

2022

# Cirugía de reemplazo de la valvula aortica en la era TAVI. Para quien y como?

Dr. Jorge Rotela

Jefe de departamento cirugia cardiaca

Hospital de Clinicas Facultad de ciencias medicas – UNA

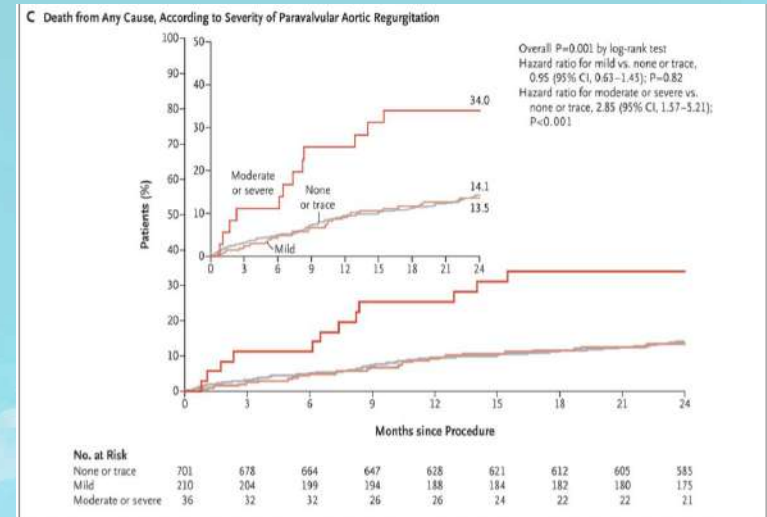
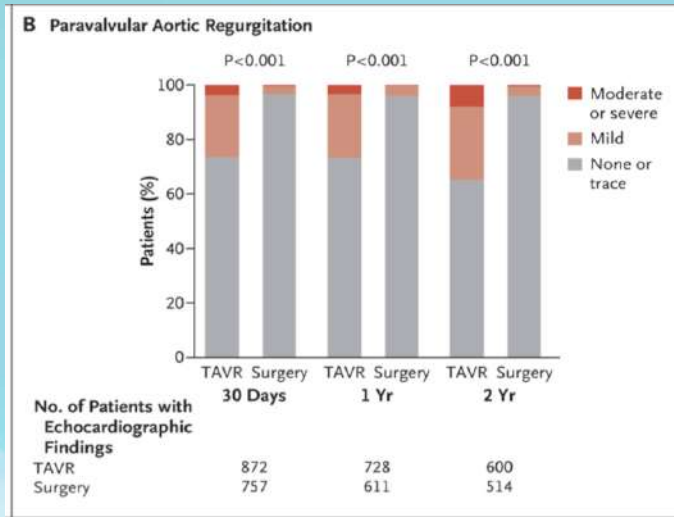
Sanatorio Leblanc CDE - Paraguay



2022

- Resultados de Cirugía vs. TAVI
- Que proponen las guías
- Que nos muestra la evidencia
- Como debemos operar y que utilizar

## Regurgitación paravalvular (RVP)



Makkar RR, Thourani VH, Mack MJ, Kodali SK, Kapadia S, Webb JG, et al. Five-Year Outcomes of Transcatheter or Surgical Aortic-Valve Replacement. *N Engl J Med.* 2020 Jan 29;382(9):799-809. doi: 10.1056/NEJMoa1910555. PMID: 31995682.

Tzamalís P, Alataki S, Bramlage P, Schmitt C, Schymik G. Comparison of valve durability and outcomes of transcatheter aortic valve implantation versus surgical aortic valve replacement in patients with severe symptomatic aortic stenosis and less-than-high-risk for surgery. *Am J Cardiol.* 2020;125(8):1202-8. doi:10.1016/j.amjcard.2020.01.015.

Sousa Uva M. Transcatheter aortic valve implantation in low-risk patients: is it too early? *Heart.* 2019;105(Suppl 2):s51-6. doi:10.1136/heartjnl-2018-314248.

Kodali S, Pibarot P, Douglas PS, Williams M, Xu K, Thourani V, et al. Paravalvular regurgitation after transcatheter aortic valve replacement with the Edwards sapien valve in the PARTNER trial: characterizing patients and impact on outcomes. *Eur Heart J.* 2015 Feb 14;36(7):449-56. doi: 10.1093/eurheartj/ehu384. Epub 2014 Oct 1. PMID: 25273886.

Leon MB, Smith CR, Mack MJ, Makkar RR, Svensson LG, Kodali SK, et al. Transcatheter or Surgical Aortic-Valve Replacement in Intermediate- Risk Patients. *N Engl J Med.* 2016;374(17):1609-20. doi: 10.1056/NEJMoa1514616.

