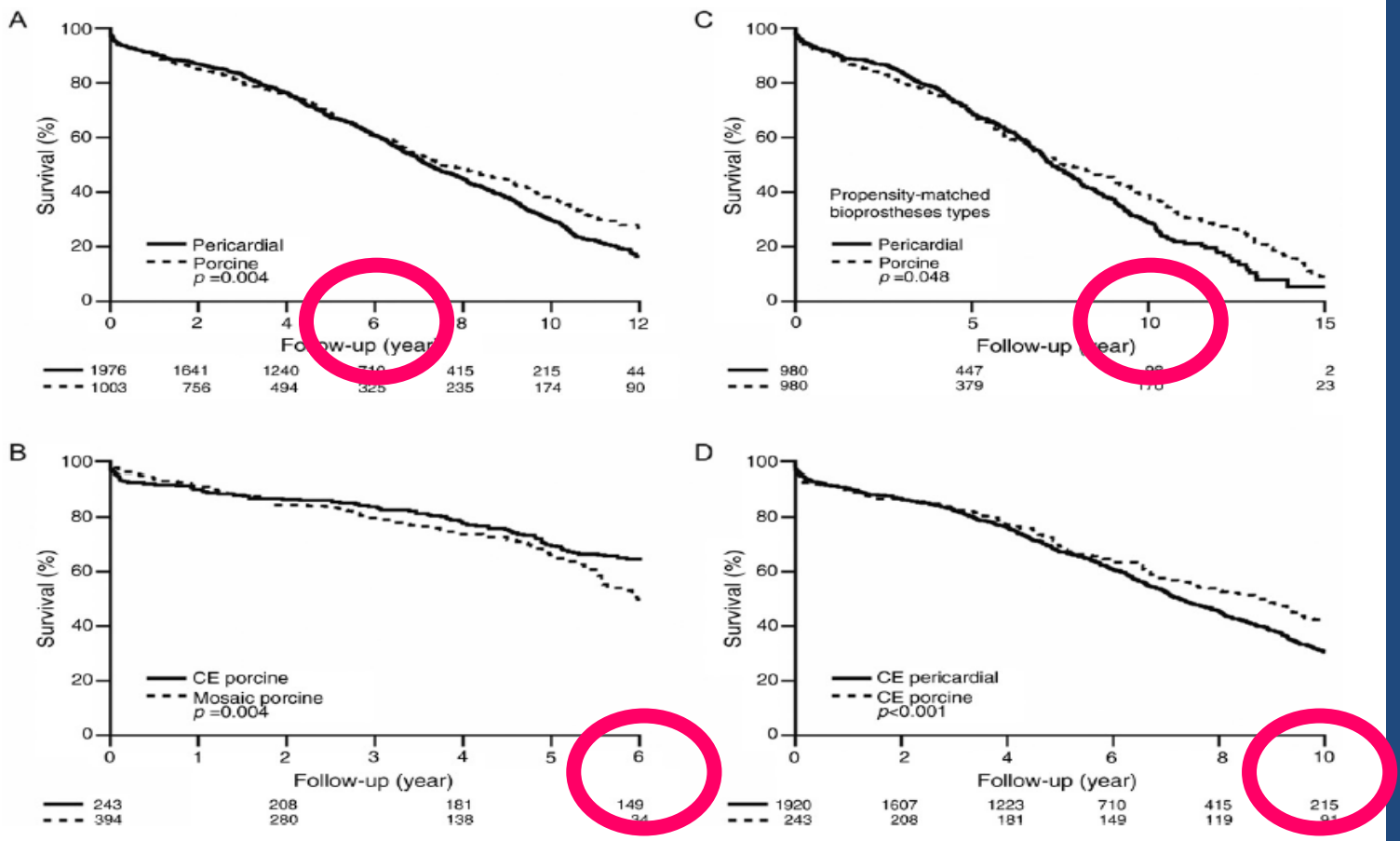


Fig 1. Kaplan-Meier graphs show survival of elderly patients after aortic valve replacement. (A) There was no survival advantage for patients with pericardial (solid line) over porcine (dashed line) bioprostheses ($p = 0.05$). (B), Survival is shown between the two most commonly used porcine brands, the Medtronic Mosaic (dashed line) and the Carpentier-Edwards Perimount (CE, solid line). (C) Survival is compared between propensity-matched pericardial (solid line) and porcine (dashed line) bioprostheses types. (D) There was no survival advantage for the Carpentier-Edwards (CE) Perimount (solid line) over the porcine type (dashed line); in fact, thex porcine brand appeared to have a survival advantage ($p < 0.001$).

Do Pericardial Bioprostheses Improve Outcome of Elderly Patients Undergoing Aortic Valve Replacement? Said SM et al (Mayo, Mass Gen & Brigham) **Ann Thorac Surg 2012;93:1868 –75**

Long-Term Survival After Bovine Pericardial Versus Porcine Stented Bioprosthetic Aortic Valve Replacement: Does Valve Choice Matter?

Table 1. Stented Bioprosthetic Aortic Valves Included in Study

Valves	Total (No.)	Isolated AVR (No.)	AVR+CABG (No.)
Bovine pericardial	1,411		
Carpentier-Edwards Perimount[a]	1,273	734	539
Sorin Mitroflow[b]	26	16	10
St. Jude Trifecta[c]	112	51	61
Porcine	599		
St. Jude Biocor[c]	128	46	82
Carpentier-Edwards Porcine[a]	210	111	99
Medtronic Hancock[d]	105	44	61
Medtronic Mosaic[d]	156	140	16

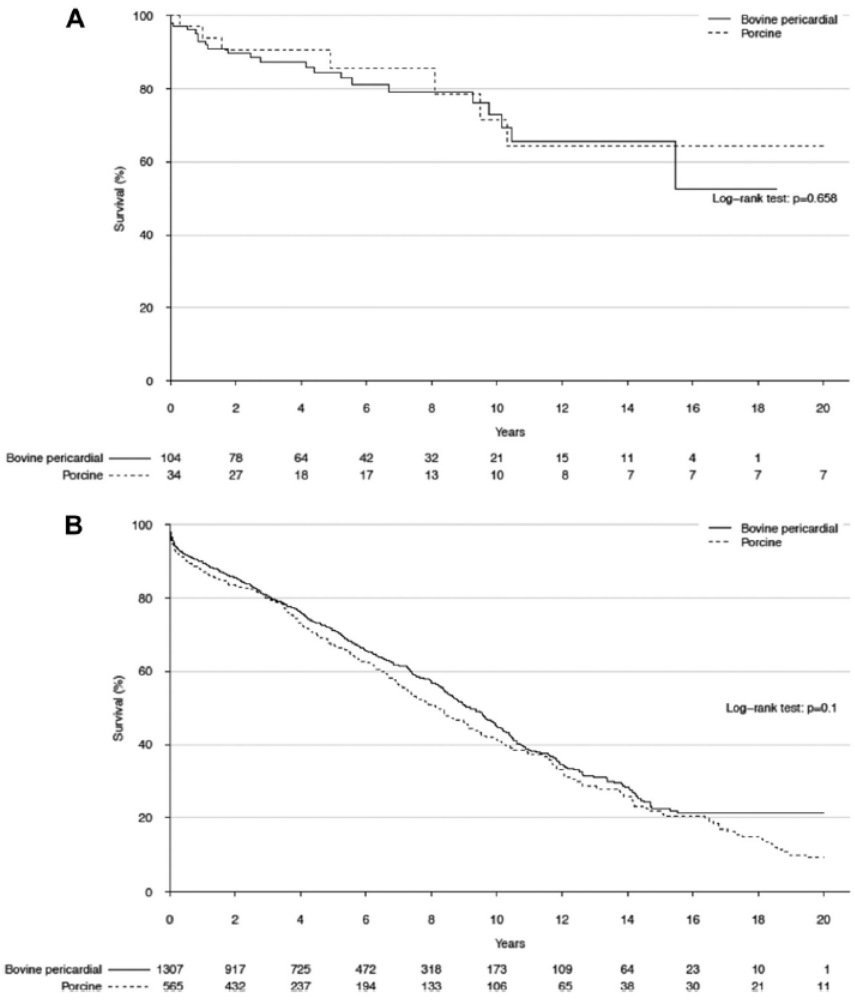
[a] Edwards Lifesciences, Irvine, California. [b] Sorin Group Inc, Arvada, Colorado. [c] St. Jude Medical Inc, St. Paul, Minnesota. [d] Medtronic, Minneapolis, Minnesota.

AVR = aortic valve replacement; CABG = coronary artery bypass grafting.

Ann Thorac Surg
2015;100:550–9

Long-Term Survival After Bovine Pericardial Versus Porcine Stented Bioprosthetic Aortic Valve Replacement: Does Valve Choice Matter?

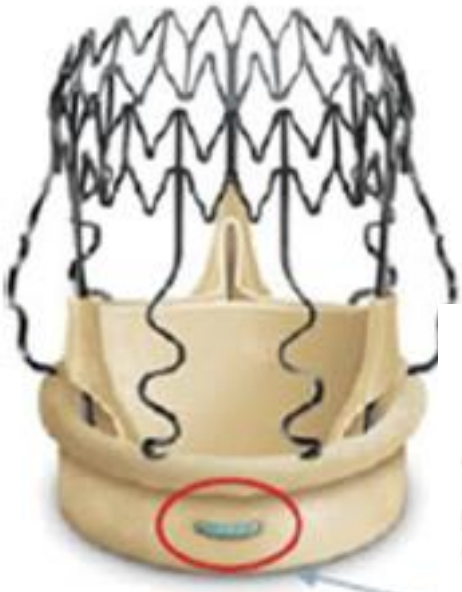
Fig 4. Overall survival analysis in patients with bovine pericardial (solid line) and porcine (dashed line) valves according patient age (A) 18 to 55 years and (B) age older than 55 years at aortic valve replacement.



In conclusion, for patients undergoing AVR with a stented bioprosthetic valve, with or without CABG, the choice of a porcine vs bovine pericardial bioprosthesis does not appear to affect long-term survival or the need for reoperation, regardless of valve size or patient age. As such, stented bioprosthetic valves would appear to be fungible, and therefore, valve choice should be driven by local market factors similar to other commodities.

Ann Thorac Surg 2015;100:550–9

Sutureless Aortic Valves



PERCEVAL, Sorin

INTUITY, Edwards

Fig. 1. Photo of the ATS 3f Enable® Aortic Bioprosthesis Model 6000.

3f ENABLE, Medtronic Inc.

