



CONGRESSO
SOCERGS
16 a 18 agosto 2018

A ESCOLHA DA BIOPRÓTESE É BASEADA EM MARKETING OU EM DESEMPENHO COMPROVADO?

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Declaração de Potencial Conflito de Interesse

Nome do Palestrante:

Renato A. K. Kalil

Título da Apresentação:

*A ESCOLHA DA BIOPRÓTESE É BASEADA EM MARKETING OU EM DESEMPENHO
COMPROVADO?*

**Não possuo nenhum conflito de interesse relacionado a
esta apresentação**

Substitutos Valvares Atuais

- **Autólogos:** Autoenxerto Pulmonar



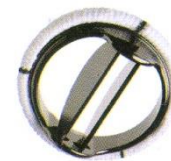
- **Homólogos:** Homoenxertos aórticos, pulmonares



- **Heterólogos:** Biopróteses de aorta porcina e de pericárdio bovino, equino ou porcino



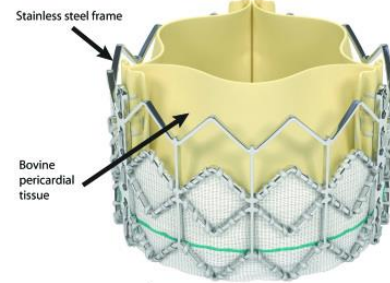
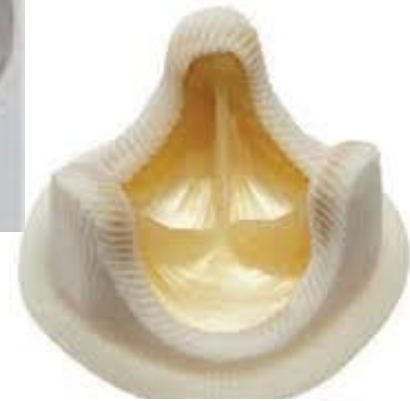
- **Mecânicos:** Próteses mecânicas de carbono pirolítico



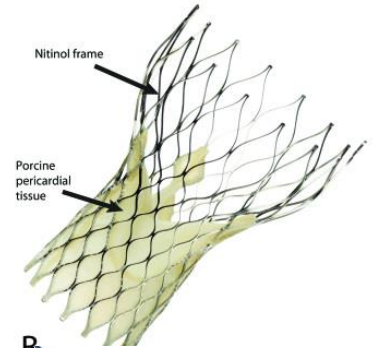
Processamento das Biopróteses

- Fresh-frozen
- Freeze-dried
- Formaldeído
- *Glutaraldeído*
- Glicerol
- No-React
- L-Hydro
- Liofilização
- Integrity technology
- Pré-incubação em etanol
- Triglycidyl amine
-
- Fascia lata
- Dura-máter
- Pericárdio
- Valva aórtica
- Veia jugular bovina

Biopróteses Consolidadas:
Valva aórtica porcina
Pericárdio bovino
Preservação em glutaraldeído



A



B



Quais são as questões principais na escolha da bioprótese cirúrgica?

- ***DESEMPENHO HEMODINÂMICO:***

Gradiente pressórico e alívio da sobrecarga de pressão, orifício efetivo

- ***DURABILIDADE:***

Sobrevida a longo prazo sem re-operações, degeneração, calcificação

DESEMPENHO HEMODINÂMICO

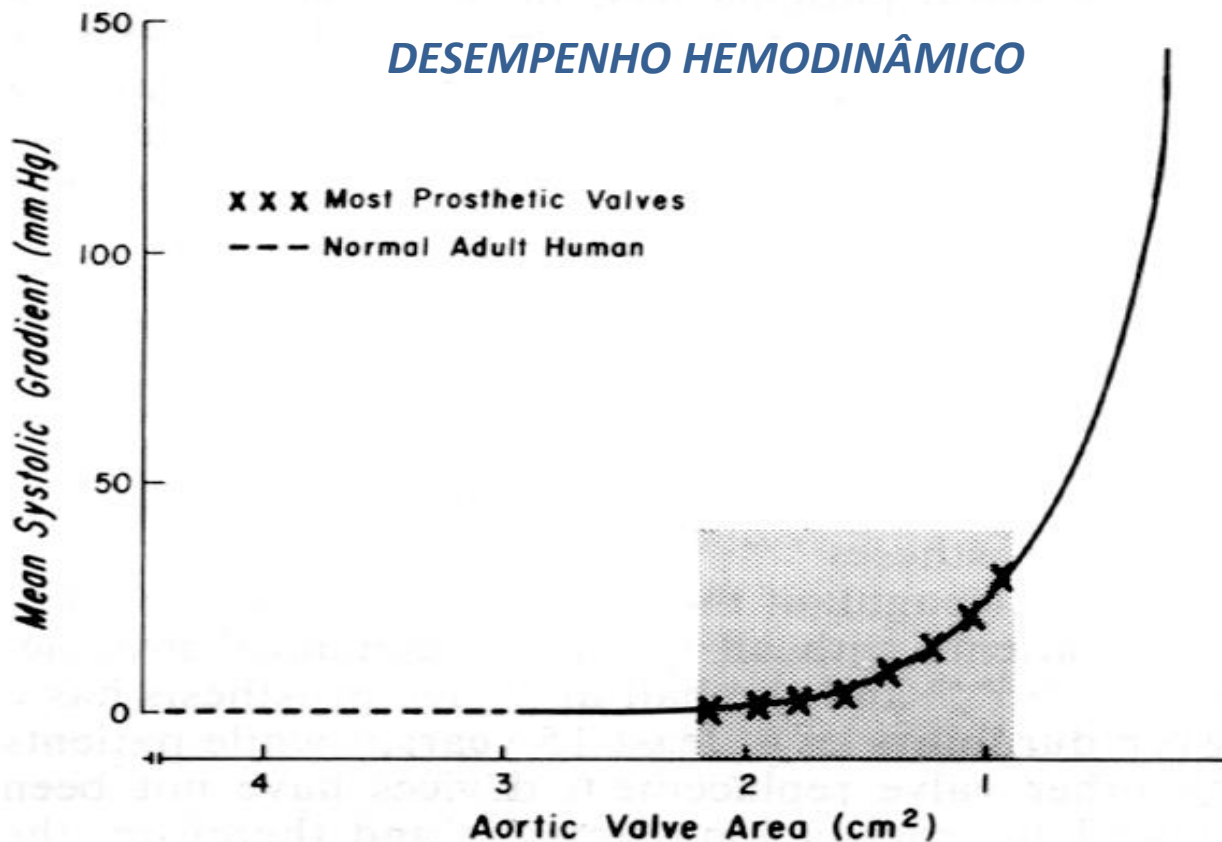


FIGURE 2. Diagrammatic representation of the relationship of mean systolic gradient to the aortic valve area, assuming the cardiac output and velocity of flow are constant. The curve is based upon knowledge of the hydraulics of a stenotic valve⁵⁵ and of experimental data.⁴³ The approximate zone of prosthetic valve area to gradient is based on published data.^{2, 4, 8-15, 36, 40, 41}

DESEMPENHO HEMODINÂMICO: Gradiente pressórico e alívio da sobrecarga de pressão, orifício efetivo

Table 1. Aortic Valve Prostheses and Effective Orifice Areas

Valve Type	Effective Orifice Area (cm ²) for Nominal Valve Size							References
	n	19 mm	21 mm	23 mm	25 mm	27 mm	29 mm	
Mechanical prostheses								
St. Jude Medical standard	428	1.01	1.33	1.60	1.93	2.35	2.81	[28]
St. Jude Medical Regent	72	1.84	2.47	2.91	3.34	4.28	4.80	[13]
Bjork-Shiley Monostrut/Sorin tilting disk	88	0.90	1.08	1.31	1.96	2.51	4.10	[29, 30]
Carbomedics Standard	15	1.25	1.42	1.69	2.04	2.55	2.63	[4, 9, 17]
Omnicarbon	45	...	1.25	1.49	1.94	2.11	2.27	[28]
MCRI On-X	7	1.50	1.70	2.00	2.40	3.20	3.20	[9, 13, 17]
Bioprostheses								
Carpentier-Edwards Perimount	64	1.08	1.25	1.51	1.62	1.85	...	[4]
Carpentier-Edwards Perimount Magna	27	1.30	1.70	2.10	2.30	[17]
Medtronic Mosaic	234	1.11	1.28	1.51	1.69	2.04	...	[4]
St. Jude Medical Biocor/Epic	80	...	1.30	1.60	1.80	2.00	3.30	[15, 17]

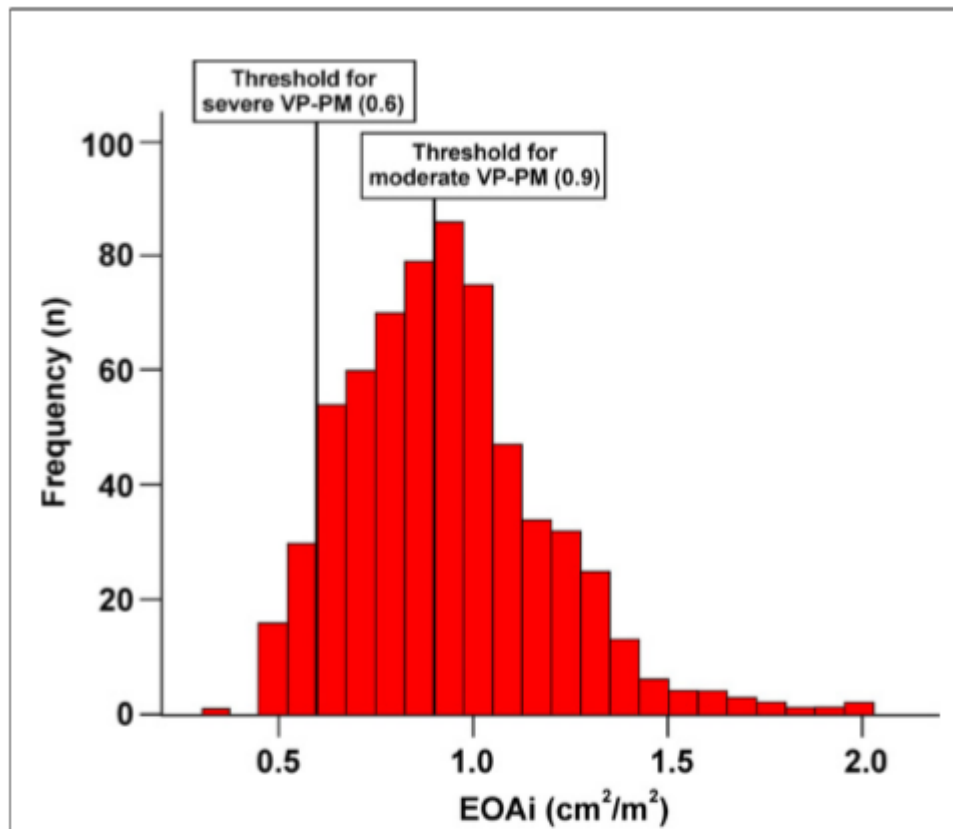
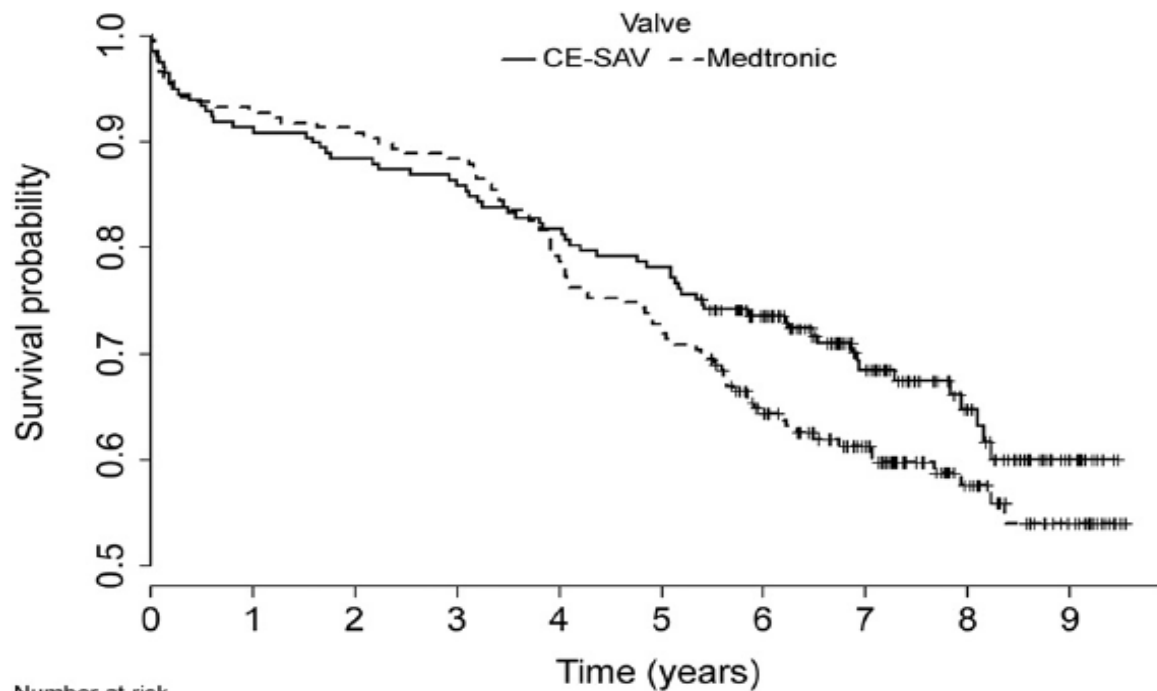


Figure 8 EOAi of 1 Prosthesis Type

Histogram distribution of EOAi at 6 months after aortic valve replacement in 113 patients of the same type and size (Edwards Perimount size 23). The mean value of 1.82 cm²/m² may be the only parameter inserted into a reference table. Most patients would have moderate VP-PM, many would have mild VP-PM, and few would have severe VP-PM. Abbreviations as in Figure 7. Adapted and modified, with permission, from Bleiziffer et al. (45).