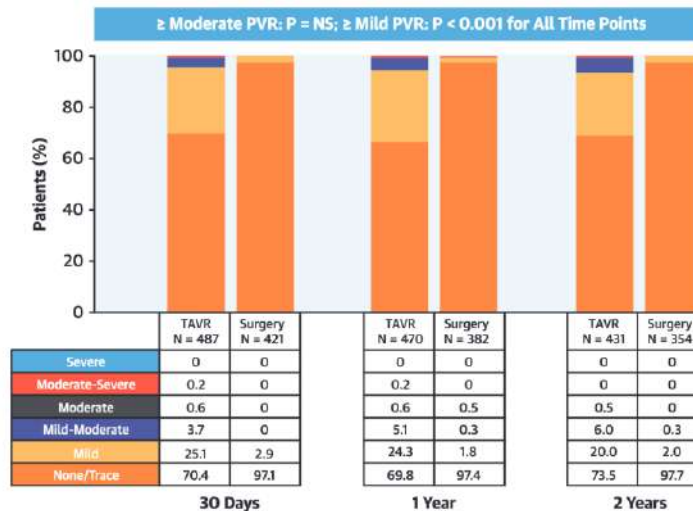
ORIGINAL INVESTIGATIONS

# Outcomes 2 Years After Transcatheter Aortic Valve Replacement in Patients at Low Surgical Risk



Martin B. Leon, MD,<sup>a,b</sup> Michael J. Mack, MD,<sup>c</sup> Rebecca T. Hahn, MD,<sup>a,b</sup> Vinod H. Thourani, MD,<sup>d</sup> Raj Makkar, MD,<sup>e</sup> Susheel K. Kodali, MD,<sup>a</sup> Maria C. Alu, MS,<sup>a,b</sup> Mahesh V. Madhavan, MD,<sup>a,b</sup> Katherine H. Chau, MD, MS,<sup>a</sup> Mark Russo, MD, MS,<sup>f</sup> Samir R. Kapadia, MD,<sup>g</sup> S. Chris Malaisrie, MD,<sup>h</sup> David J. Cohen, MD, MSc,<sup>i</sup> Philipp Blanke, MD,<sup>j</sup> Jonathon A. Leipsic, MD,<sup>j</sup> Mathew R. Williams, MD,<sup>k</sup> James M. McCabe, MD,<sup>l</sup> David L. Brown, MD,<sup>c</sup> Vasilis Babaliaros, MD,<sup>m</sup> Scott Goldman, MD,<sup>n</sup> Howard C. Herrmann, MD,<sup>o</sup> Wilson Y. Szeto, MD,<sup>o</sup> Philippe Genereux, MD,<sup>p</sup> Ashish Pershad, MD, MS,<sup>q</sup> Michael Lu, PhD,<sup>r</sup> John G. Webb, MD,<sup>j</sup> Craig R. Smith, MD,<sup>a</sup> Philippe Pibarot, DVM, PhD,<sup>s</sup> for the PARTNER 3 Investigators

FIGURE 4 Echocardiography: PVR Through 2 Years



# Regurgitación paravalvular (RVP)

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

## Transcatheter Aortic-Valve Replacement with a Self-Expanding Valve in Low-Risk Patients

Jeffrey J. Popma, M.D., G. Michael Deeb, M.D., Steven J. Yakubov, M.D., Mubashir Mumtaz, M.D., Hemal Gada, M.D., Daniel O'Hair, M.D., Tanvir Bajwa, M.D., John C. Heiser, M.D., William Merhi, D.O., Neal S. Kleiman, M.D., Judah Askew, M.D., Paul Sorajja, M.D., Joshua Rovin, M.D., Stanley J. Chetcuti, M.D., David H. Adams, M.D., Paul S. Teirstein, M.D., George L. Zorn III, M.D., John K. Forrest, M.D., Didier Tchétché, M.D., Jon Resar, M.D., Antony Walton, M.D., Nicolo Piazza, M.D., Ph.D., Basel Ramlawi, M.D., Newell Robinson, M.D., George Petrossian, M.D., Thomas G. Gleason, M.D., Jae K. Oh, M.D., Michael J. Boulware, Ph.D., Hongyan Qiao, Ph.D., Andrew S. Mugglin, Ph.D., and Michael J. Reardon, M.D., for the Evolut Low Risk Trial Investigators\*

### RESULTS

Of the 1468 patients who underwent randomization, an attempted TAVR or surgical procedure was performed in 1403. The patients' mean age was 74 years. The 24-month estimated incidence of the primary end point was 5.3% in the TAVR group and 6.7% in the surgery group (difference, -1.4 percentage points; 95% Bayesian credible interval for difference, -4.9 to 2.1; posterior probability of noninferiority >0.999). At 30 days, patients who had undergone TAVR, as compared with surgery, had a lower incidence of disabling stroke (0.5% vs. 1.7%), bleeding complications (2.4% vs. 7.5%), acute kidney injury (0.9% vs. 2.8%), and atrial fibrillation (7.7% vs. 35.4%) and a higher incidence of moderate or severe aortic regurgitation (3.5% vs. 0.5%) and pacemaker implantation (17.4% vs. 6.1%). At 12 months, patients in the TAVR group had lower aortic-valve gradients than those in the surgery group (8.6 mm Hg vs. 11.2 mm Hg) and larger effective orifice areas (2.3 cm<sup>2</sup> vs. 2.0 cm<sup>2</sup>).