? Inovare, Braile

Resultados a curto e longo prazo de TAVI em moderado e alto risco cirúrgico

Transcatheter or Surgical Aortic Valve Replacement in Intermediate Risk Patients with Aortic Stenosis: Final Results from the PARTNER 2A Trial

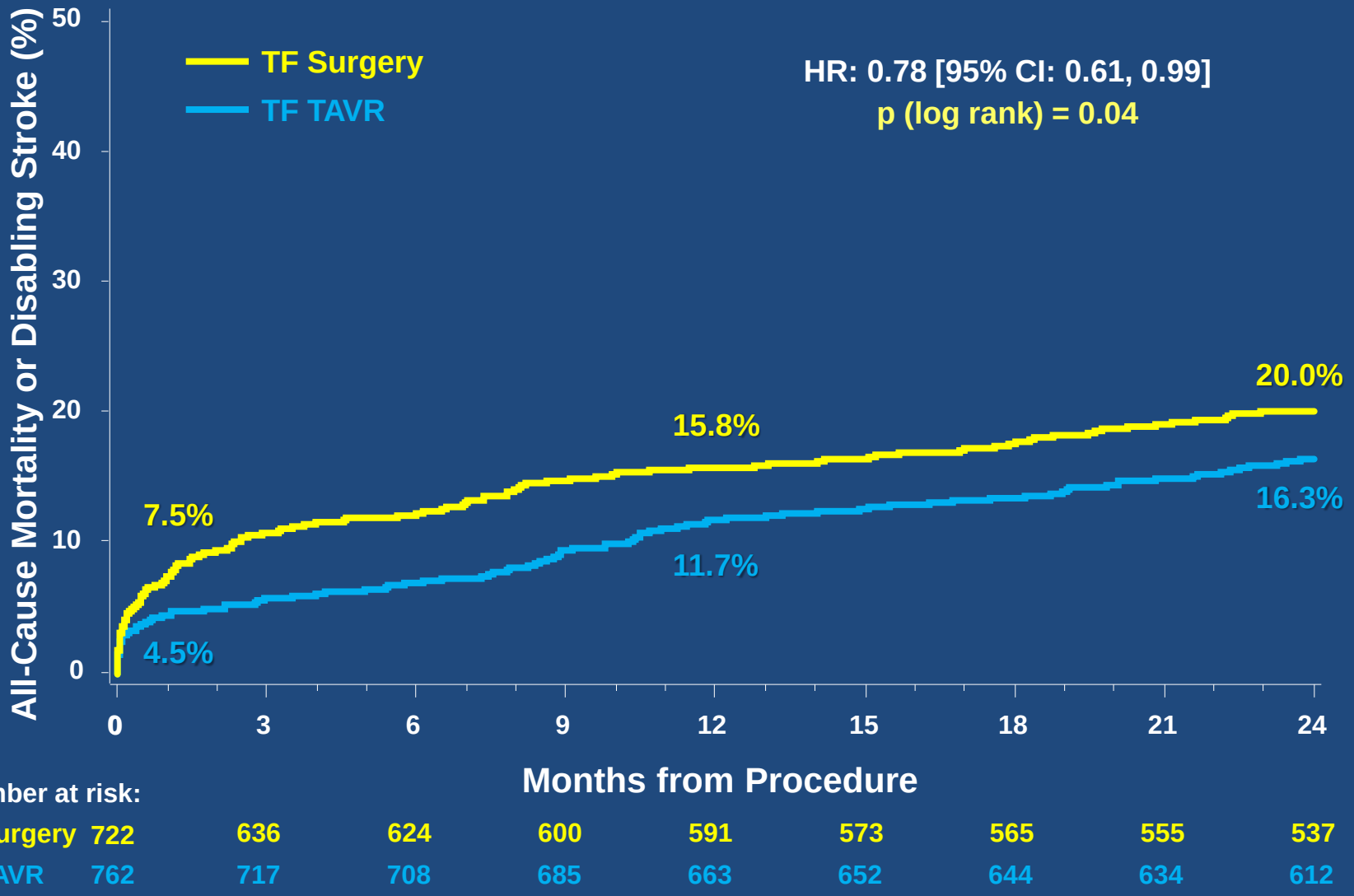
Craig R. Smith, MD
on behalf of the PARTNER Trial Investigators

ACC 2016 | Chicago | April 2, 2016

THE PARTNER II TRIAL

TF Primary Endpoint (AT)

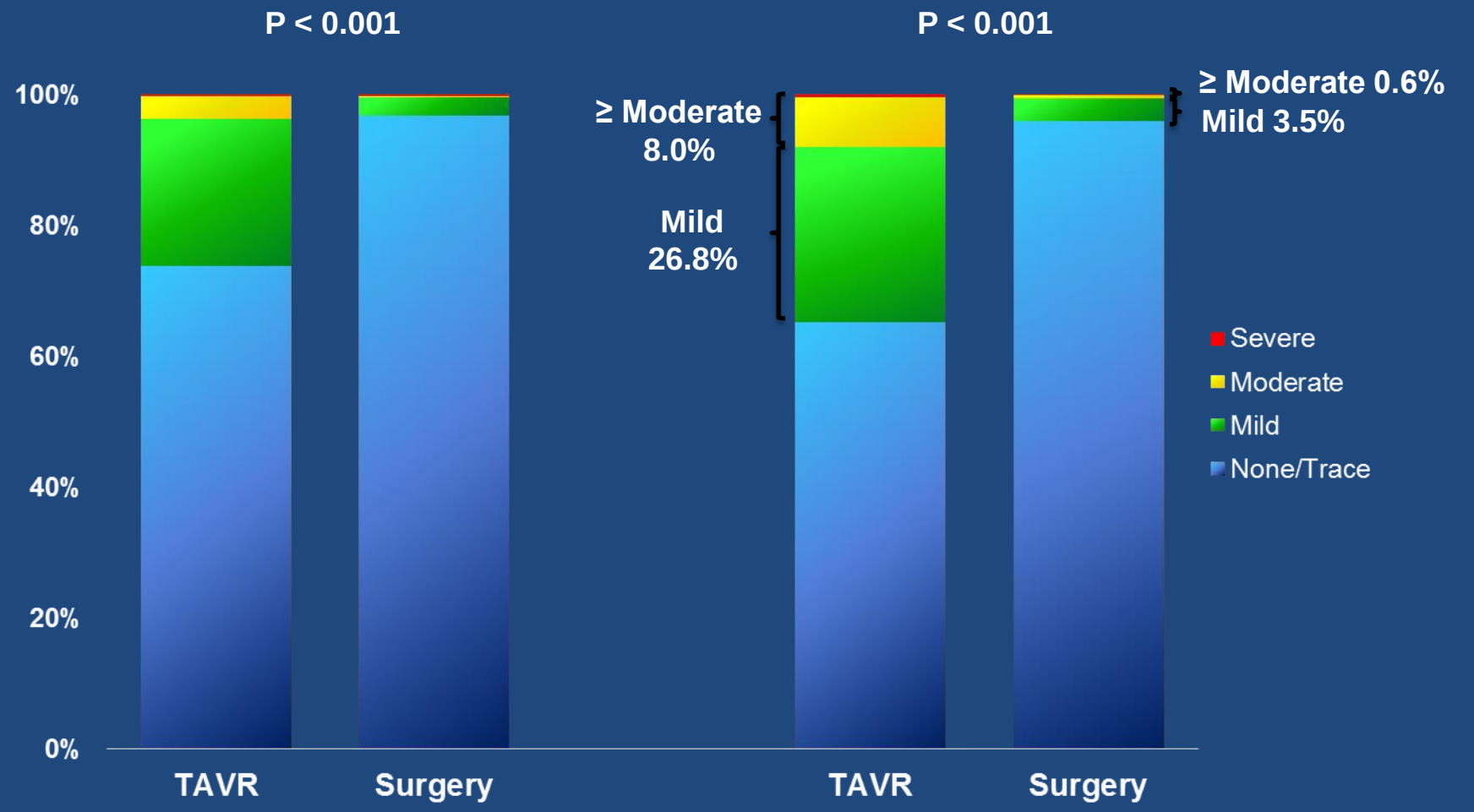
All-Cause Mortality or Disabling Stroke [1]



Number at risk:									
TF Surgery	722	636	624	600	591	573	565	555	537
TF TAVR	762	717	708	685	663	652	644	634	612

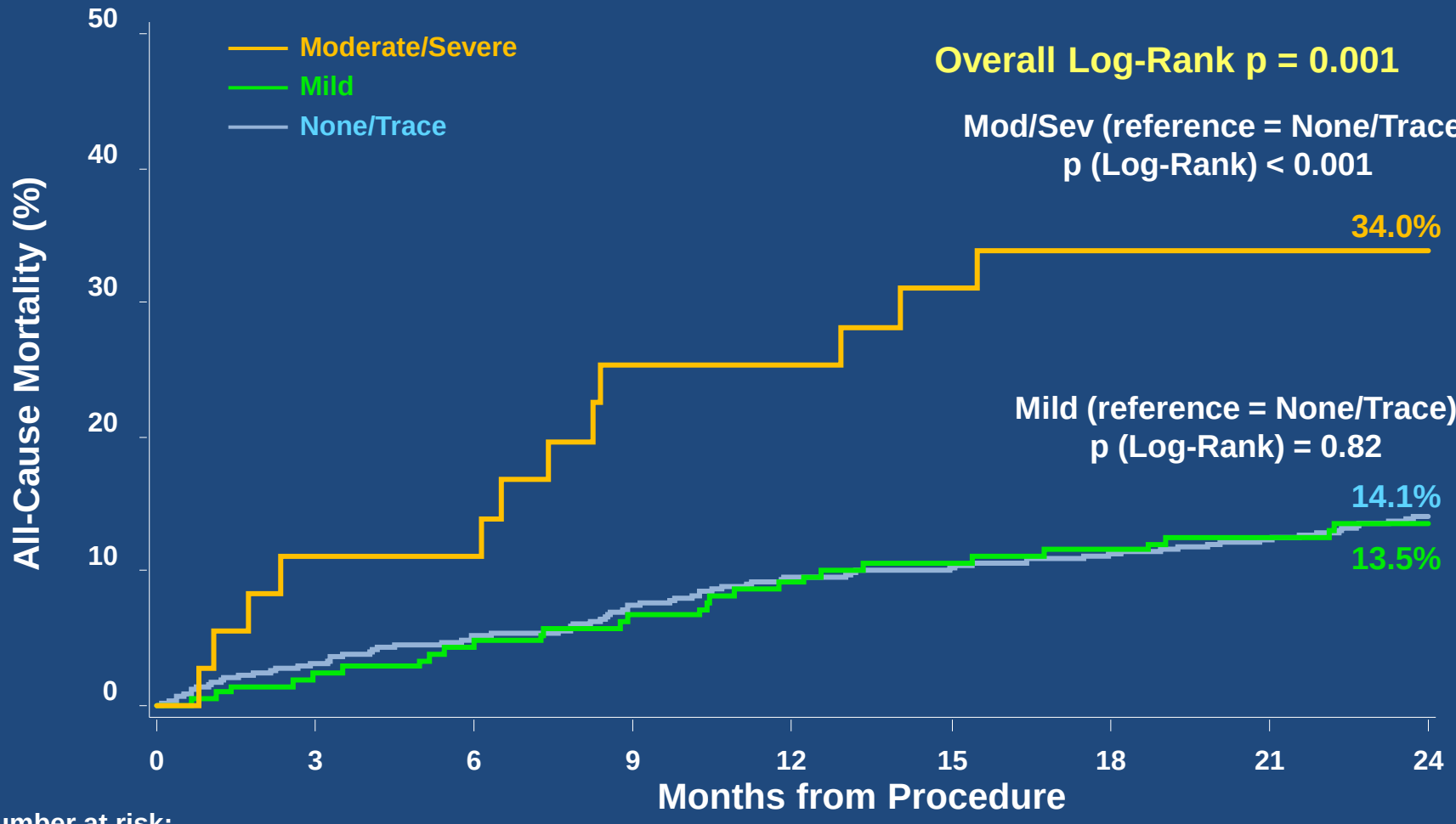
Paravalvular Regurgitation (VI)