Number at risk	
CE-SAV:	197 180 174 169 161 154 130 81 46 11
Medtronic:	206 191 187 182 163 149 116 85 43 17

Table 5. Gradients at 5 Years

Valve Size	No. of Patients With CE-SAV	Average Gradient CE-SAV (mm Hg)	No. of Patients With Mosaic Valve	Average Gradient Mosaic (mm Hg)	t Test p Value
19	7	35.3 ± 11.6	7	53.9 ± 23.3	0.082
21	21	33.1 ± 18.3	20	37.70 ± 17.2	0.417
23	23	27.4 ± 11.9	17	38.03 ± 21.2	0.052
25	5	35.9 ± 11.4	9	31.94 ± 10.3	0.512
27	8	23.5 ± 6.4	9	24.9 ± 23.2	0.867
29	5	25.382 ± 10.5	1	24.00	NA

CE-SAV = Carpentier-Edwards supraannular aortic valve; NA = not available.

Fig 1. There is no statistically significant difference in the Kaplan-Meier plots of survival between the 2 cohorts of patients (log-rank test $p = 0.147$). (CE-SAV = Carpentier-Edwards supraannular aortic valve.)

Randomized Trial of Carpentier-Edwards Supraannular Prosthesis Versus Mosaic Aortic Prosthesis: 6 Year Results

DESEMPENHO HEMODINÂMICO: Gradiente pressórico e alívio da sobrecarga de pressão, orifício efetivo

Table 4. Adjusted All-Cause Mortality After Aortic Valve Replacement According to Effective Orifice Area Index

Prosthesis-patient mismatch ^a	Total All-Cause Mortality			
	Hazard Ratio	95% CI Lower	95% CI Upper	p Value
Absent, EOAI > 0.85 cm ² /m ² (Reference)	1.00
Moderate, EOAI 0.65–0.85 cm ² /m ²	1.00	0.80	1.24	0.97
Severe, EOAI < 0.65 cm ² /m ²	1.14	0.82	1.58	0.44
Change in model coefficients with PPM-2 log likelihood = 5179.1			χ^2 (2) = 0.72, p = 0.70	

^a Prosthesis-patient mismatch was entered at second step of hazard model and the mortality risk is adjusted for all other covariates.

CI = confidence interval; EOAI = effective orifice area index; PPM = patient prosthesis mismatch.

In conclusion, PPM alone was not an independent predictor of short-term morbidity or late mortality in patients undergoing AVR.

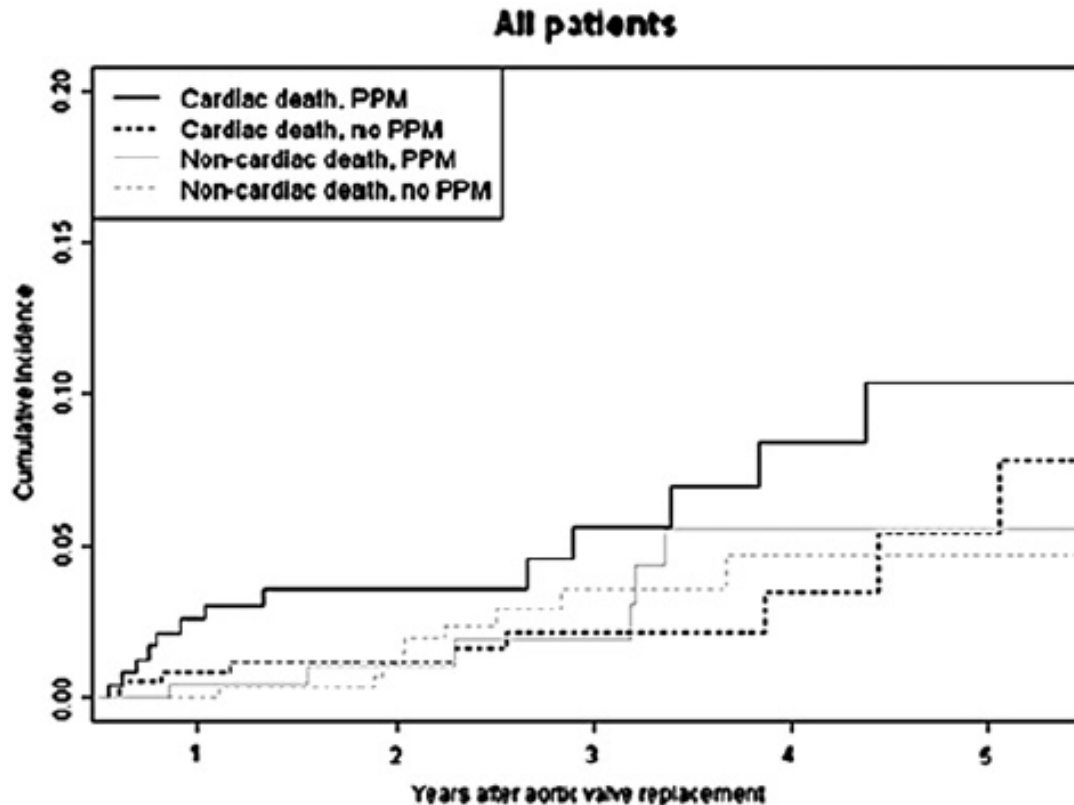
However, PPM was associated with decreased long-term survival in older patients, those undergoing concomitant CABG, or those with LV dysfunction or NYHA class III or IV symptoms.

Effective orifice area values taken from the manufacturers' technical specifications obtained from in vitro tests conducted by the manufacturers

Chart 1 Effective orifice area in cm ² of valve prostheses						
Prosthesis	Size					
	19	21	23	25	27	29
Carpentier (cm ²)	1.3	1.5	1.8	2.0	2.1	2.2
St Jude Biocor (cm ²)	NA	1.2	1.4	1.7	2.1	NA
St Jude Standard (cm ²)	1.16	1.51	2.03	2.59	3.08	NA
Braile (cm ²)	1.3	1.6	1.9	2.4	2.6	3.1

NA = non-available

Impact of the indexed effective orifice area on mid-term cardiac-related mortality after aortic valve replacement



Conclusions:

There was a significantly improved survival for larger EOAs following AVR. Strategies to avoid PPM should become paramount during AVR.

Patient-Prosthesis Mismatch in Patients With Aortic Stenosis Undergoing Isolated Aortic Valve Replacement Does Not Affect Survival

Período 1997 a 2007 n = 801 Próteses mecânicas e biológicas
PPM grave = 48 (6%), moderado = 462 (57%), ausente = 291 (36,4%)

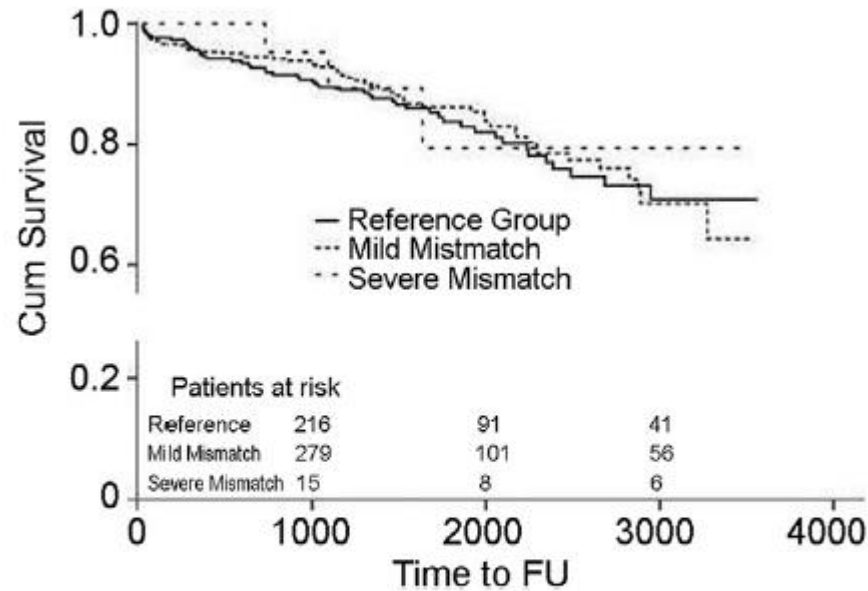


Fig 1. Cumulative (Cum) survival during follow-up (FU) by reference group (solid line), those with mild patient-prosthesis mismatch (dotted line), and those with severe patient-prosthesis mismatch (dashed line).

The impact of prosthesis–patient mismatch on long-term survival after aortic valve replacement: a systematic review and meta-analysis of 34 observational studies comprising 27 186 patients with 133 141 patient-years

Limiar = 0,85cm²/m²

PPM em 44,2% do total de 27 artigos

Limiares = 0,65 e 0,85cm²/m² em 7 artigos

grave= 9,8%

mod.=34,2%

Conclusions

Although the adverse effect of PPM on long-term survival has been denied in some studies, this meta-analysis of 34 studies with 27 186 patients demonstrates a significant increase in all-cause and cardiac-related mortality over long-term follow-up after AVR. Current efforts to prevent PPM should therefore receive more emphasis and widespread acceptance to improve long-term survival.

CONCLUSÃO 1

DESEMPENHO HEMODINÂMICO:

*Desempenho hemodinâmico é semelhante em biopróteses 23mm ou maiores
Em <21mm, pericárdio tem vantagem*

*Efeito de “mismatch” na sobrevida é discutível
Entretanto, deve ser evitado, principalmente em idosos, FE baixa e NYHA >III*

Se “mismatch” presente: acompanhar evolução, HVE, sintomas

Individualizar condutas, avaliando riscos/benefícios

***A ESCOLHA: Em tamanhos < 21mm, preferir pericárdio ou
fazer ampliação, exceto em casos de menor superfície corporal***

Quais são as questões principais na escolha da bioprótese cirúrgica?

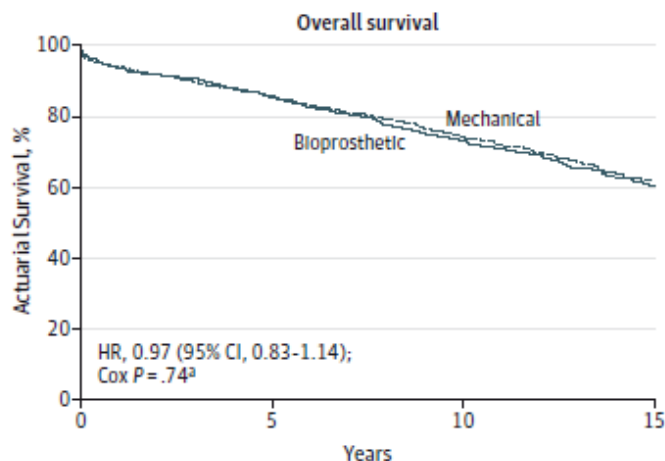
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- ***DURABILIDADE:***

Sobrevida a longo prazo sem re-operações, degeneração, calcificação

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 bioprosthesi 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

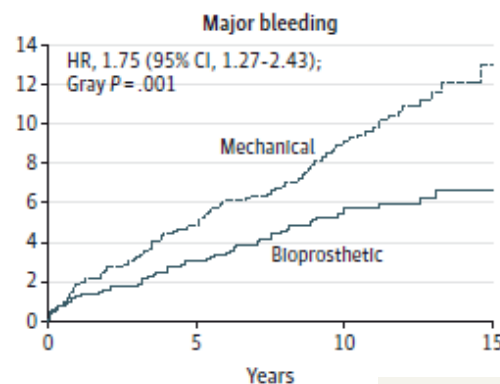
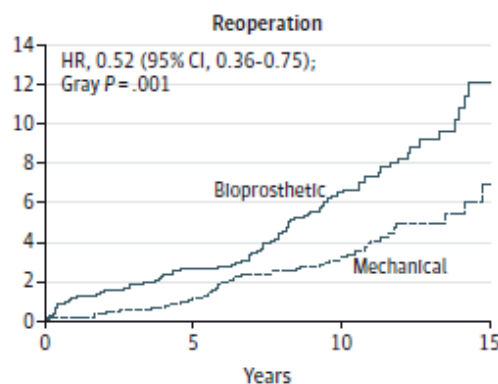
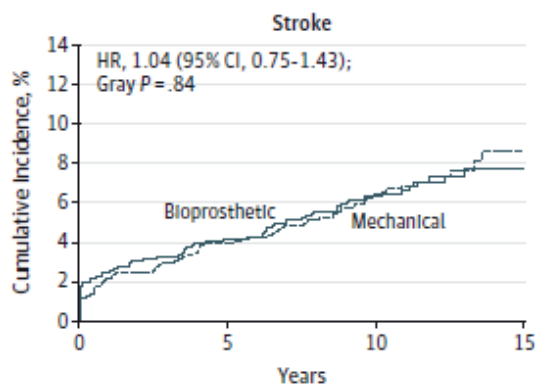
Mortality after complications:

18,7% after stroke

9,0% after reoperation

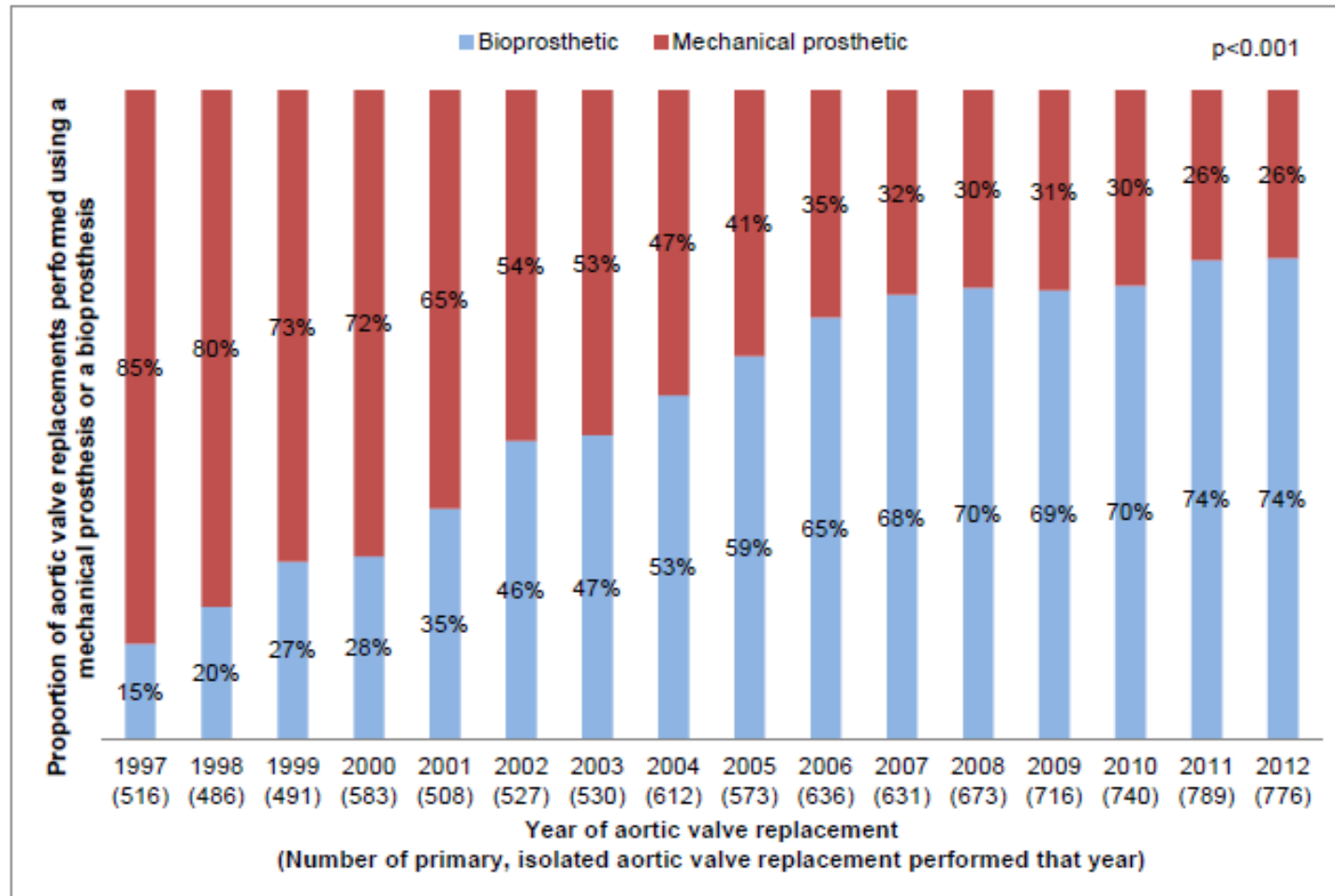
13,2% after major bleeding

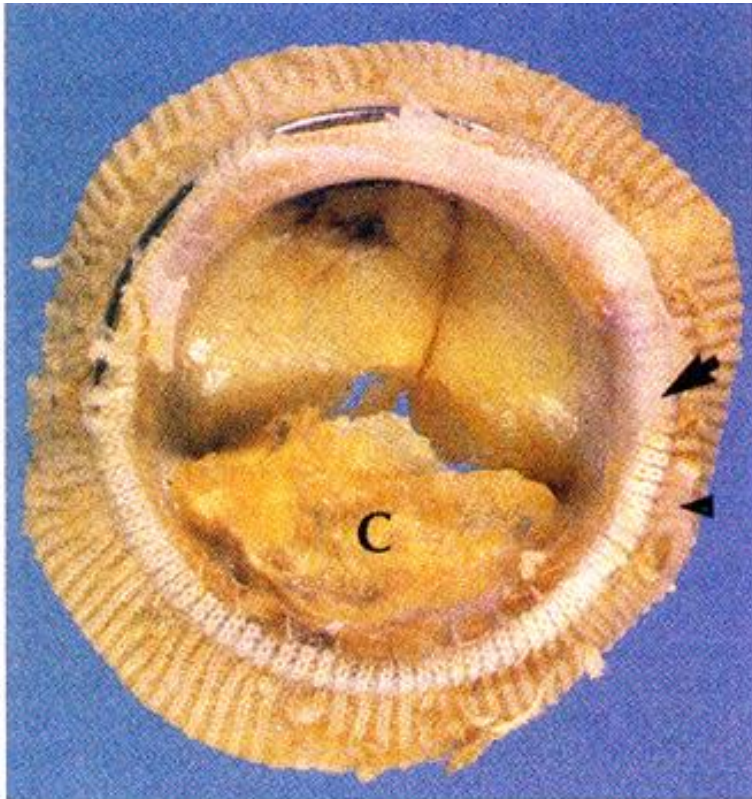
Figure 2. Cumulative Incidence of Major Morbidity (Stroke, Reoperation, Major Bleeding) Among Propensity-Matched Patients Aged 50 to 69 Years After Bioprosthetic vs Mechanical Aortic Valve Replacement



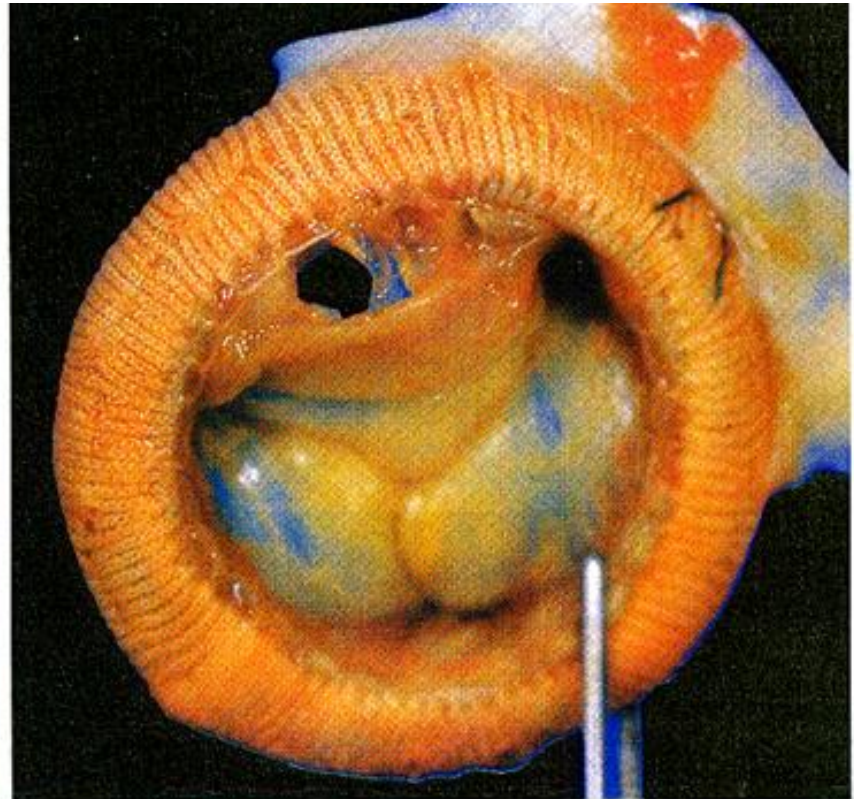
Survival and Long-term Outcomes Following Bioprosthetic vs Mechanical Aortic Valve Replacement in Patients Aged 50 to 69 Years

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





A



B

FIGURE 57-50 Structural deterioration of bioprosthetic valves. **A**, Valve failure related to mineralization and collagen degeneration. **B**, Cuspal tears and perforations. These processes may occur independently, or they may be synergistic. (**A**, From Virmani R, Burke AP, Farb A; Pathology of valvular heart disease. In Rahimtoola SH [ed]: Valvular Heart Disease. In Braunwald E [series ed]: Atlas of Heart Diseases. Vol 11. Philadelphia, Current Medicine, 1997, p 1.26; **B**, From Manabe H, Yutani C [eds]: Atlas of Valvular Heart Disease. Singapore, Churchill Livingstone, 1998, p 158.)

Trilogy Pericardial Valve: Hemodynamic Performance and Calcification in Adolescent Sheep

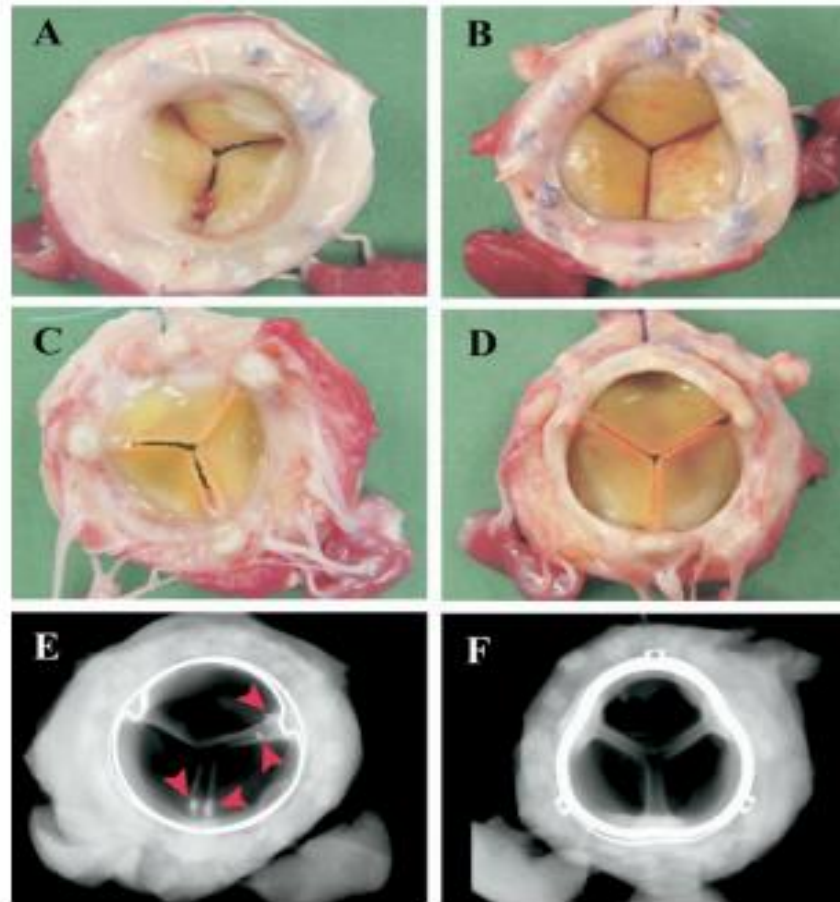
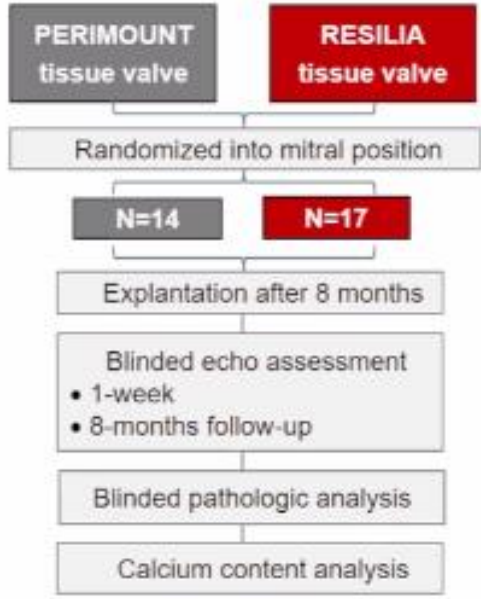
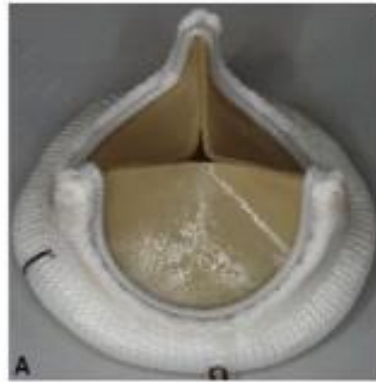


Fig 2. Typical examples of valves explanted after five months in mitral position: gross examination of the explants and their Faxitron (Wheeling, IL) X-ray pictures. Left panels (A, C, E): explanted Perimount valve (Edwards Lifesciences) (atrial side, ventricular side, and X-ray). Right panels (B, D, F) show an explanted Trilogy valve (Arbor Surgical Technologies Inc) (atrial side, ventricular side, and X-ray). Note the clear commissural calcifications in two commissures of the Perimount (arrowheads).