3-Class Grading Scheme



No. of echos	30 Days	2 Years
TAVR	872	600
Surgery	757	514

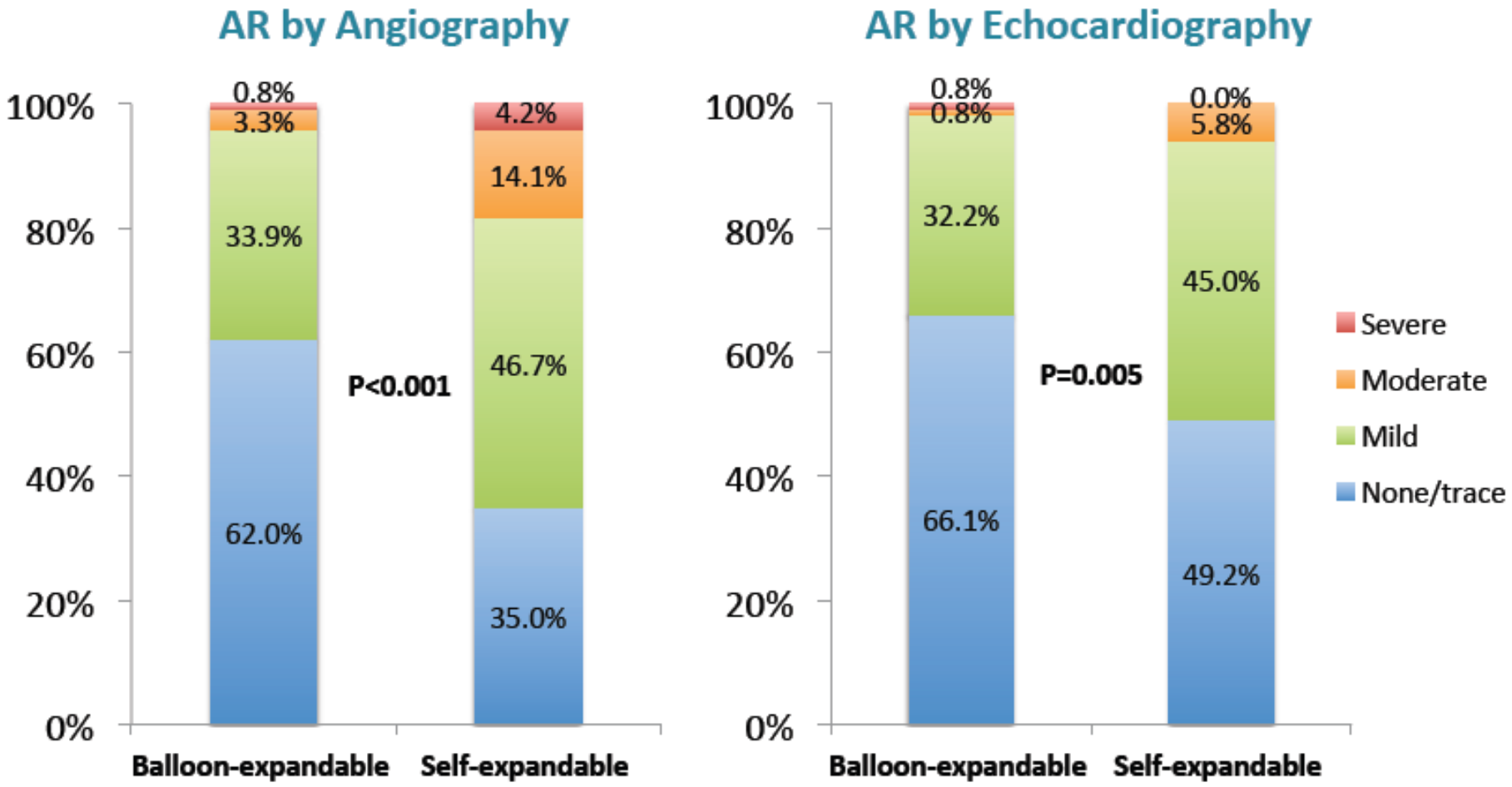
Severity of PVR at 30 Days and All-cause Mortality at 2 Years (VI)



Number at risk:

Moderate/Sev	36	32	32	26	26	24	22	22	21
Mild	210	204	199	194	188	184	182	180	175
None/Trace	701	678	664	647	628	621	612	605	585

Post-Procedural Aortic Regurgitation



	Balloon-expandable (n=116)	Self-expandable (n=114)	p-value
Dimensionless AR Index	29.0±7.1	27.3±7.2	0.08

The PARTNER 2A Trial
Clinical Implications

- *The results from PARTNER 2A support the use of TAVR as an alternative to surgery in intermediate risk patients, similar to those included in this trial.*
- In patients who are candidates for transfemoral access, TAVR may result in additional clinical advantages.
- Long-term durability assessments of transcatheter bioprosthetic valves are still lacking and extrapolation of these findings to low-risk patients requires further clinical trial validation.

Vieses dos ensaios clínicos

De metodologia e de interpretação dos resultados

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Transcatheter Aortic-Valve Replacement with a Self-Expanding Prosthesis

David H. Adams, M.D., Jeffrey J. Popma, M.D., Michael J. Reardon, M.D.,

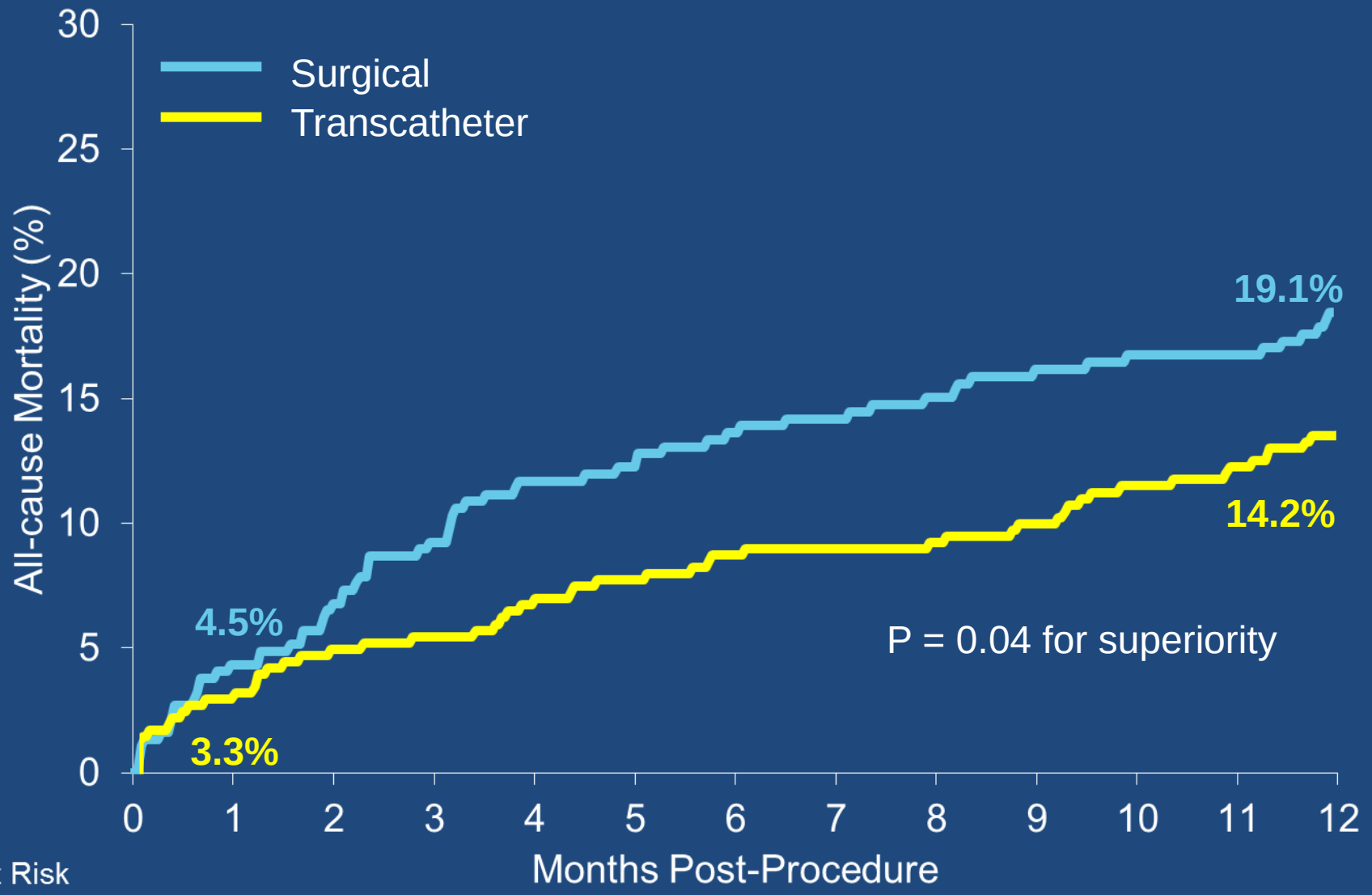
CONCLUSIONS

In patients with severe aortic stenosis who are at increased surgical risk, TAVR with a self-expanding transcatheter aortic-valve bioprosthesis was associated with a significantly higher rate of survival at 1 year than surgical aortic-valve replacement. (Funded by Medtronic; U.S. CoreValve High Risk Study ClinicalTrials.gov number, NCT01240902.)

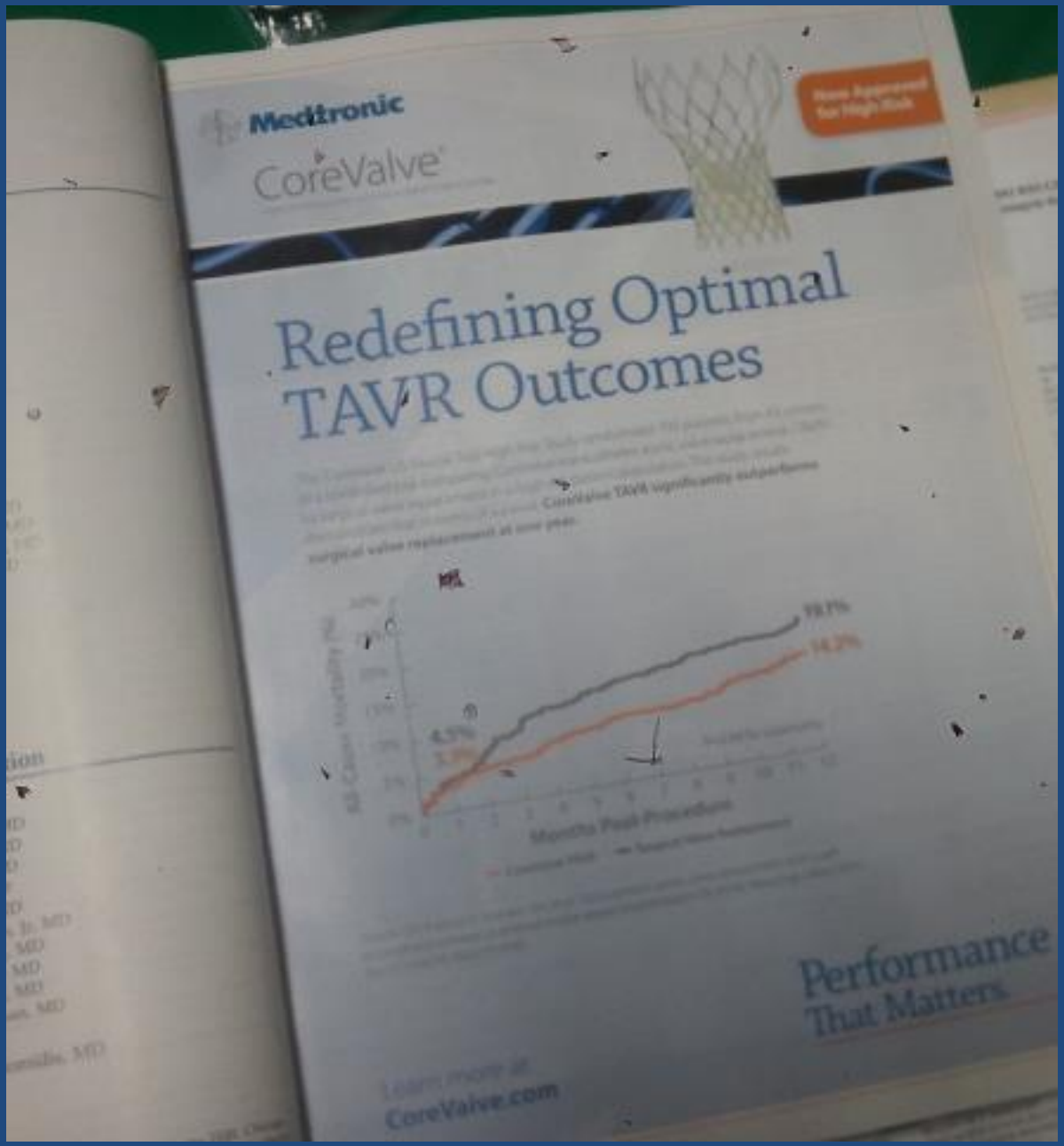
NEJM 2014

Primary Endpoint: 1 Year All-cause Mortality

ACC 2014



No. at Risk					
Surgical	357	341	297	274
Transcatheter	390	377	353	329


Medtronic
CoreValve
Redefining Optimal TAVR Outcomes
Performance That Matters.
Learn more at CoreValve.com

Supplementary Appendix

This appendix has been provided by the authors to give readers additional information about their work.