RESILIA tissue



Living Technology/Basic Sciences

Flansburg et al

Randomized assessment of an advanced tissue preservation technology in the juvenile sheep model

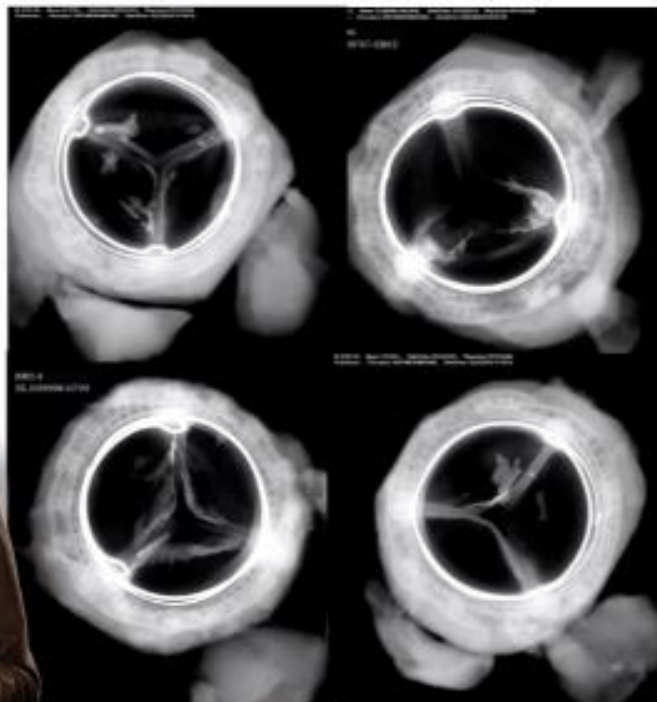
Wilm Flansburg, MD, PhD, Hildewich Herrmann, MD, Erik Verbeke, MD, PhD, and Bart Meuris, MD, PhD



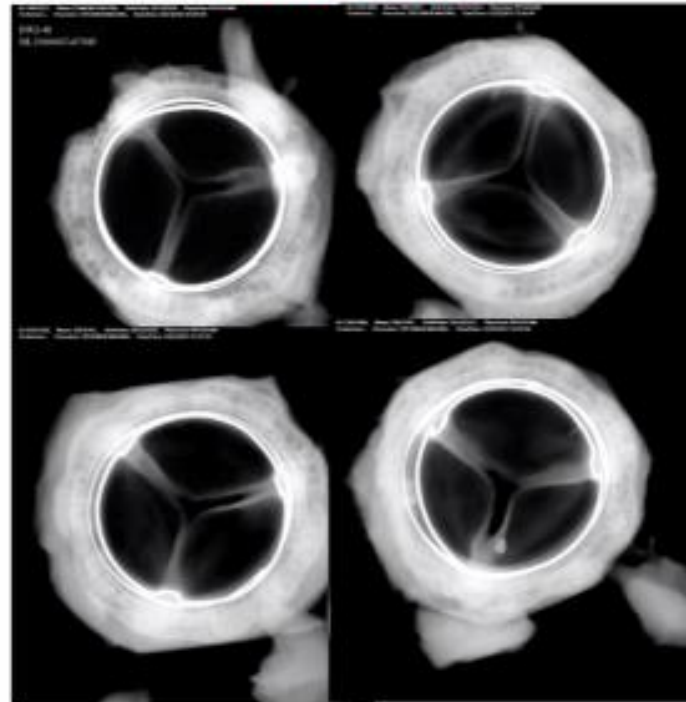


RESILIA tissue

PERIMOUNT tissue valves



RESILIA tissue valve



radiographic analysis showed overt commissural and leaflet calcifications in the PERIMOUNT valve control group

Flameng W, et al. J Thorac Cardiovasc Surg. 2015 Jan;149(1):340-5

The COMMENCE trial: 2-year outcomes with an aortic bioprosthesis with RESILIA tissue.

2013 - 2016, n = 689
age = 67.0 ± 11.6 years

At 2 years, New York Heart Association class improved in 65.7%,
Effective orifice area was 1.6 ± 0.5 cm²;
Mean gradient was 10.1 ± 4.3 mmHg;

One-year actuarial freedom from all-cause mortality for isolated AVR and for all patients was 98.2% and 97.6%, respectively.

Two-year actuarial freedom from mortality in these groups was 95.3% and 94.3%, respectively.

CONCLUSIONS:

These data demonstrate excellent early safety and effectiveness of aortic valve replacement with a novel bioprosthetic tissue (RESILIA™)



Válvula SJM B

Primeira válvula comprovada por mais de 15 anos exclusiva tecnologia proteger contra

Análise Competitiva

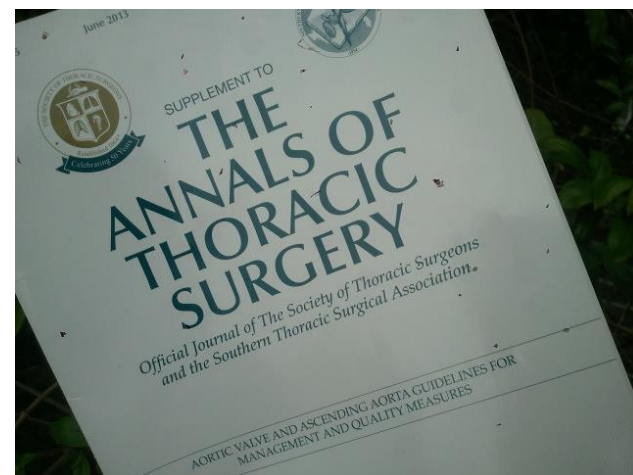
Produtos	Linx AC Technology ^{1,2,3,4} Epic/Epic Supra	Edwards Xenologix ⁵ PERIMOUNT™/Magna™	Edwards TheraFix™ PERIMOUNT™/Magna™	Medtronic AOA ⁷ Mosaic™/Ultra™	Medtronic T6 ⁶ Hancock II™
① Redução de aldeídos livres	✓		✓	✓	
② Extração de Lipídios	✓	✓	✓		✓
+ ③ Minimiza a absorção de colesterol	✓				
④ Estabiliza o colágeno dos folhetos	✓				

Não há dados clínicos disponíveis que avaliem o impacto a longo prazo do tratamento de tecidos com anticalcificação em seres humanos.



- Baseado em um projeto de estabilidade hemodinâmica comprovada de até 17 anos de pós-implantação.⁸
- Projetado para durar**
- Feito com o comprovado desempenho de bioprótese aórtica PERIMOUNT, com mais de 27 anos de experiência clínica^{9,10}
 - O Carpentier-Edwards TheraFix process é a única tecnologia de anti-calcificação projetada para confrontar os locais de maior ligação de cálcio.
- *Nenhum dado clínico está disponível para avaliar o impacto de longo prazo nos pacientes sob tratamento de tecidos Edwards.
- Referências

Existem biopróteses com durabilidade superior?



sites. To mitigate valve calcification most companies have developed proprietary tissue treatments aimed at removing residual glutaraldehyde or phospholipid moieties to reduce calcium binding and hopefully enhance durability. Among these are treatment with alcohol and various antisurfactants but none has proved superior to others.

**Aortic Valve and Ascending Aorta Guidelines
for Management and Quality Measures**

Ann Thorac Surg 2013;95:S1–S66

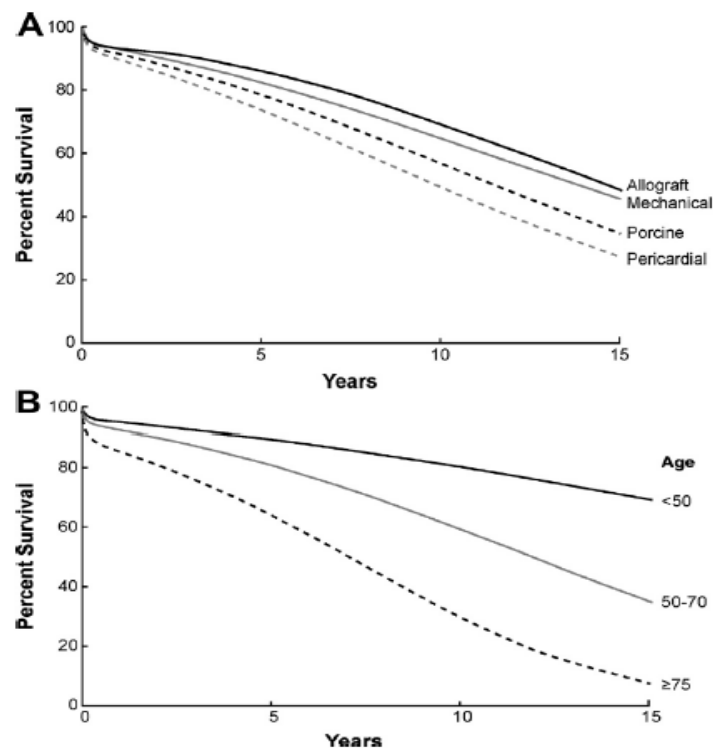


Fig 2. (A) Relationship of late survival to years after aortic valve insertion in 13,258 patients, divided by aortic valve prosthesis. (B) Survival by age.

operation; (3) effective orifice area (EOA) including gradients and energy loss; and (4) long-term durability, with no difference in survival compared with other devices, but better than the untreated population.

Clearly, there are few, if any medical procedures that are as effective in relieving symptoms, improving quality of life, and also increasing long-term survival as much as AVR for aortic stenosis (AS) or aortic regurgitation (AR), but for perhaps the exception of heart transplantation, but the latter adds the problem of managing new medications and increased monitoring. Recent data from 3,600 Medicare patients show that there is a reduced hospital readmission rate and increased survival among high-risk Medicare patients (aged ≥ 65 years) treated with AVR for severe AS,

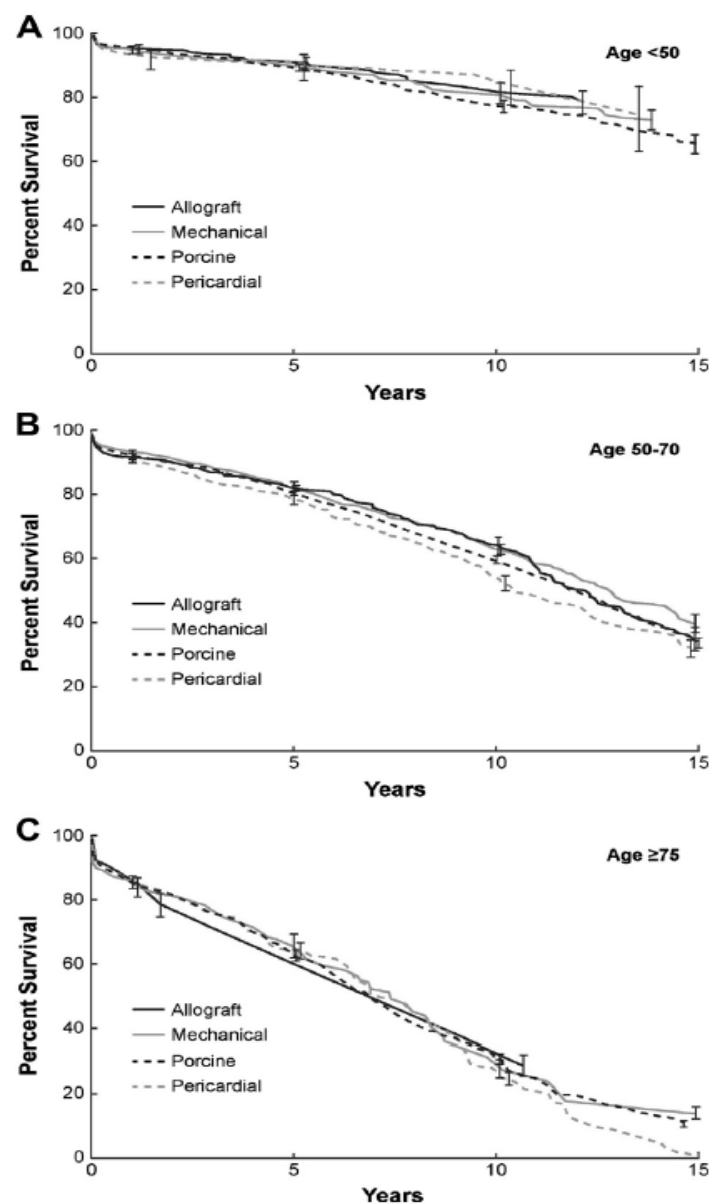
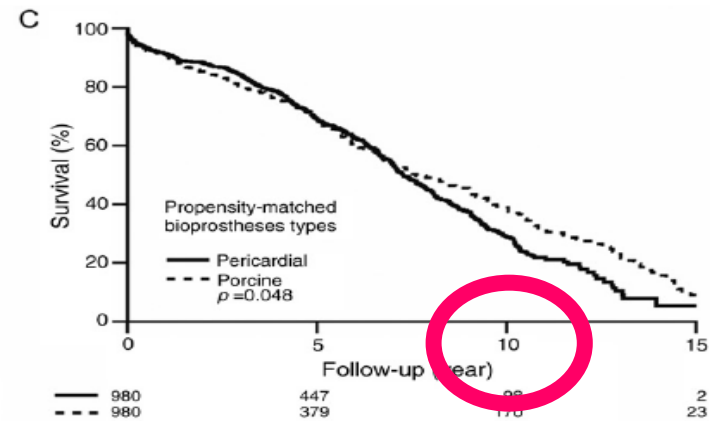
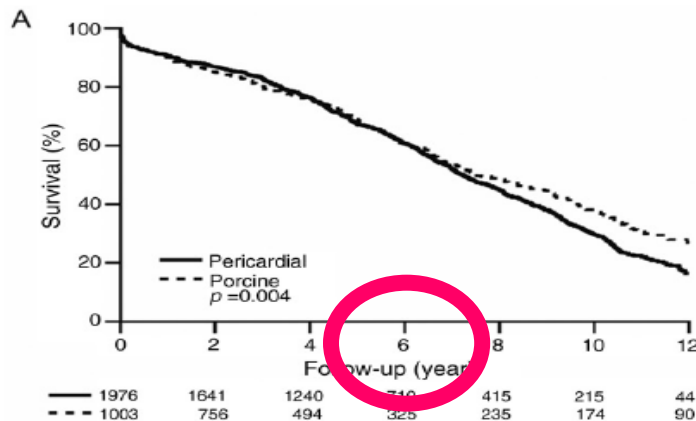


Fig 3. Survival by age groups: (A) younger patients; (B) middle-aged patients; (C) elderly patients. Note that differences disappear.

Pericárdica e Porcina, 3 modelos

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



Biopróteses
Medtronic
Sorin
Carpentier

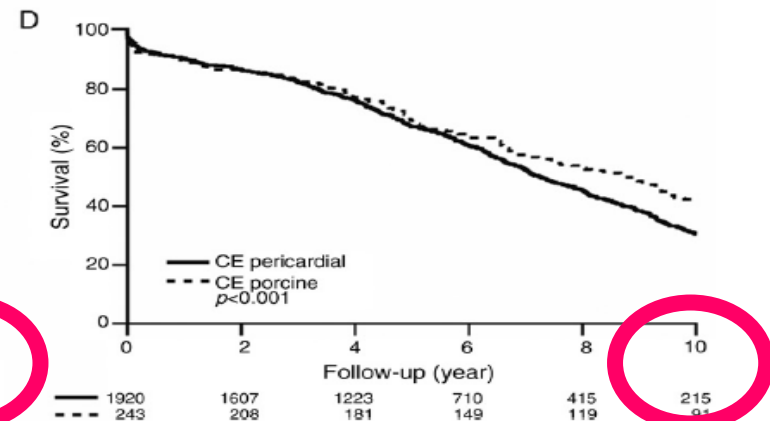
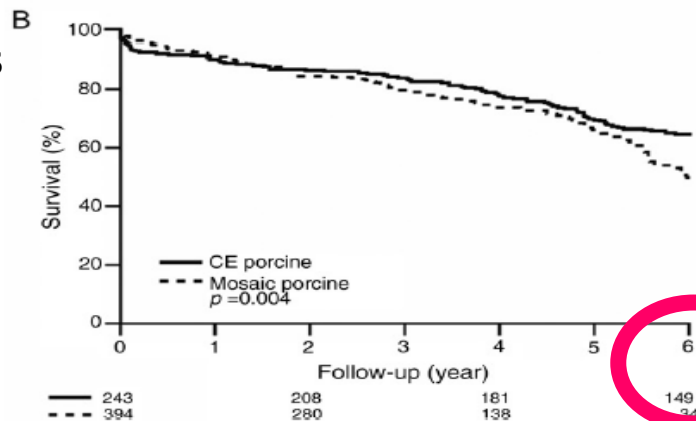


Fig 1. Kaplan-Meier graphs show survival of elderly patients after aortic valve replacement. (A) There was no survival advantage for patients with pericardial (solid line) over porcine (dashed line) bioprostheses ($p = 0.05$). (B), Survival is shown between the two most commonly used porcine brands, 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, the porcine brand appeared to have a survival advantage ($p < 0.001$).

Do Pericardial Bioprostheses Improve Outcome of Elderly Patients Undergoing Aortic Valve Replacement?

Sameh M. Said, MD,* Elena Ashikhmina, MD, PhD, Kevin L. Greason, MD, Rakesh M. Suri, MD, PhD, Soon J. Park, MD, Richard C. Daly, MD, Harold M. Burkhart, MD, Joseph A. Dearani, MD, Thoralf M. Sundt III, MD, and Hartzell V. Schaff, MD

Division of Cardiovascular Surgery, Mayo Clinic, Rochester, Minnesota; Division of Cardiac Surgery, Massachusetts General Hospital, Boston, Massachusetts; and Division of Anesthesia, Brigham and Women's Hospital, Boston, Massachusetts

Background. Pericardial bioprostheses have favorable echocardiographic hemodynamics in the aortic position compared with porcine valves; however, there are few data comparing clinical outcomes. Our objective was to assess the late results of the two valve types.

Methods. We reviewed 2,979 patients aged 65 years or older undergoing aortic valve replacement with pericardial (n = 1,976) or porcine (n = 1,003) prostheses between January 1993 and December 2007. The most common pericardial prostheses were Carpentier-Edwards Perimount and Mitroflow, and the most common porcine valves were Medtronic Mosaic, Carpentier-Edwards, Hancock modified orifice, and St. Jude Biocor. Follow-up extended to a maximum of 16 years (mean, 5.2 ± 3.5 years).

Results. Survival at 5, 10 and 12 years was, respectively, 68%, 33%, and 21% overall, was 68%, 30%, and 16% for

patients with pericardial bioprosthesis, and was 69%, 38% and 27% for the porcine group. In a multivariate model, long-term survival was reduced in patients with diabetes, renal failure, prior myocardial infarction, congestive heart failure, and older age, but late survival was not higher in the pericardial valve group. Overall freedom from reoperation was 96%, 92%, and 90% at 5, 10, and 12 years, and freedom from explant was 98%, 96%, and 94% during the same period. The reason for explant was structural valve deterioration in 50 patients (2%).

Conclusions. Despite the better hemodynamic performance documented in prior investigations, pericardial valves do not confer any survival advantage over porcine valves in patients aged 65 years or older undergoing aortic valve replacement.

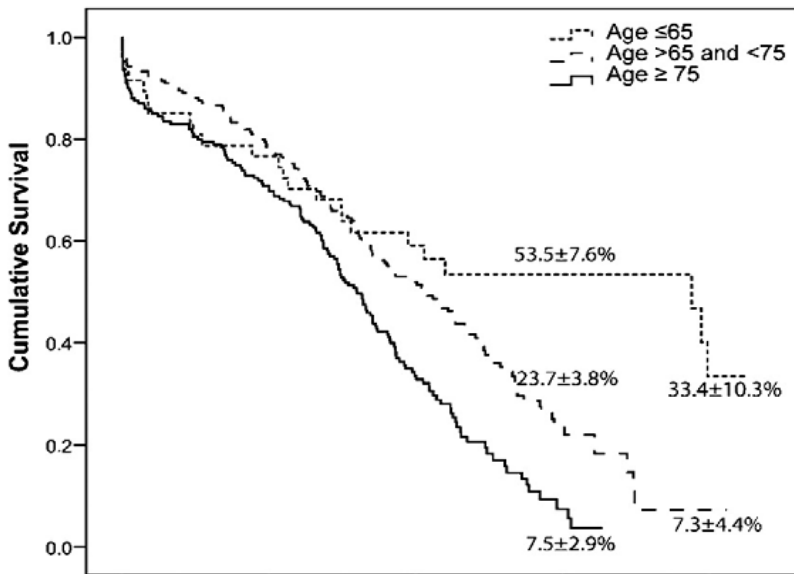
(Ann Thorac Surg 2012;93:1868-75)

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Sobrevida Biopróteses Ao

Biocor StJude porcina

Eichinger WB e cols
 German Heart Center Munich
 Ann Thorac Surg 2008;86:1204 –11

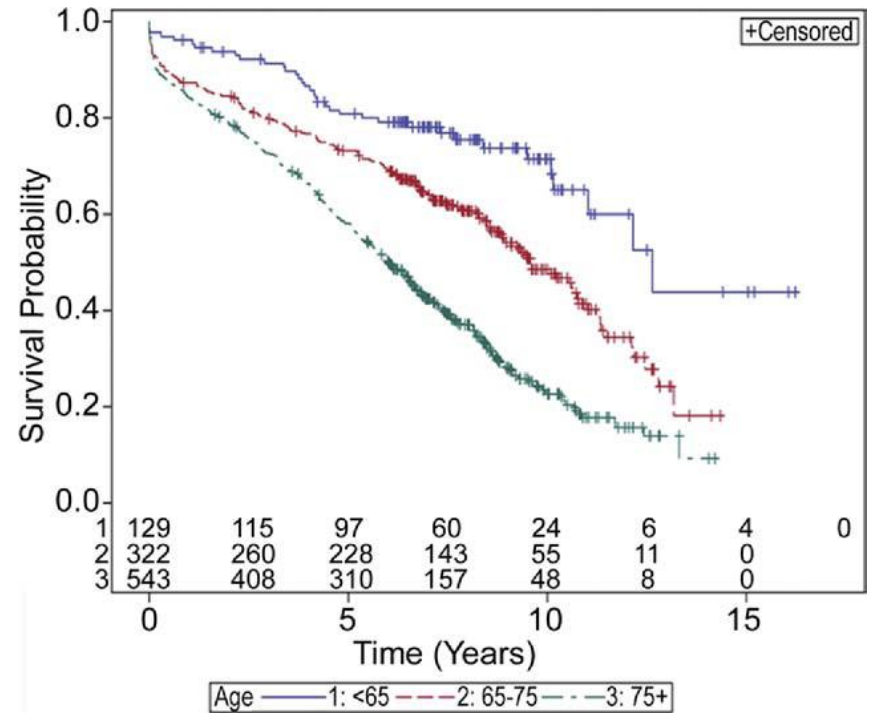


B

Time (years)	0	5	10	15	20
Age ≤65	47	36	23	10	5
Age >65 and <75	209	163	94	15	2
Age ≥75	199	141	47	4	0

Carpentier-Edwards Pericardial Bioprosthesis

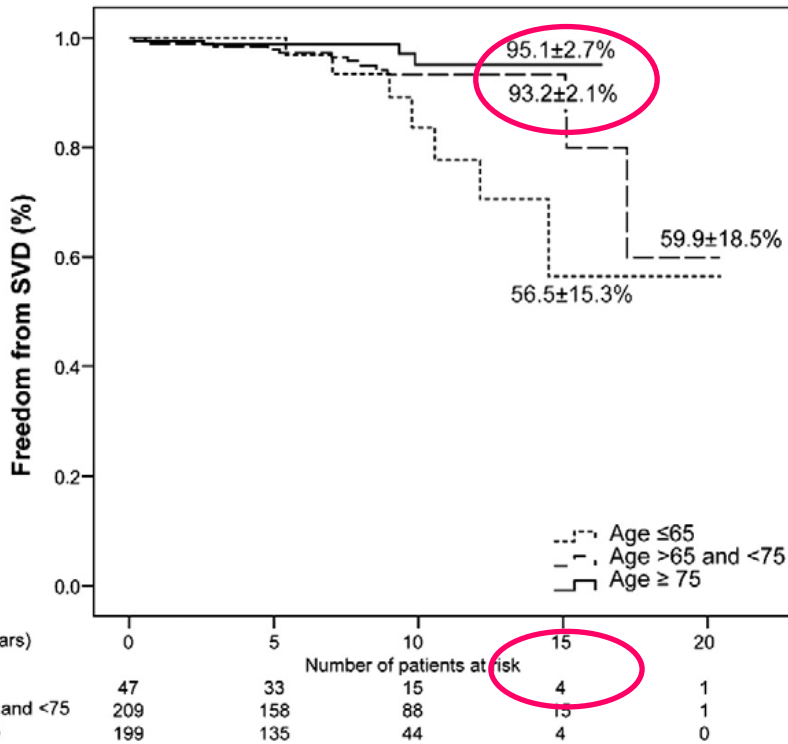
McClureRS e cols, Brigham and Women's Hospital, Harvard Medical School
 Ann Thorac Surg 2010;89:1410-1416



Sobrevida livre de degeneração estrutural da bioprótese Ao

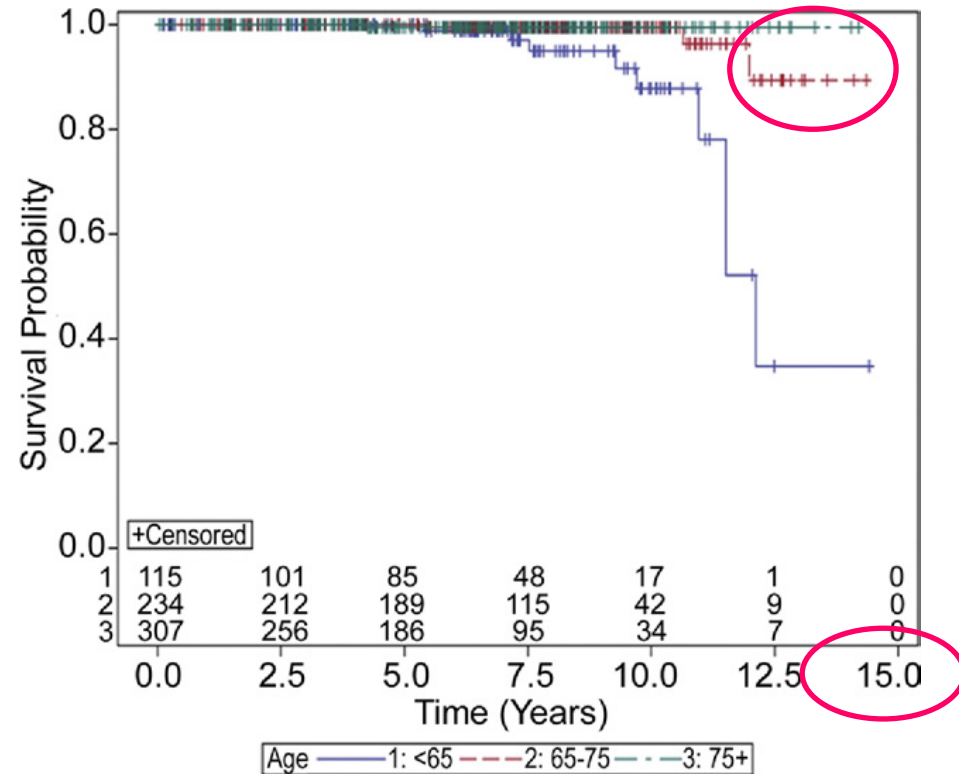
Biocor StJude porcina

Eichinger WB e cols
 German Heart Center Munich
 Ann Thorac Surg 2008;86:1204-11



Carpentier-Edwards Pericardial Bioprosthesis

McClure RS e cols, Brigham and Women's Hospital, Harvard Medical School
 Ann Thorac Surg 2010;89:1410-1416