Supplement to: Adams DH, Popma JJ, Reardon MJ, et al. Transcatheter aortic-valve replacement with a self-expanding prosthesis. N Engl J Med. DOI: 10.1056/NEJMoa1400590

Inclusion Criteria

1. Subject must have co-morbidities such that one cardiologist and two cardiac surgeons agree predicted risk of operative mortality is ≥15% (and predicted operative mortality or serious, irreversible morbidity risk of < 50%) at 30 days.

Non-cardiovascular death:

- Any death not covered by the above definitions, such as death caused by infection, malignancy, sepsis, pulmonary causes, accident, suicide, or trauma.

Table S9: Clinical Outcomes After 30 Days and 1 Year in the As-Treated Population

Outcome	30 Days			1 Year		
	Transcatheter Replacement N=390	Surgical Replacement N=357	P Value	Transcatheter Replacement N=390	Surgical Replacement N=357	P Value
Death						
All-cause – no. (%)	13 (3.3)	16 (4.5)	0.43	55 (14.2)	67 (19.1)	0.04*
Cardiovascular – no. (%)	12 (3.1)	16 (4.5)	0.32	40 (10.4)	44 (12.8)	0.31
Stroke – no. (%)	19 (4.9)	22 (6.2)	0.46	33 (8.8)	42 (12.6)	0.10
Major – no. (%)	15 (3.9)	11 (3.1)	0.55	22 (5.8)	23 (7.0)	0.59
Minor – no. (%)	4 (1.0)	12 (3.4)	0.03	11 (3.0)	20 (6.0)	0.05
Transient ischemic attack – no. (%)	3 (0.8)	1 (0.3)	0.36	6 (1.6)	5 (1.6)	0.93
All-cause mortality or major stroke – no. (%)	23 (5.9)	24 (6.7)	0.68	63 (16.3)	79 (22.5)	0.03
MACCE – no. (%)	30 (7.7)	37 (10.4)	0.22	79 (20.4)	96 (27.3)	0.03
Myocardial infarction – no. (%)	3 (0.8)	3 (0.8)	0.92	7 (1.9)	5 (1.5)	0.70
Reintervention – no. (%)	3 (0.8)	0 (0.0)	0.10	7 (1.9)	0 (0.0)	0.01

Supplementary Appendix

This appendix has been provided by the authors to give readers additional information about their work.

Supplement to: Adams DH, Popma JJ, Reardon MJ, et al. Transcatheter aortic-valve replacement with a self-expanding prosthesis. N Engl J Med. DOI: 10.1056/NEJMoa1400590

Table S10: Serial Echocardiography by Treatment Group

	Baseline		Discharge		1 Month		1 Year	
	TAVR	SAVR	TAVR	SAVR	TAVR	SAVR	TAVR	SAVR
Patients – no.	389	353	370	328	365	317	299	228
Mean aortic gradient, mm Hg	387	350	356	317	356	311	291	224
	48.27±15.31	47.65±13.85	9.85±4.41	13.20±6.20***	8.88±3.87	11.71±5.71***	9.07±3.49	12.40±7.38***
Effective orifice area, cm^2	349	306	328	256	344	280	274	206
	0.72±0.23	0.73±0.24	1.94±0.58	1.58±0.50***	1.95±0.56	1.60±0.51***	1.91±0.51	1.57±0.49***
Total aortic regurgitation, N	385	346	363	306	359	308	297	223
None – no. (%)	58 (15.1)	51 (14.7)	63 (17.4)	197 (64.4)	44 (12.3)	201 (65.3)	85 (28.6)	152 (68.2)
Trace – no. (%)	146 (37.9)	115 (33.2)	134 (36.9)	81 (26.5)	148 (41.2)	70 (22.7)	105 (35.4)	48 (21.5)
Mild – no. (%)	161 (41.8)	159 (46.0)	133 (36.6)	25 (8.2)	131 (36.5)	33 (10.7)	86 (29.0)	20 (9.0)
Moderate – no. (%)	20 (5.2)	19 (5.5)	28 (7.7)	1 (0.3)	29 (8.1)	4 (1.3)	20 (6.7)	2 (0.9)
Severe – no. (%)	0 (0.0)	2 (0.6)	5 (1.4)	2 (0.7)	7 (1.9)	0 (0.0)	1 (0.3)	1 (0.4)
Moderate or Severe – no. (%)	20 (5.2)	21 (6.1)	33 (9.1)	3 (1.0)***	36 (10.0)	4 (1.3)***	21 (7.0)	3 (1.3)**
Paravalvular regurgitation, N			359	302	356	307	295	221
None – no. (%)	NA	NA	85 (23.7)	255 (84.4)	60 (16.9)	263 (85.7)	113 (38.3)	190 (86.0)
Trace – no. (%)	NA	NA	123 (34.3)	37 (12.3)	137 (38.5)	31 (10.1)	88 (29.8)	20 (9.0)
Mild – no. (%)	NA	NA	123 (34.3)	9 (3.0)	127 (35.7)	10 (3.3)	76 (25.8)	10 (4.5)
Moderate – no. (%)	NA	NA	24 (6.7)	1 (0.3)	26 (7.3)	3 (1.0)	17 (5.8)	1 (0.5)
Severe – no. (%)	NA	NA	4 (1.1)	0 (0.0)	6 (1.7)	0 (0.0)	1 (0.3)	0 (0.0)
Moderate or severe – no. (%)	NA	NA	28 (7.8)	1 (0.3) ***	32 (9.0)	3 (1.0)***	18 (6.1)	1 (0.5) ***

TAVR = transcatheter group; SAVR = surgical group;*P<0.05; **P<0.01;***P<0.001.

Conclusion

- We assessed the safety and effectiveness of TAVR with the CoreValve prosthesis compared to surgical valve replacement in symptomatic patients with severe aortic stenosis at increased surgical risk

- The rate of death from any cause at 1 year was significantly reduced with TAVR performed with the CoreValve prosthesis

Adams D, ACC 2014

Non-cardiovascular death:

- Any death not covered by the above definitions, such as death caused by infection, malignancy, sepsis, pulmonary causes, accident, suicide, or trauma.

Clinical Outcomes After Transcatheter Aortic Valve Replacement Using Valve Academic Research Consortium Definitions

A Weighted Meta-Analysis of 3,519 Patients From 16 Studies

Philippe Généreux, MD,*† Stuart J. Head, MSc,‡ Nicolas M. Van Mieghem, MD,§

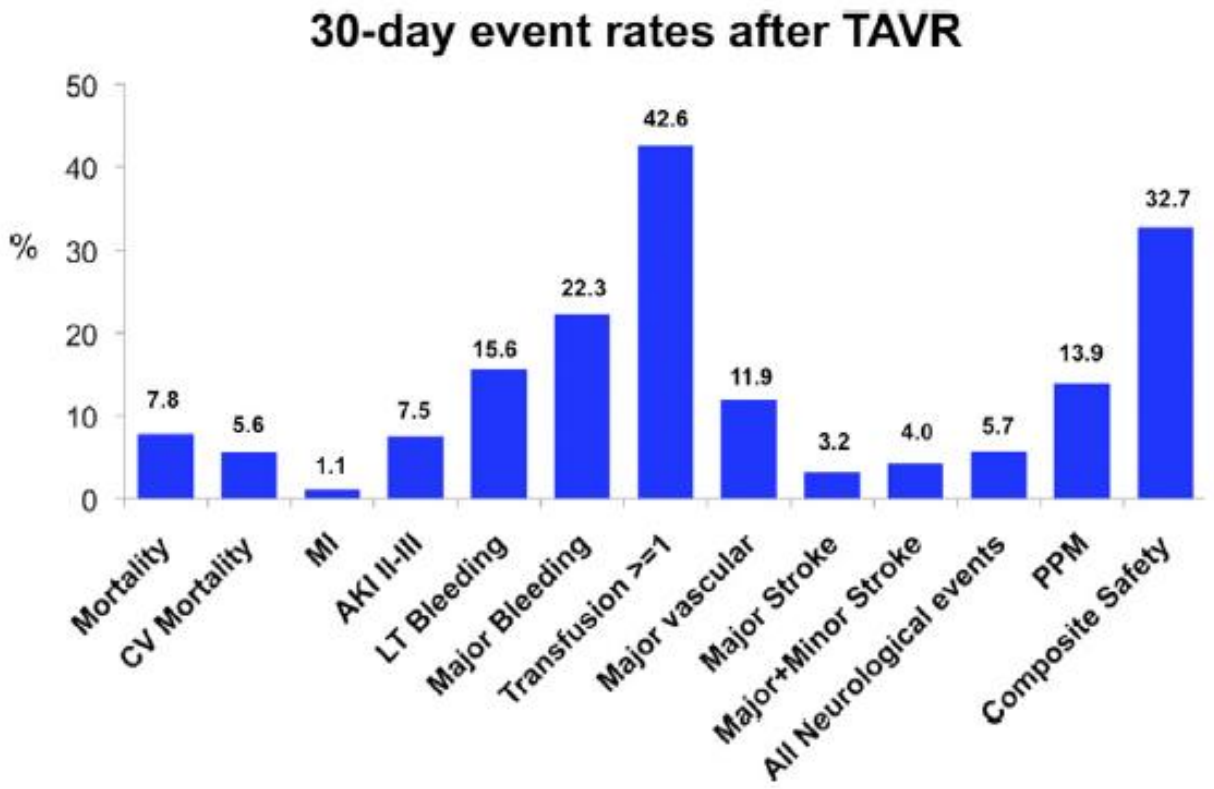


Figure 2 30-Day Event Rates of Major VARC-Related Outcomes

AKI = acute kidney injury; CV = cardiovascular; LT = life-threatening; MI = myocardial infarction ≤72 h after procedure; PPM = permanent pacemaker; VARC = Valve Academic Research Consortium.

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Registry of Transcatheter Aortic-Valve Implantation in High-Risk Patients