Long-Term Durability of Bioprosthetic Aortic Valves: Implications From 12,569 Implants

Ann Thorac Surg
2015;99:1239-47

JOHNSTON ET AL 1243
BIOPROSTHETIC AORTIC VALVE DURABILITY

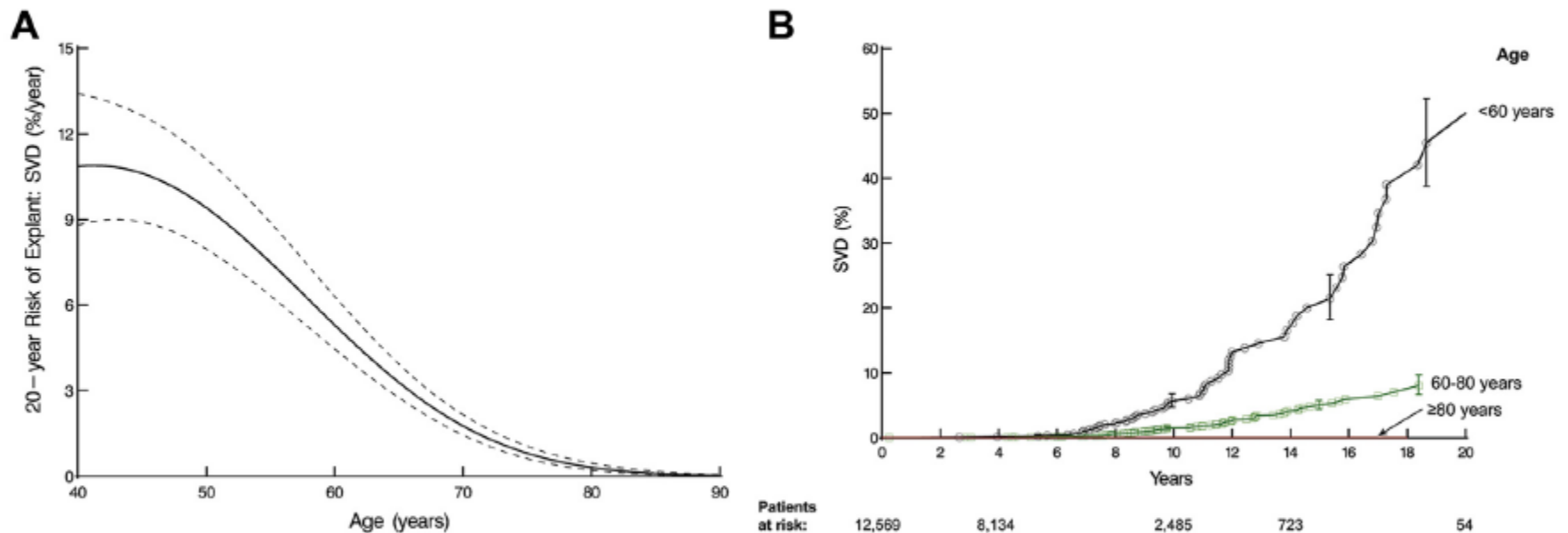


Fig 3. Age and probability of explant owing to structural valve deterioration (SVD). (A) Nomogram of age relationship to SVD from multivariable equation based on preoperative variables alone. (B) Patients are grouped according to age range. Each symbol represents an explant, vertical bars are 68% confidence limits, and numbers along the horizontal axis are patients remaining at risk.

Cleveland Clinic.
Carpentier Perimount Pericardial

Late outcome analysis of the Braile Biomédica[®] pericardial valve in the aortic position

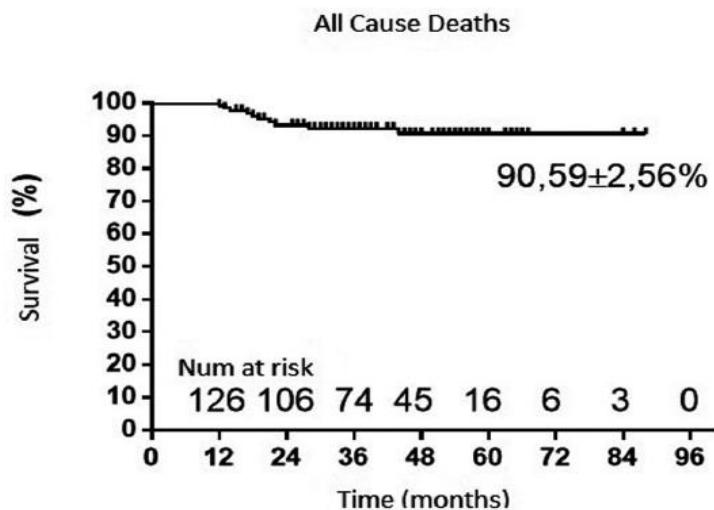


Fig. 1 - Kaplan-Meier survival curve after 88 months of aortic valve prosthetic implantation.

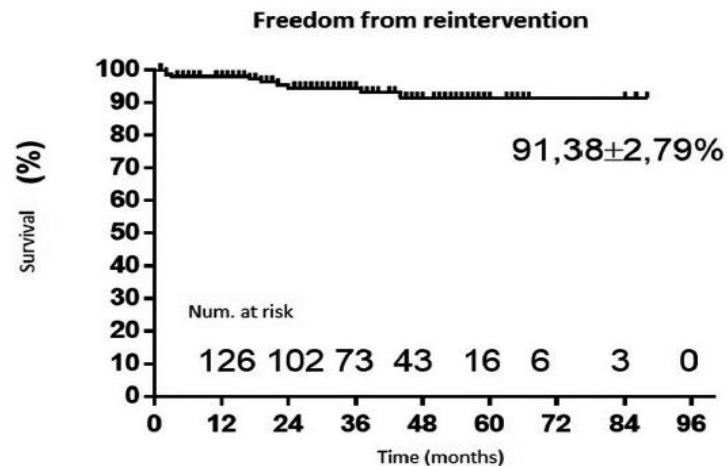


Fig. 2 - Kaplan-Meier freedom from reintervention curve after 88 months of aortic valve prosthetic implantation.

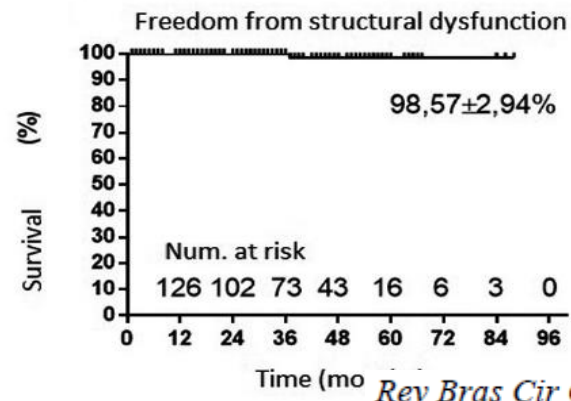
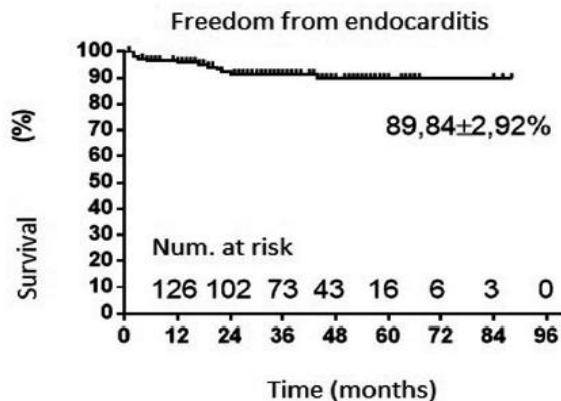


Fig. 3 - Kaplan-Meier curves, freedom from endocarditis and from structural valve dysfunction after 88 months of aortic valve prosthetic implantation.

Hancock II Bioprosthesis for Aortic Valve Replacement: The Gold Standard of Bioprosthetic Valves Durability?

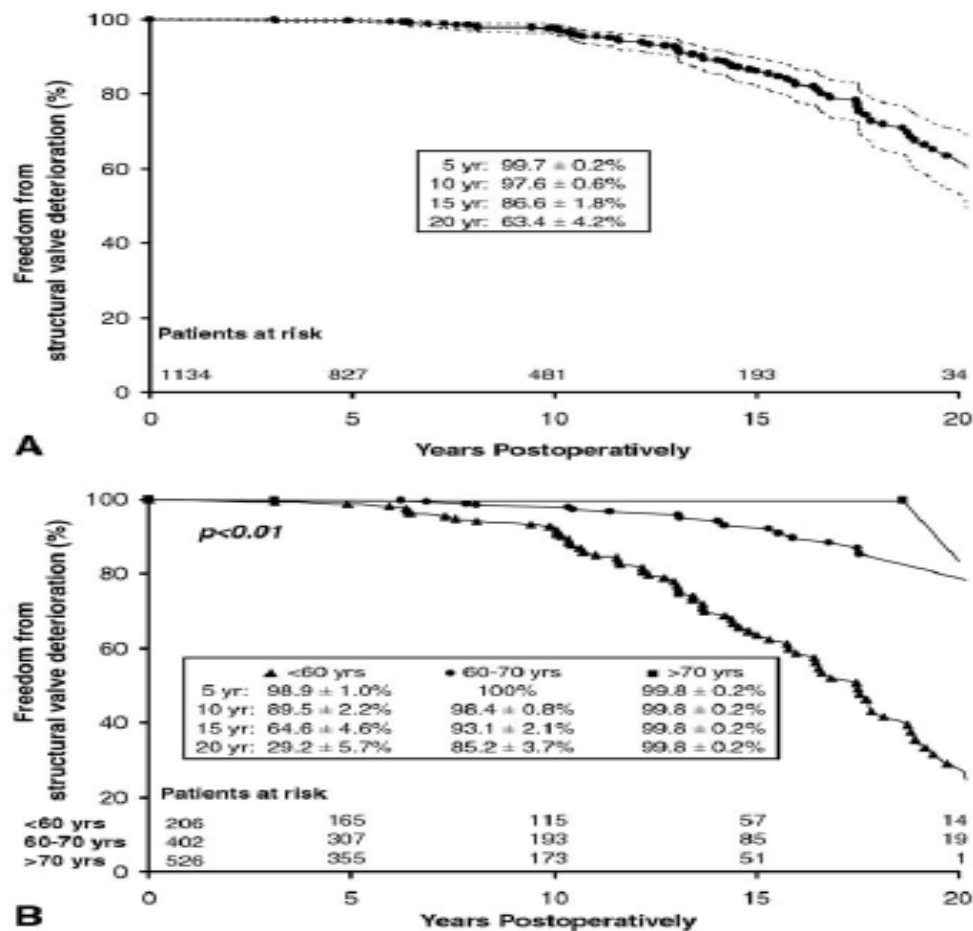
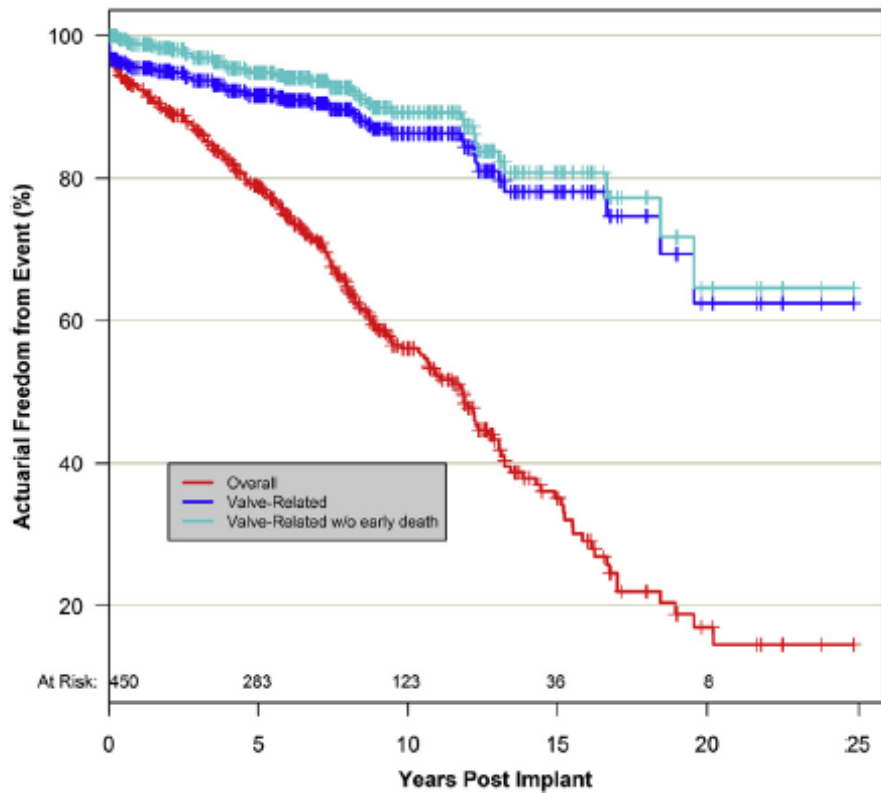


Fig 2. Freedom from structural valve deterioration is shown for (A) all patients (dotted lines on either side of solid line represent upper and lower 95% confidence intervals) and (B) according to age group.

Actuarial (Kaplan-Meier) Survival



Actuarial Freedom from Explant due to SVD by Age Group

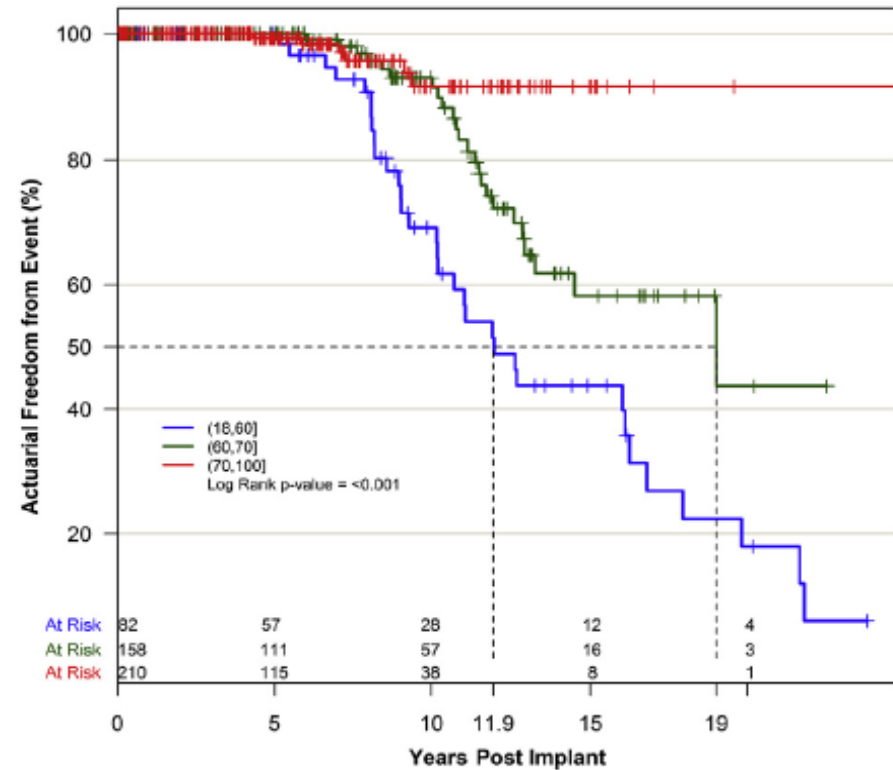


FIGURE 1. Kaplan-Meier estimates of overall and valve-related mortality.

FIGURE 2. Kaplan-Meier estimates of explantation because of structural valve deterioration (SVD) stratified by age group.

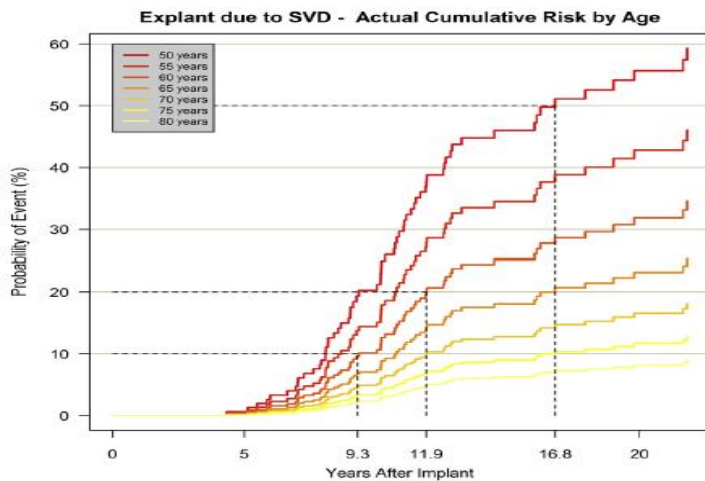


FIGURE 3. Competing risk estimates of explantation because of structural valve deterioration (SVD) stratified by age group.

Bourguignon et al

Acquired Cardiovascular Disease

Very late outcomes for mitral valve replacement with the Carpentier-Edwards pericardial bioprosthesis: 25-year follow-up of 450 implantations

J Thorac Cardiovasc Surg 2014

Estratégias de Marketing

Reposicionamento de Mercado



2. Oil of Olay®: Repositioning Rejuvenates a Tired Brand.

Oil of Olay has historically been a small, down-market brand with an aging consumer base.

Proctor & Gamble:

Repositioning the brand for younger demographics as a prestige-like brand

P&G chose the repositioning strategy. **Pricing would be integral to attracting consumers.**

If a luxury brand is priced too low, people will not believe the luxury position.

If a mass brand is priced too high, it will not sell in sufficient quantity.

P&G's research showed:

-- At \$12.99. Few department store buyers expressed interest at this price.

-- At \$15.99 purchase intent from both mass-market and department store buyers dropped dramatically.

-- Surprisingly, at \$18.99, purchase intent not only went back up, but went way up!

How did P&G's mass-luxury repositioning work?

It succeeded beyond P&G's expectations, exceeding the company's goal of \$1 billion in sales by a factor of 2.5.

What's more, the Oil of Olay experiment led to the successful introduction of other "boutique" product lines such as Regenerist, Definity and ProX. Olay for Olay!

Harvard Business Review

("Bringing Science to the Art of Strategy," September 2012)



Best Selling



Olay
Regenerist Micro-sculpting Eye Swirl,
Eye Treatment 0.5 Fluid Ounce
★★★★☆ 57
\$ 14,42

Top Rated



Olay
Regenerist Advanced Anti-Aging Micro-
Sculpting Cream 1.70 oz
★★★★☆ 78
from \$ 38,59



Olay Olay
Regenerist...
R\$ 145,55
Biovea BR



Creme Hidratante
Facial - Olay...
R\$ 149,00
Mercado Livre



Olay Regenerist
Serum
R\$ 111,91
Biuky.br



Olay Regenerist -
Creme Anti-...
R\$ 427,26
Mercado Livre



Olay Serum
Regenerist 3...
R\$ 152,84
Biuky.br

Table 2: Leading brands in the US facial skincare market by value, 2008

Company	Brand	Percentage share by value, 2008
Procter & Gamble Company, The	Olay	16.7%
Procter & Gamble Company, The	Pond's	8.4%
Procter & Gamble Company, The	L'Oreal Paris	5.5%
Johnson & Johnson	Aveeno	5.3%
Johnson & Johnson	Garnier	5.1%
Johnson & Johnson	Neutrogena	4.6%
Johnson & Johnson	Nivea	4.5%
Johnson & Johnson	Noxzema	4.0%
L'Oreal S.A.	Dove	3.8%
L'Oreal S.A.	Clinique	3.6%

Source: Datamonitor's Market Data Analytics


DATAMONITOR



ESCREVER

- Entrada (18)
- Com estrela
- Importante
- Enviados
- Rascunhos (78)
- Lixeira
- Categorias
- AATS
- Academia Stu-Rio...
- CardioPed (1)
- CEPEC
- Comunicação
- Conselho Diretor ...
- CTEPH
- Edwards Foundation
- ENSAIOS CLINIC...
- EQUIPE CIRURGI...
- ESC
- Estância (8)
- EURO ENDO REG...
- HMV (3)
- Karam
- LAOOS III (4)
- M GRUPO
- MITRAL
- Notes
- Pediátrica
- Reserva (6)

Veja on-line | Descadastre-se

Sabemos que isso te interessa...
Compre agora!



R\$ 427²⁶

Frete grátis

Olay Regenerist - Creme Anti-Envelhecimento C/ 2 Packs

Ver detalhe

Ativar o Windows
Acesse Configurações para ativar o Windows

Posicionamento de Mercado – Biopróteses – RS/Brasil

xxxxxxxxx Porcina/Bovina R\$ 937,93

xxxxxxx nova pericárdio R\$ 15.000,00

xxxxxxx anticalcif R\$ 10.000,00

MMMM porcina – R\$ 10.000,00

BBBBB R\$ 2.141,00

LLLLL R\$ 937,93

DESCRICAÇÃO	VALORES UNIMED	VALORES OUTROS CONVÊNIOS
CCCEEE P VALVULA BIOLÓGICA MITRAL	12.000,00 Tipo/Cód. 62/1703301 1	16.800,00
CCCEEE PERICARDIAL AORTICA	12.000,00 Tipo/Cód. 62/1703301 0	16.800,00
CCCEEE ME AORTICA/MITRAL	Sem Tipo/Cód	22.000,00

(* Valores R\$ 2016)

Aortic Valve and Ascending Aorta Guidelines for Management and Quality Measures

Writing Committee Members: Lars G. Svensson, MD, PhD (Chair), David H. Adams, MD (Vice-Chair), Robert O. Bonow, MD (Vice-Chair), Nicholas T. Kouchoukos, MD (Vice-Chair), D. Craig Miller, MD (Vice-Chair), Patrick T. O’Gara, MD (Vice-Chair), David M. Shahian, MD (Vice-Chair), Hartzell V. Schaff, MD (Vice-Chair), Cary W. Akins, MD, Joseph E. Bavaria, MD, Eugene H. Blackstone, MD, Tirone E. David, MD, Nimesh D. Desai, MD, PhD, Todd M. Dewey, MD, Richard S. D’Agostino, MD, Thomas G. Gleason, MD, Katherine B. Harrington, MD, Susheel Kodali, MD, Samir Kapadia, MD, Martin B. Leon, MD, Brian Lima, MD, Bruce W. Lytle, MD, Michael J. Mack, MD, Michael Reardon, MD, T. Brett Reece, MD, G. Russell Reiss, MD, Eric E. Roselli, MD, Craig R. Smith, MD, Vinod H. Thourani, MD, E. Murat Tuzcu, MD, John Webb, MD, and Mathew R. Williams, MD

enhance durability. Among these are treatment with alcohol and various antiseptics but none has proved superior to others.

Ann Thorac Surg
2013;95:S1–S66



European Journal of Cardio-Thoracic Surgery 52 (2017) 616–664
doi:10.1093/ejcts/ezx324 Advance Access publication 26 August 2017



2017 ESC/EACTS Guidelines for the management of valvular heart disease

The Task Force for the Management of Valvular Heart Disease of the European Society of
Cardiology (ESC) and the European Association for Cardio-Thoracic Surgery (EACTS)

Authors/Task Force Members: Volkmar Falk^{*1} (EACTS Chairperson) (Germany), Helmut Baumgartner^{*} (ESC

**Não citam diferenças
de desempenho
entre modelos de
biopróteses**



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Volume 63, Issue 22, June 2014 >

Practice Guideline | June 2014

2014 AHA/ACC Guideline for the Management of Patients With Valvular Heart Disease: Executive Summary: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines **FREE**

Rick A. Nishimura, MD, MACC, FAHA; Catherine M. Otto, MD, FACC, FAHA; Robert O. Bonow, MD, MACC, FAHA; Blase A. Carabello, MD, FACC; John P. Erwin, III, MD, FACC, FAHA; Robert A. Guyton, MD, FACC; Patrick T. O'Gara, MD, FACC, FAHA; Carlos E. Ruiz, MD, PhD, FACC; Nikolaos J. Skubas, MD, FASE; Paul Sorajja, MD, FACC, FAHA; Thoralf M. Sundt, III, MD; James D. Thomas, MD, FASE, FACC, FAHA

CONCLUSÃO 2

DURABILIDADE:

***Sobrevida a longo prazo sem re-operações,
degeneração, calcificação***

Apesar de alguns fabricantes apresentarem métodos próprios de fixação na intenção de reduzir calcificações e na esperança de aumentar durabilidade, nenhum método demonstrou resultados clínicos superiores aos demais.

As estratégias de mercado praticadas não encontram suporte nos resultados publicados.

Todas as biopróteses disponíveis apresentam durabilidade semelhante.