FRANCE 2 registry,

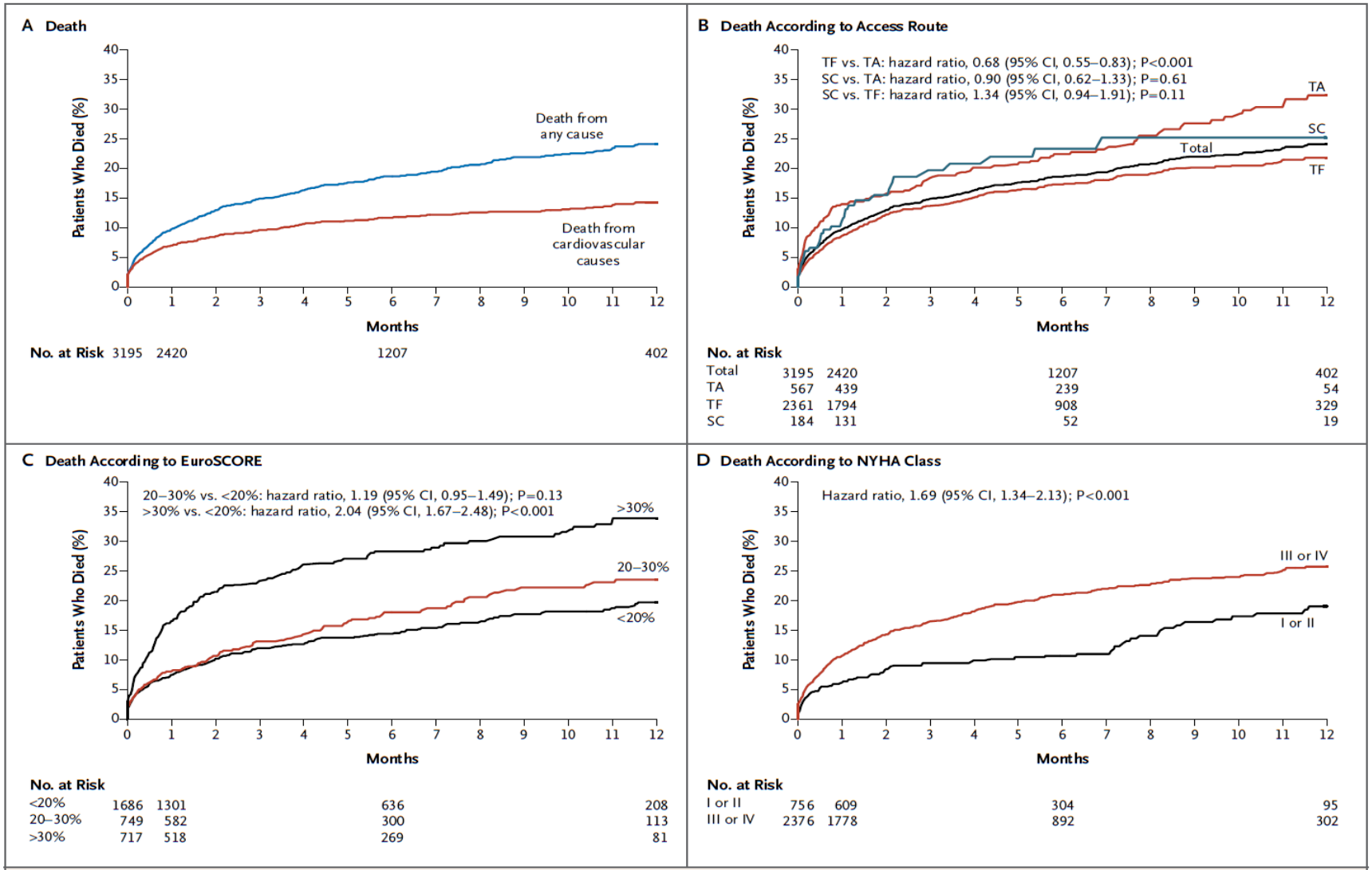
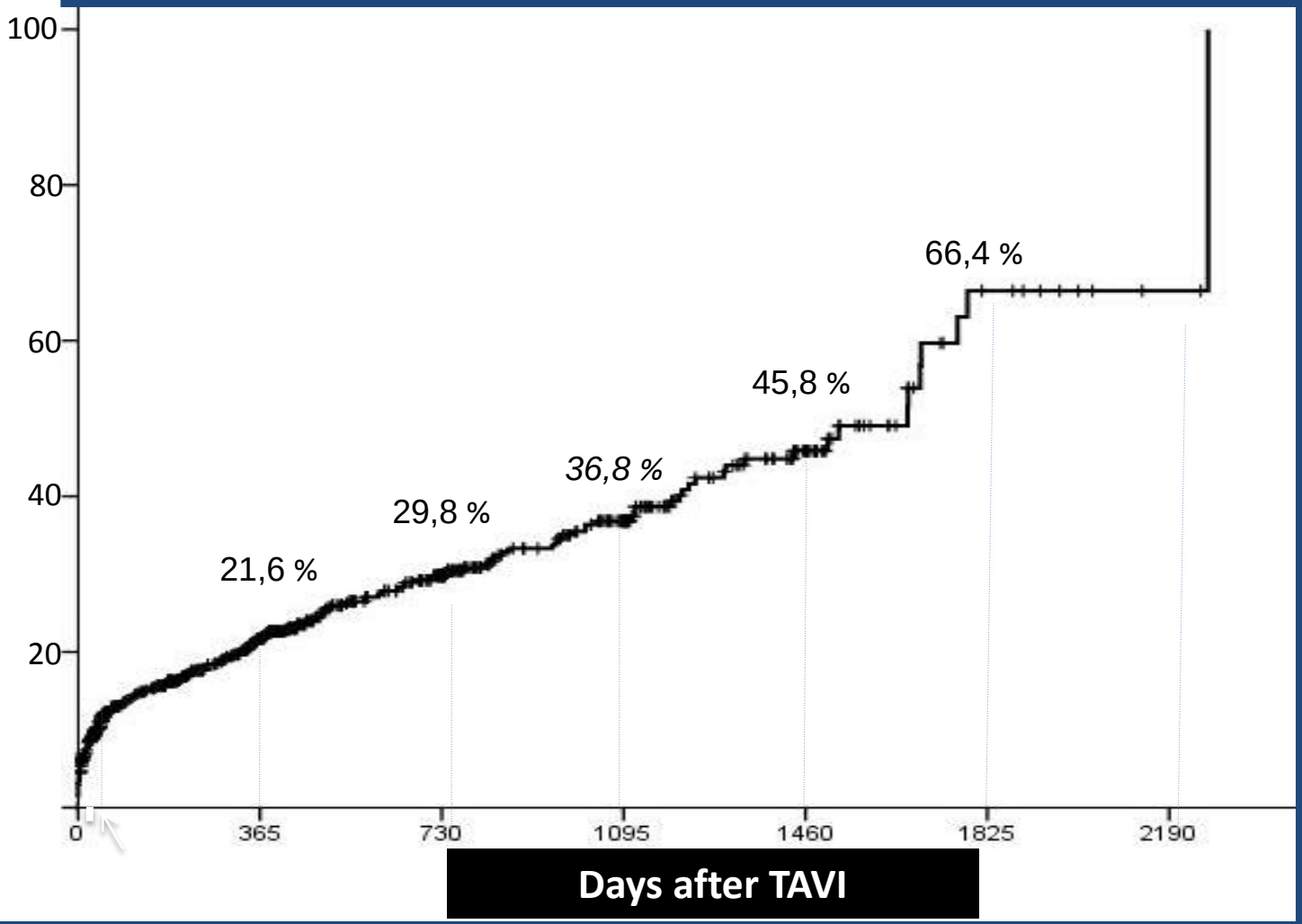


Figure 1. Time-to-Event Curves for the Primary End Point and Other Selected End Points.

Panel A shows the rate of death from any cause (the primary end point) and from cardiovascular causes among patients in the French national transcatheter aortic-valve implantation (TAVI) registry, FRANCE 2. Panel B shows rates of death from any cause according to the TAVI access route: transapical (TA), transfemoral (TF), or subclavian (SC). Panel C shows rates of death from any cause according to the logistic EuroSCORE (with a score of >20% indicating very high surgical risk). Panel D shows rates of death from any cause according to New York Heart Association (NYHA) class. Event rates were calculated with the use of Kaplan–Meier methods and were compared by means of the log-rank test. Deaths from unknown causes were assumed to be from cardiovascular causes.

Brazilian TAVI Registry
All-Cause Mortality



N. at risk total: 819	713	428	228	123	47	9	2

Brazilian TAVI Registry
Procedure Failure / Complications

	(n = 819)
Device Failure, n (%)	185 (22.6%)
PVR Moderate / Severe, n (%)	55 / 729 (7.5%)
Mean Gradient≥ 20 mmHg, n (%)	30 / 587 (5.1%)
2nd Prosthesis, n (%)	41 (5.0%)
Surgical Conversion, n (%)	14 (1.7%)
Device Malpositioning, n (%)	43 (5.3%)
Device Emboization, n (%)	29 (3.5%)
Coronary Occlusion, n (%)	3 (0.4%)
Mitral Damage / Dysfunction, n (%)	2 (0.2%)
Annulus Rupture / Ventricular Septal Perforation, n (%)	2 (0.2%)
Tamponade, n (%)	29 (3.5%)
LV Perforation, n (%)	15 (1.8%)

European Journal of Cardio-Thoracic Surgery 46 (2014) 808–816
doi:10.1093/ejcts/ezu290 Advance Access publication 30 July 2014

ORIGINAL ARTICLE

The German Aortic Valve Registry: 1-year results from 13 680 patients with aortic valve disease†

Friedrich W. Mohr[a,*], David Holzhey[a], Helge Möllmann[b], Andreas Beckmann[c], Christof Veit[d], Hans Reiner Figulla[e], Jochen Cremer[f], Karl-Heinz Kuck[g], Rüdiger Lange[h], Ralf Zahn[i], Stefan Sack[j], Gerhard Schuler[a], Thomas Walther[k], Friedhelm Beyersdorf[l], Michael Böhm[m], Gerd Heusch[n], Anne-Kathrin Funkat[a], Thomas Meinertz[o], Till Neumann[p], Konstantinos Papoutsis[q], Steffen Schneider[r], Armin Welz[s] and Christian W. Hamm[b], for the GARY Executive Board

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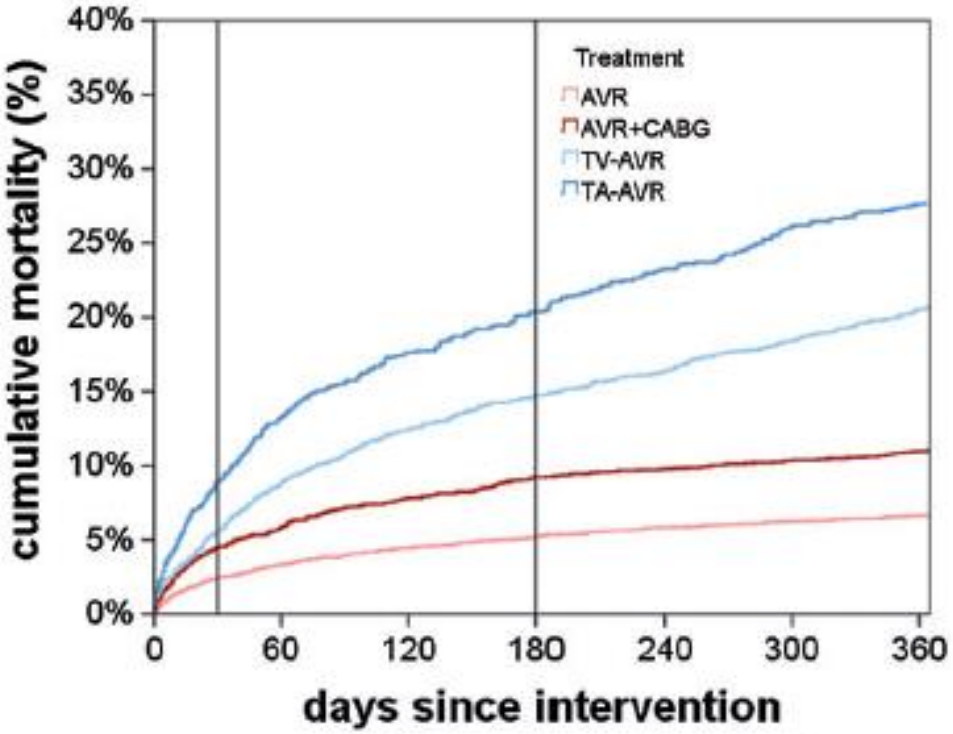
N= 13860

AVR= 6523, AVR+CABG=3462, TF-TAVI=2694, TA-TAVI= 1181

Mohr el al (GARY Registry). Eur J CardioThorac Surg 46 (2014):808-816



# at Risk – day	0	30	180	365
AVR	6523	6346	6089	5982
AVR+CABG	3462	3293	3079	3016
TV-AVR	2694	2533	2235	2073
TA-AVR	1181	1065	912	822

Figure 1: Overall death rates within the first year. Pairwise tests: for multiple comparison to correct by Bonferroni-Holm-Shaffer (6-3-3-3-2-1 rule). AVR: aortic valve replacement; CABG: coronary artery bypass grafting; TA: transapical; TV: transvascular.

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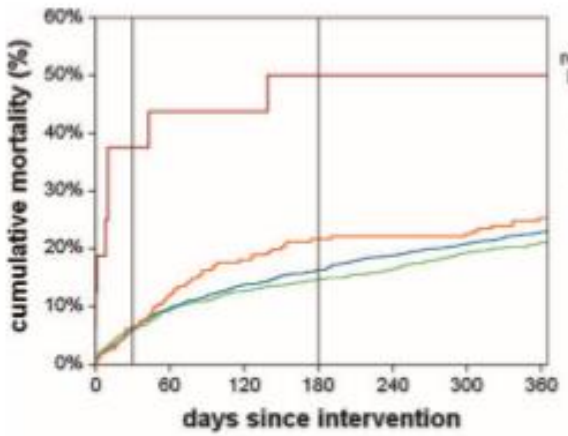

# at Risk – day	0	30	180	365
none	1643	1533	1366	1260
trace	1914	1787	1550	1416
mild	224	209	173	164
severe	16	10	8	8

KM-Mortality	none	trace	mild	severe
30d	6.0%	6.2%	6.7%	37.5%
180d	14.7%	16.3%	21.7%	50.0%
1yr	21.2%	23.3%	25.3%	50.0%

log-rank test p-values (GH: p< 0.001)	trace	mild	severe
none	*0.157*	*0.143*	**< 0.001**
trace		*0.434*	**< 0.001**
mild			**0.004**

Figure 4: Influence of residual aortic regurgitation on survival. KM: Kaplan-Meier; GH: global hypothesis; TAVR: transcatheter AVR.