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

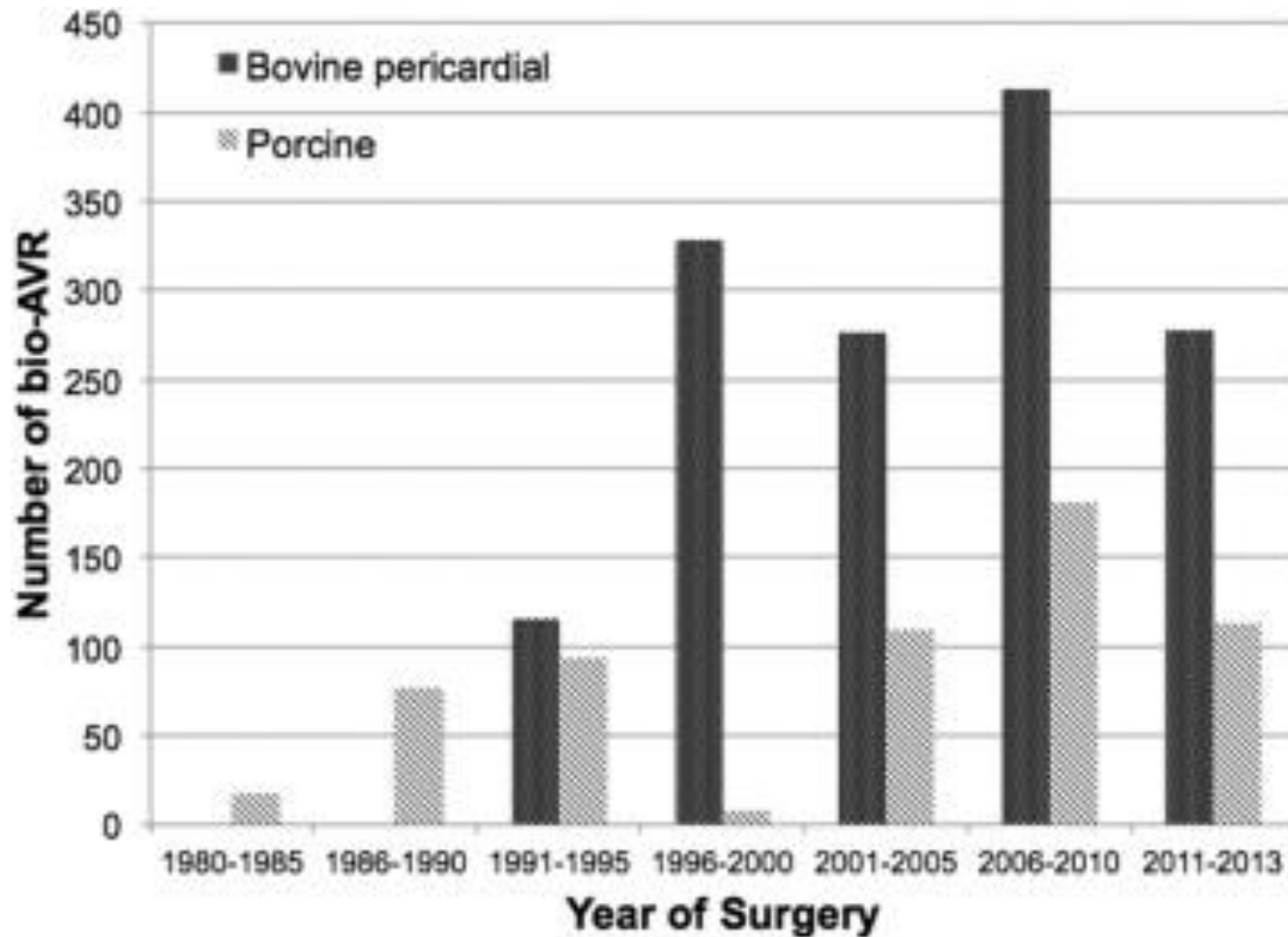


Fig 2
Kaplan-Meier curves for patients with bovine pericardial (solid line) and porcine (dashed line) valves show

(A) survival and

(B) need for aortic valve reoperation.

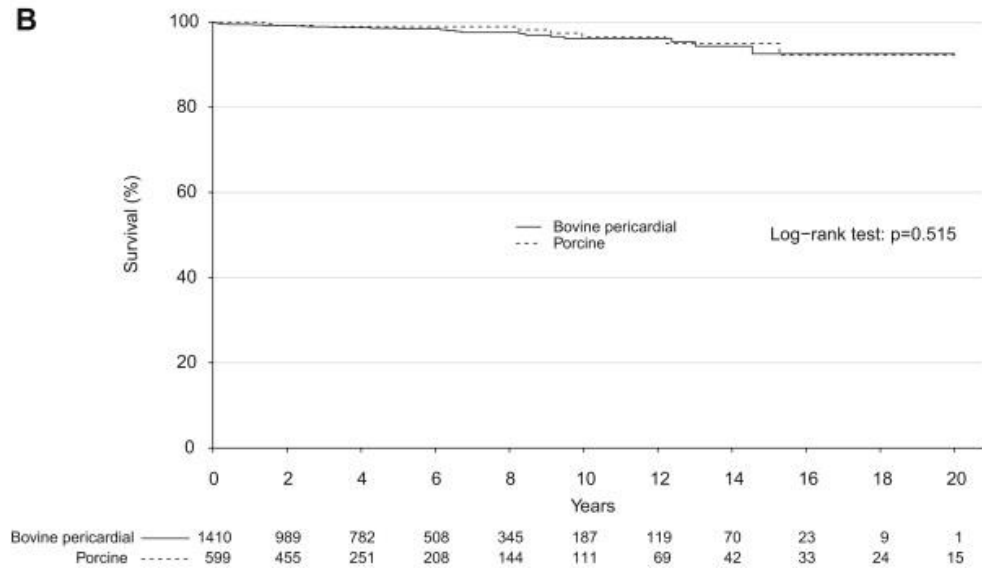
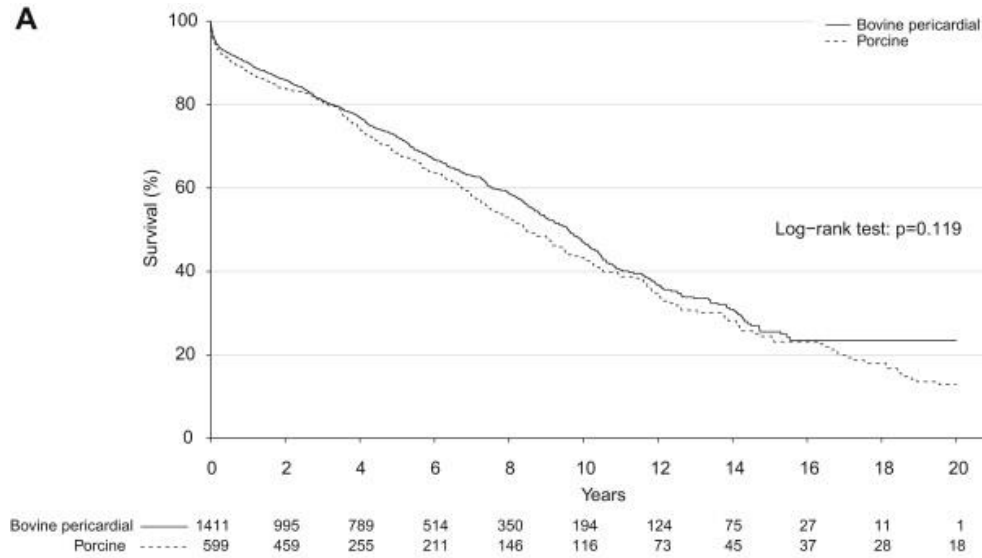
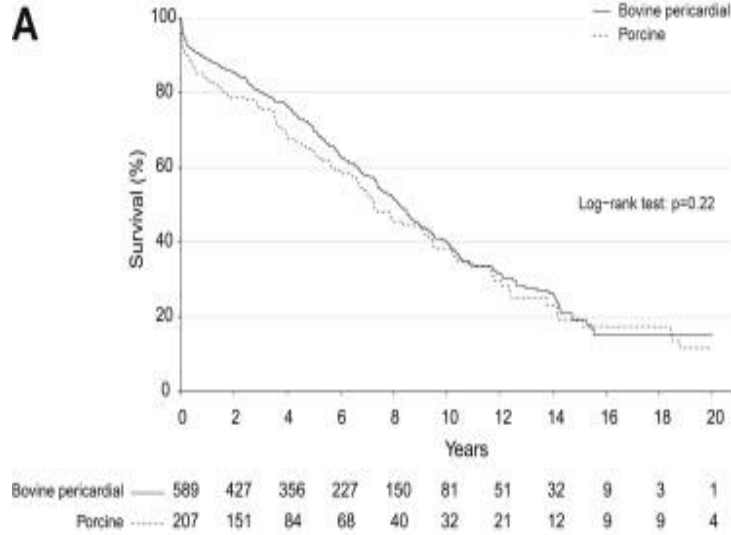
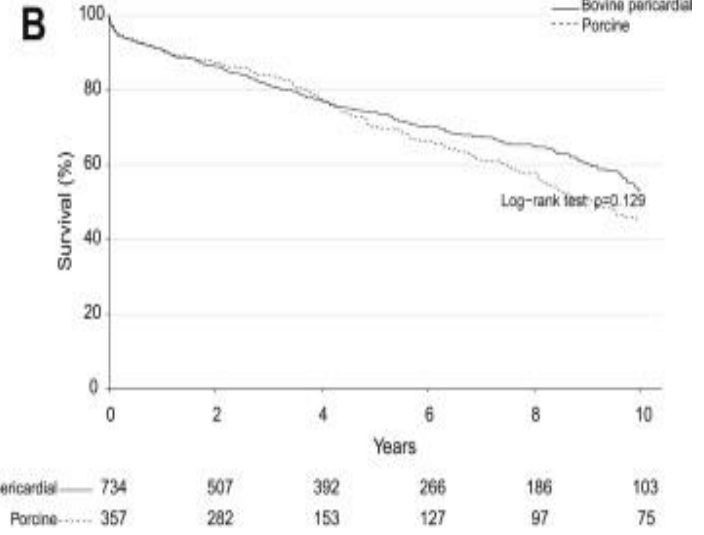


Fig 3
Overall survival analysis in patients with bovine pericardial (solid line) and porcine (dashed line) valves by subgroups with a...

(A) small valve (19 and 21 mm)

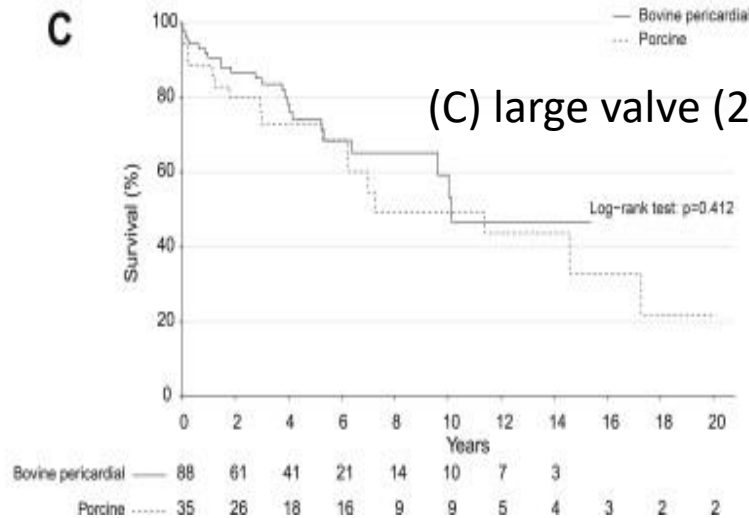


(B) medium valve (23 and 25 mm)



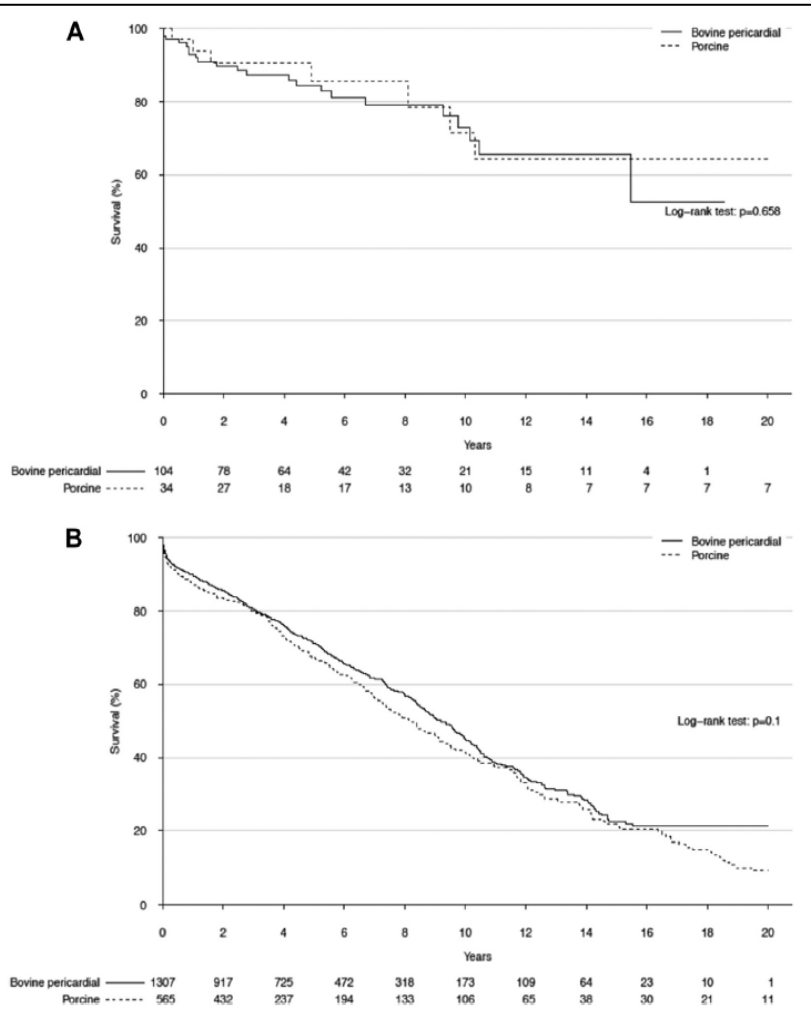
C

(C) large valve (27 and 29 mm).



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.



Fungível = 1. Passível de ser substituído por outra coisa de mesma espécie, qualidade, quantidade e valor.
 2. Substituível, não possuindo uma exclusividade que o impeça de ser repostado por coisa da mesma espécie.

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.

Ganapathi et al
 Duke Univ, NC

Ann Thorac Surg
 2015;100:550-9



CONGRESSO
SOCERGS
16 a 18 agosto 2018

A ESCOLHA DA BIOPRÓTESE É BASEADA EM MARKETING OU EM DESEMPENHO COMPROVADO?

Conclusões

Escolha de biopróteses devem ser feitas em base de durabilidade aferida em avaliações superiores a 20 anos.

Não existem métodos comprovados de maior durabilidade

Desempenho hemodinâmico difere entre próteses <23mm e deve ser considerado na individualização da escolha

kalil.renato@gmail.com