Mohr el al (GARY Registry). Eur J CardioThorac Surg 46 (2014):808-816

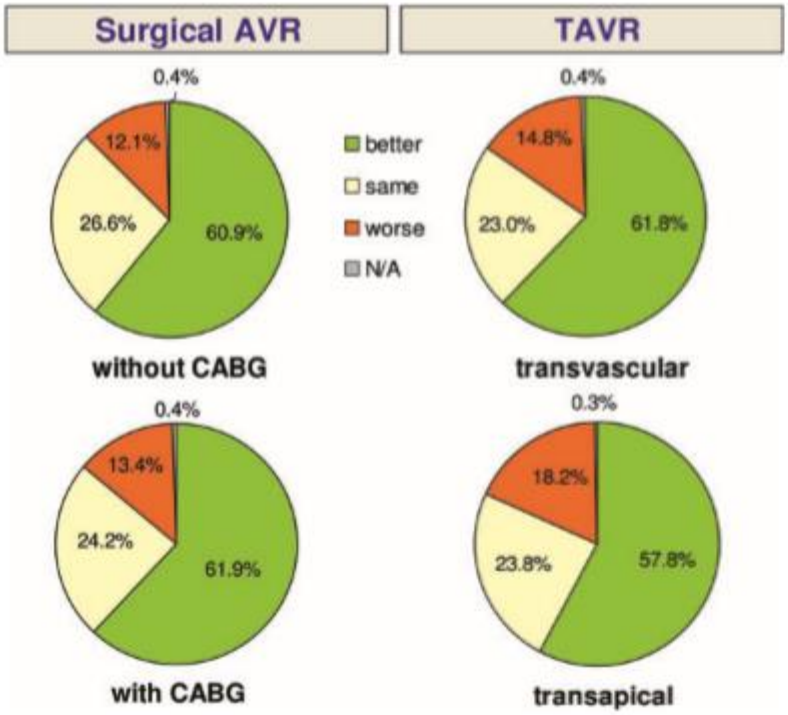

Figure 5: One-year follow-up: subjective rating of general health condition when compared with condition prior to the intervention. KM: Kaplan-Meier; GH: global hypothesis; TAVR: transcatheter AVR.

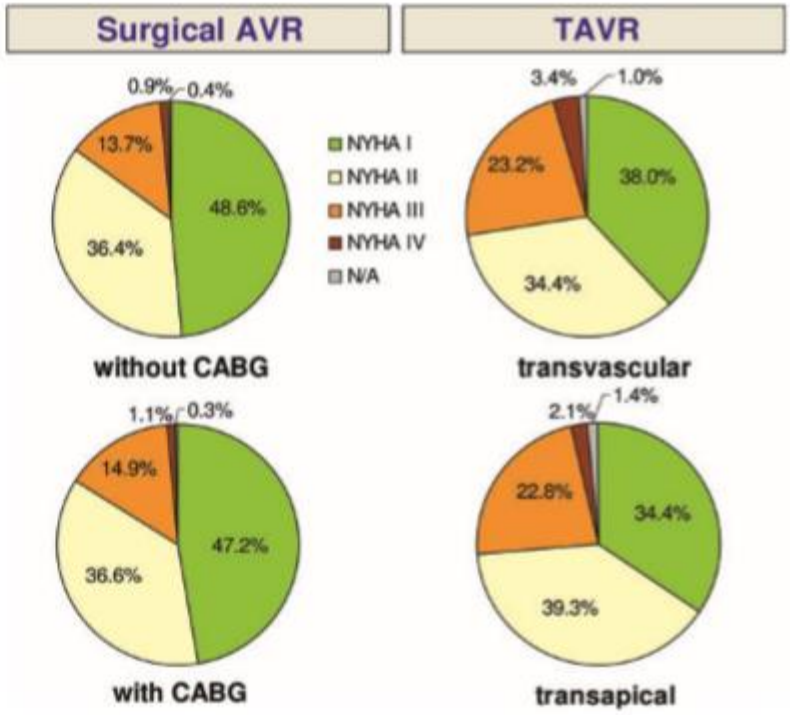

Figure 7: Heart failure symptom rating (NYHA) at 1 year post-intervention.

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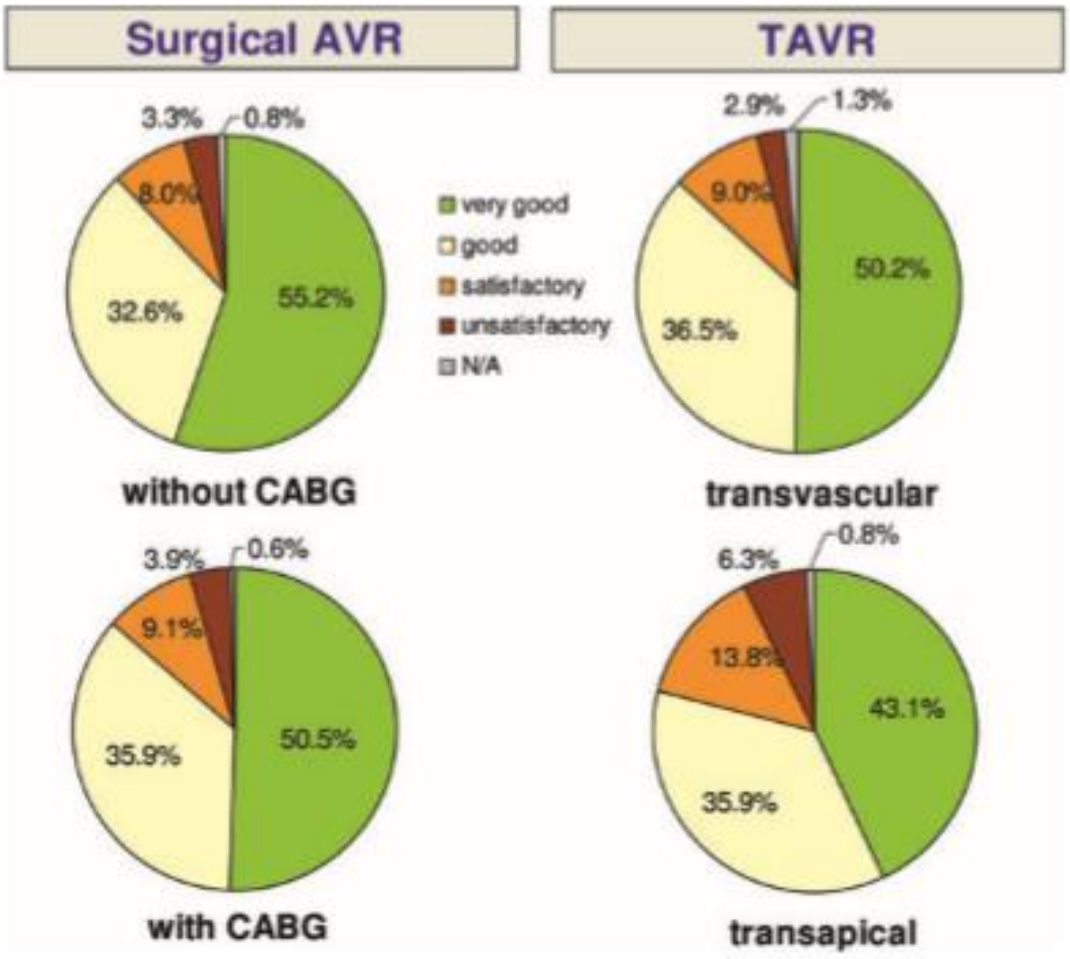

Figure 6: Satisfaction with outcome 1 year after the procedure.

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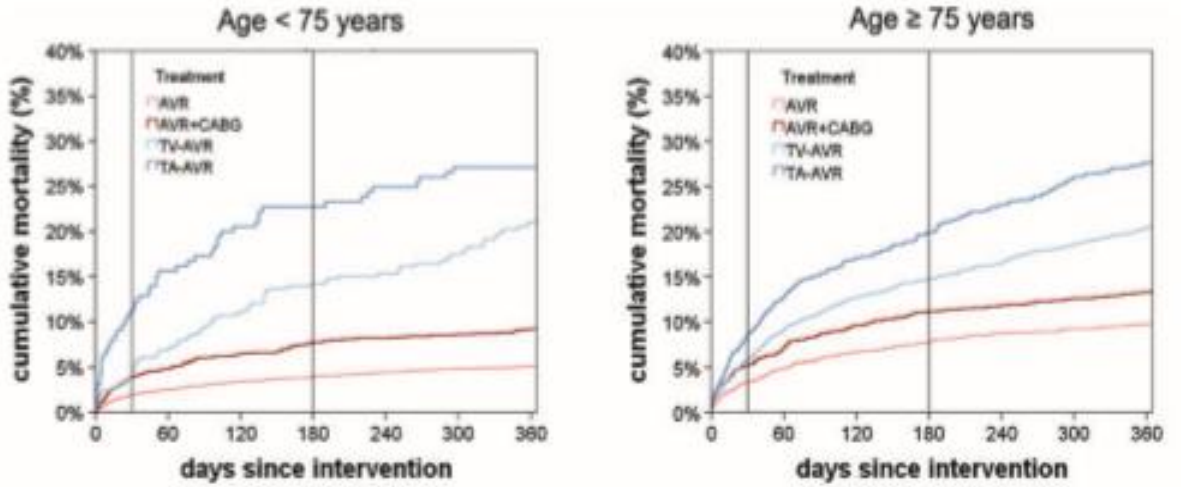

# at Risk – day	0	30	180	365
AVR	4349	4251	4112	4050
AVR+CABG	1905	1823	1725	1697
TV-AVR	368	352	314	289
TA-AVR	188	165	141	133

# at Risk – day	0	30	180	365
AVR	2168	2089	1971	1925
AVR+CABG	1553	1467	1351	1316
TV-AVR	2321	2176	1918	1781
TA-AVR	989	896	768	687

Figure 2: Time-to-event curves for death stratified by age. AVR: aortic valve replacement; CABG: coronary artery bypass grafting; TA: transapical; TV: transvascular.

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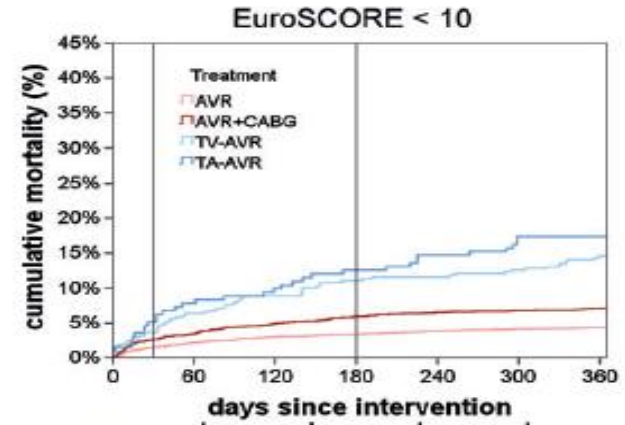
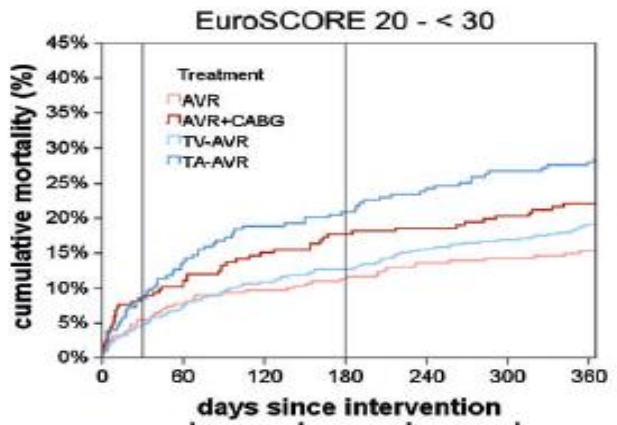
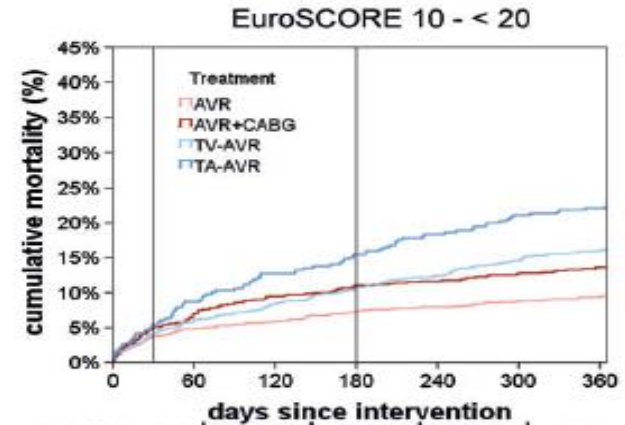


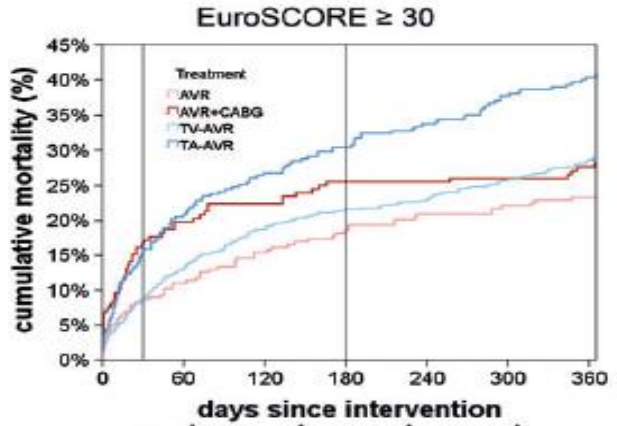
# at Risk – day	0	30	180	365
AVR	4731	4648	4505	4452
AVR+CABG	2138	2075	1977	1951
TV-AVR	409	394	358	344
TA-AVR	194	182	165	154



# at Risk – day	0	30	180	365
AVR	312	294	270	255
AVR+CABG	235	213	188	178
TV-AVR	514	488	435	402
TA-AVR	247	225	191	173



# at Risk – day	0	30	180	365
AVR	1080	1035	984	959
AVR+CABG	809	765	704	682
TV-AVR	858	818	739	693
TA-AVR	383	360	315	287



# at Risk – day	0	30	180	365
AVR	255	233	205	193
AVR+CABG	198	165	142	137
TV-AVR	801	728	614	553
TA-AVR	317	262	211	180

Figure 3: Time-to-event curves for death stratified by the logistic EuroSCORE. AVR: aortic valve replacement; CABG: coronary artery bypass grafting; TA: transapical; TV: transvascular.

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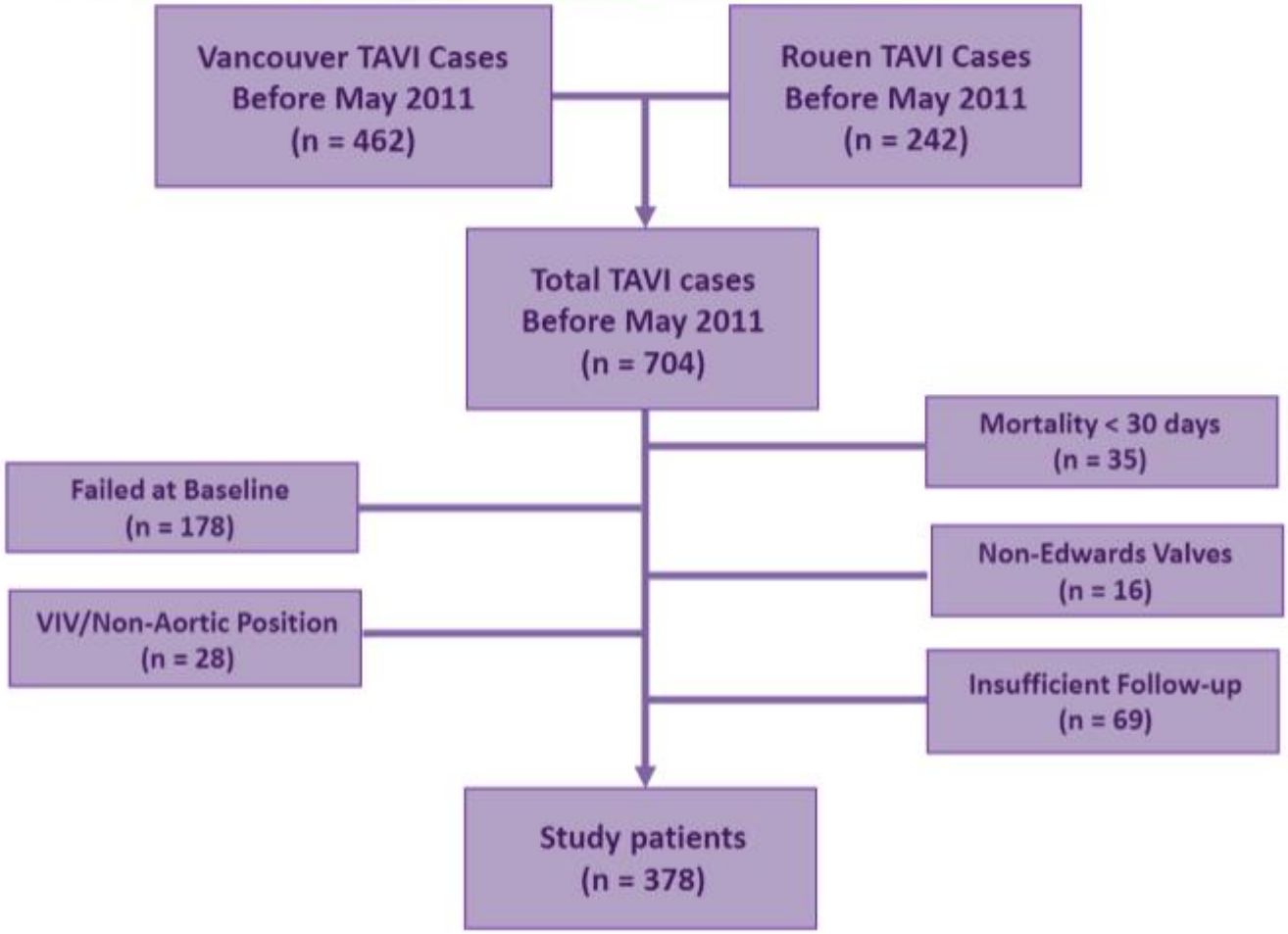
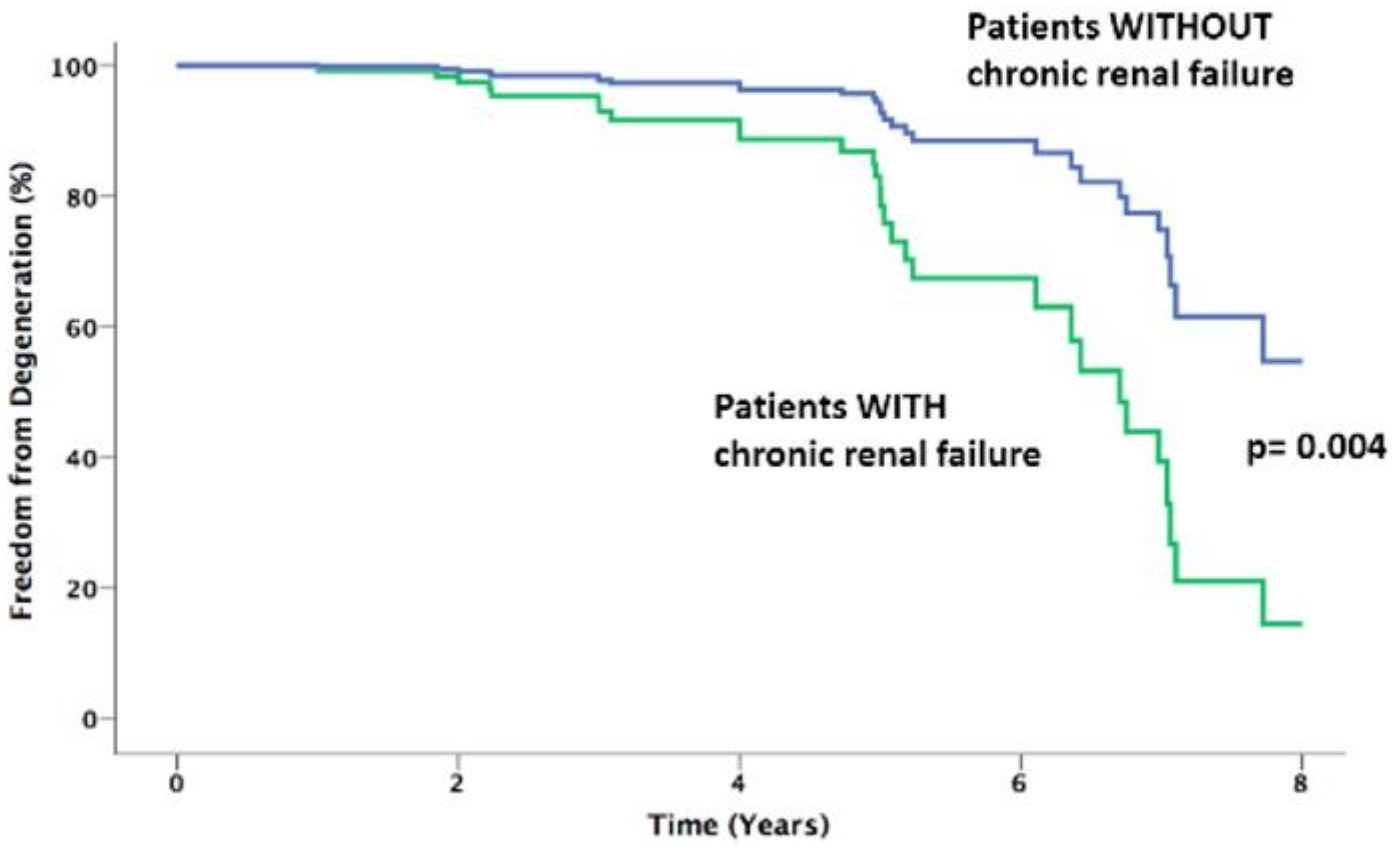
TAVI a longo prazo

Methods


Vancouver TAVI Cases
Before May 2011
(n = 462)
Rouen TAVI Cases
Before May 2011
(n = 242)
Total TAVI cases
Before May 2011
(n = 704)
Mortality < 30 days
(n = 35)
Failed at Baseline
(n = 178)
Non-Edwards Valves
(n = 16)
VIV/Non-Aortic Position
(n = 28)
Insufficient Follow-up
(n = 69)
Study patients
(n = 378)

2016 euro PCR

Freedom from THV degeneration

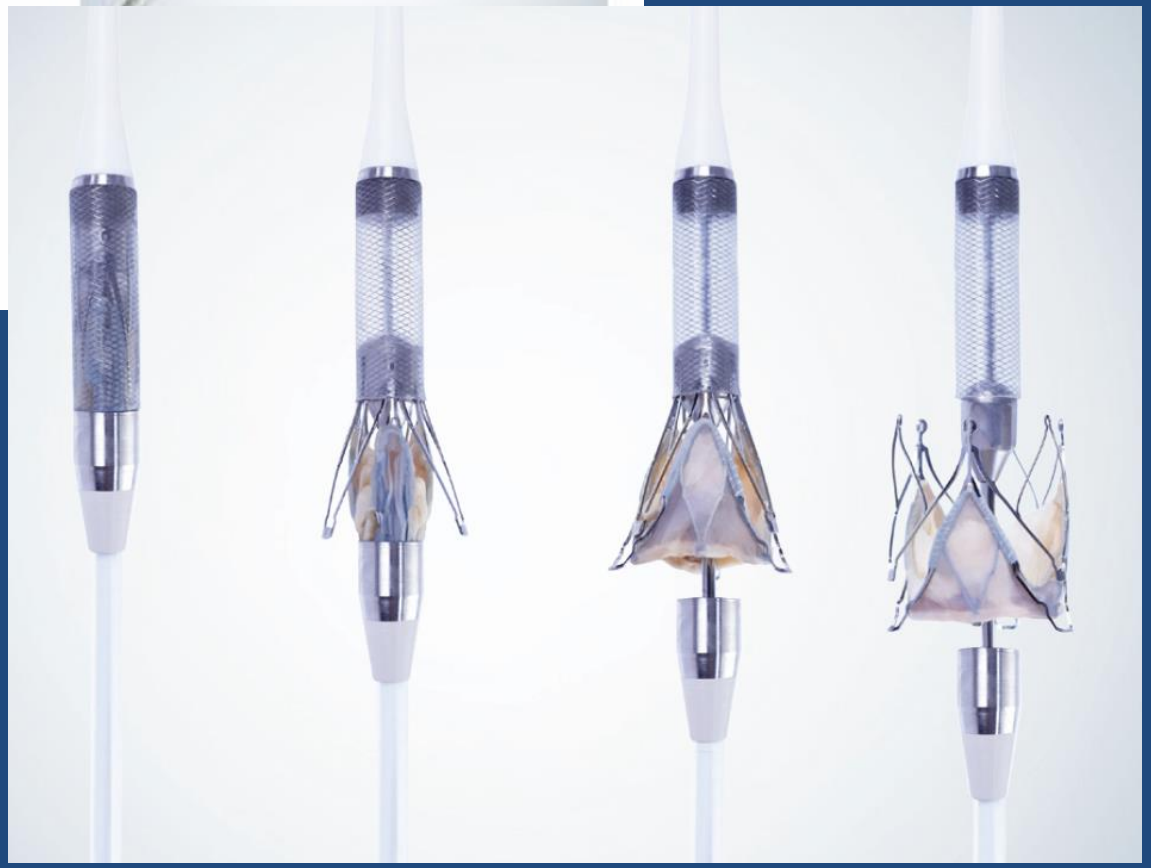


2016 euro PCR

Summary

- The current analysis includes a first look at long-term durability after TAVI, evaluating cases performed 5-14 years ago with early-generation balloon-expandable THV devices.
- In this preliminary report, a significant increase in degeneration rate was observed between 5-7 years after TAVI.
- Estimate of THV degeneration (resulting in at least moderate stenosis AND/OR regurgitation) was ~50% within 8 years.
- Renal failure was the strongest correlate of THV degeneration.

Die JenaValve



A escolha do procedimento

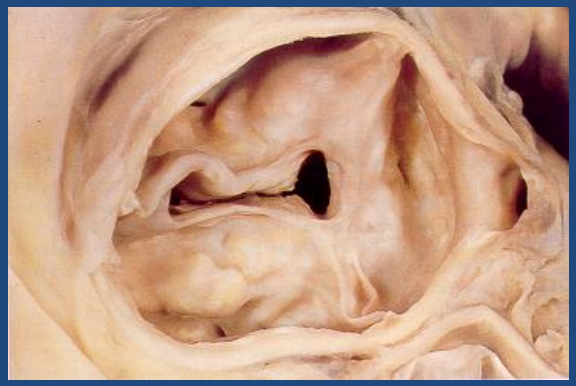
Estenose Aórtica

Escolha do tipo de Intervenção

I	B-NR	Surgical AR is recommended for symptomatic patients with severe AS (Stage D) and asymptomatic patients with severe AS (Stage C) who meet an indication for AVR when surgical risk is low or intermediate (42,43).	**MODIFIED:** LOE updated from A to B-NR. Prior recommendations for intervention choice did not specify patient symptoms. The patient population recommended for surgical AVR encompasses both symptomatic and asymptomatic patients who meet an indication for AVR with low-to-intermediate surgical risk. This is opposed to the patient population recommended for TAVR, in whom symptoms are required to be present. Thus, all recommendations for type of intervention now specify the symptomatic status of the patient.

See Online Data Supplements 5 and 9 (Updated From 2014 VHD Guideline)

- Estágios da EAo
- A – em risco de doença valvar
- B – EAo assintomática progressiva
- C – EAo assintomática, grave
- D – EAo sintomática, grave



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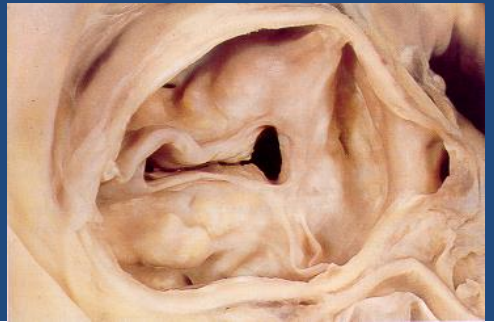
http://dx.doi.org/10.1016/j.jacc.2017.03.011

Estenose Aórtica

Escolha do tipo de Intervenção



I / A See Online Data Supplement 9 (Updated From 2014 VHD Guideline)	Surgical AVR or TAVR is recommended for symptomatic patients with severe AS (Stage D) and high risk for surgical AVR, depending on patient-specific procedural risks, values, and preferences (49–51).	MODIFIED: COR updated from IIa to I, LOE updated from B to A. Longer-term follow-up and additional RCTs have demonstrated that TAVR is equivalent to surgical AVR for severe symptomatic AS when surgical risk is high.
I / A See Online Data Supplements 5 and 9 (Updated From 2014 VHD Guideline)	TAVR is recommended for symptomatic patients with severe AS (Stage D) and a prohibitive risk for surgical AVR who have a predicted post-TAVR survival greater than 12 months (58–61).	MODIFIED: LOE updated from B to A. Longer-term follow-up from RCTs and additional observational studies has demonstrated the benefit of TAVR in patients with a prohibitive surgical risk.
IIa / B-R See Online Data Supplements 5 and 9 (Updated From 2014 VHD Guideline)	TAVR is a reasonable alternative to surgical AVR for symptomatic patients with severe AS (Stage D) and an intermediate surgical risk, depending on patient-specific procedural risks, values, and preferences (62–65).	NEW: New RCT showed noninferiority of TAVR to surgical AVR in symptomatic patients with severe AS at intermediate surgical risk. **Obs limited follow-up**

Estenose Aórtica

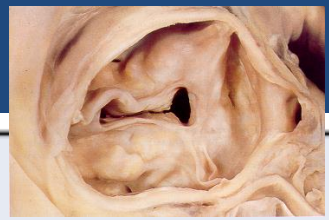
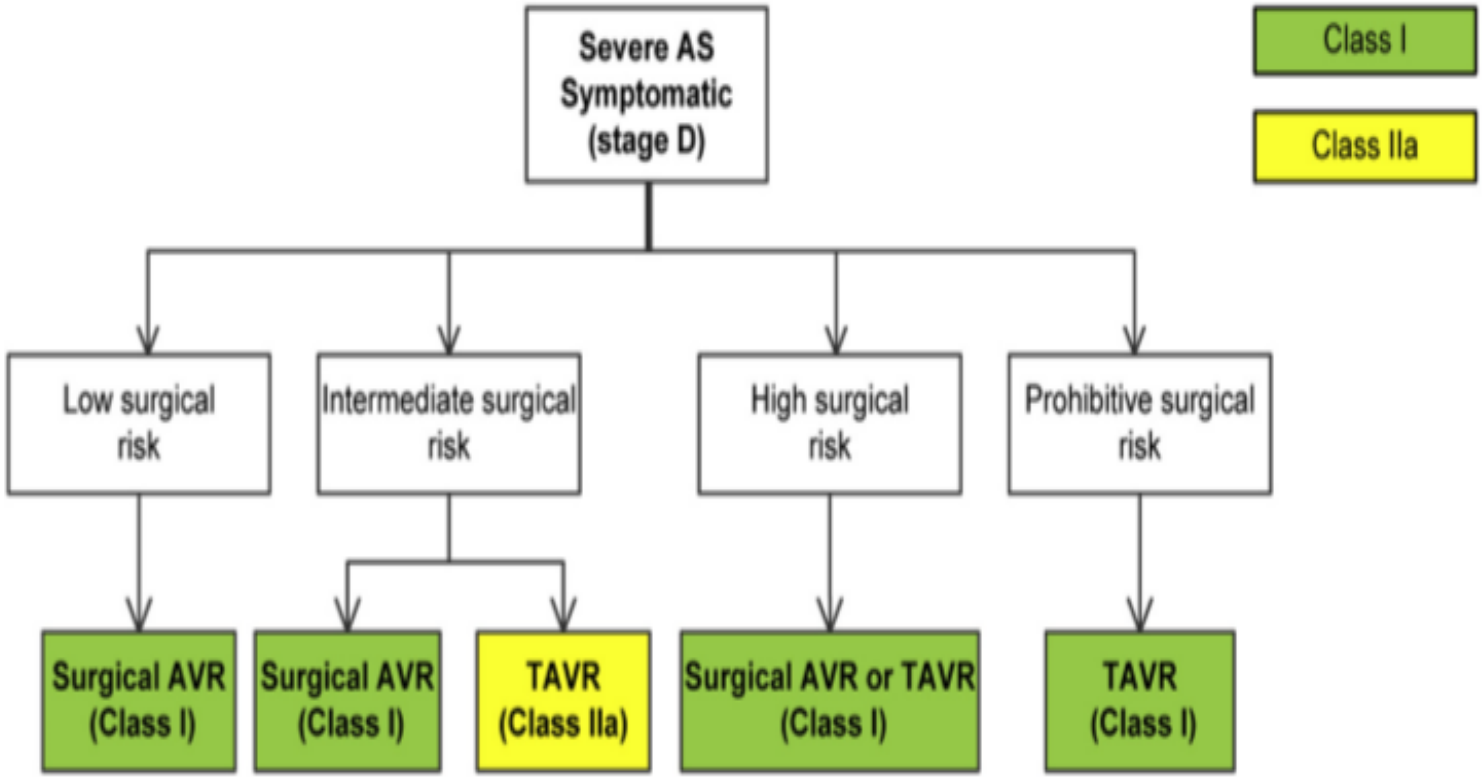


FIGURE 1 Choice of TAVR Versus Surgical AVR in the Patient With Severe Symptomatic AS



AS indicates aortic stenosis; AVR, aortic valve replacement; and TAVR, transcatheter aortic valve replacement.

Limitações

TAVI

Tamanho do anel valvar

Anatomia: bicúspide, angulações

Lesões associadas: valva mitral, ectasia e an.aorta

Acessos vasculares comprometidos

Tecido biológico: <60 anos, não

Mortalidade não desprezível

Morbidade idem

Longo prazo desconhecido

Não é “só um furinho na perna”

CIRURGIA CONVENCIONAL

Porte do procedimento

Recuperação imediata

Dor

Aceitação pelo paciente

Infecção

Mais transfusões,

- insuficiência renal
- insuficiência respiratória
- fibrilação atrial

Maiores tempos de procedimento, recuperação, hospitalização

Conclusões

- Cirurgia convencional persiste como padrão-ouro por algum tempo: *indicada em todas as situações*
- Valvoplastias em IAo e EAo poderão ter incremento
- Biopróteses serão preferidas sobre próteses mecânicas
- TAVI terá incremento, dependente de avanço tecnológico, na EAo e *valve-in-valve. Em IAo?*
- Biopróteses *Sem sutura/Implante rápido* deverão buscar seu lugar
- Critérios de indicação e escolha do procedimento deverão seguir avaliações de resultados objetivas e isentas
- Custos deverão sempre ser considerados

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MOVIDOS PELO CORAÇÃO

Mesa-Redonda

Avaliação do Paciente com Estenose Aórtica de Moderado e Alto Risco Cirúrgico

Visão do Cirurgião Cardíaco

Renato A. K. Kalil
Cirurgião Cardiovascular
Professor-Titular de Clínica Cirúrgica da UFCSPA
Professor Emérito do Programa de Pós-Graduação do IC/FUC
Membro Titular da Academia Sul-Rio-Grandense de Medicina
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