# Regurgitación paravalvular (RVP)

Journal of the Society for Cardiovascular Angiography & Interventions 1 (2022) 100037



Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

## Journal of the Society for Cardiovascular Angiography & Interventions

journal homepage: [www.jsc.ai.org](http://www.jsc.ai.org)

### Original Research

## Quantitative Angiographic Assessment of Aortic Regurgitation Following 11 TAVR Devices: An Update of a Multicenter Pooled Analysis

Mahmoud Abdelshafy, MD, MSc<sup>a,b</sup>, Patrick W. Serruys, MD, PhD<sup>a,c,d,\*</sup>, Won-Keun Kim, MD, PhD<sup>e</sup>, Andreas Rück, MD<sup>f</sup>, Rutao Wang, MD<sup>g</sup>, Ling Tao, MD, PhD<sup>g</sup>, Ahmed Elkoumy, MD, MSc<sup>a,h</sup>, Hesham Elzomor, MD, MSc<sup>a,h</sup>, Scot Garg, MD, PhD<sup>i</sup>, Yoshinobu Onuma, MD, PhD<sup>a</sup>, Darren Mylotte, MD<sup>a</sup>, Osama Soliman, MD, PhD<sup>a,d</sup>

**Results:** The Lotus valve had the lowest mean AR (3.5% ± 4.4%) followed by ACURATE neo2 (4.4% ± 4.8%), VitaFlow (6.1% ± 6.4%), Myval (6.3% ± 6.3%), Evolut PRO (7.4% ± 6.5%), SAPIEN 3 (7.6% ± 7.1%), Evolut R (7.9% ± 7.4%), SAPIEN XT (8.8% ± 7.5%), Venus-A (8.9% ± 10%), ACURATE neo (9.6% ± 9.2%), and CoreValve (13.7% ± 10.7%, analysis of variance  $P$ -value < .001). The only valves that statistically differed from all their counterparts were Lotus, with the lowest regurgitation in comparison to other valves except ACURATE neo2, which had less regurgitation compared with SAPIEN 3, Evolut R, SAPIEN XT, Venus-A, ACURATE neo, and CoreValve. CoreValve had the highest mean of AR, with the rates of moderate/severe AR: ACURATE neo2 (1.7%), Lotus (2.2%), Myval (2.8%), VitaFlow (4.7%), Evolut PRO (5.3%), SAPIEN 3 (8.3%), Evolut R (8.8%), SAPIEN XT (10.9%), ACURATE neo (11.3%), Venus-A (14.2%), and CoreValve (30.1%)— $\chi^2$   $P$ -value < .001.



ORIGINAL ARTICLE

# Transcatheter Aortic-Valve Replacement with a Self-Expanding Valve in Low-Risk Patients

Jeffrey J. Popma, M.D., G. Michael Deeb, M.D., Steven J. Yakubov, M.D., Mubashir Mumtaz, M.D., Hemal Gada, M.D., Daniel O'Hair, M.D., Tanvir Bajwa, M.D., John C. Heiser, M.D., William Merhi, D.O., Neal S. Kleiman, M.D., Judah Askew, M.D., Paul Sorajja, M.D., *et al.*, for the Evolut Low Risk Trial Investigators\*

**Table 2. Clinical End Points at 30 Days and at 12 Months.\***

End Point	30 Days			12 Months		
	TAVR % of patients	Surgery % of patients	Difference, TAVR– Surgery (95% BCI) percentage points to –23.6)	TAVR % of patients	Surgery % of patients	Difference, TAVR– Surgery (95% BCI) percentage points (–32.8 to –24.1)
Permanent pacemaker implantation	17.4	6.1	11.3 (8.0 to 14.7)	19.4	6.7	12.6 (9.2 to 16.2)

## Trastornos de la conducción

### Conduction disturbances following transcatheter aortic valve implantation: increasing the 'pace' towards prospective evidence

Vincent Auffret, Rishi Puri, Guillaume Leurent, Hervé Le Breton

► **To cite this version:**

Vincent Auffret, Rishi Puri, Guillaume Leurent, Hervé Le Breton. Conduction disturbances following transcatheter aortic valve implantation: increasing the 'pace' towards prospective evidence. *European Heart Journal*, Oxford University Press (OUP): Policy B, 2020, 41 (29), pp.2782-2784. 10.1093/eurheartj/ehz957. hal-02470873

### Clinical impact of conduction disturbances in transcatheter aortic valve replacement recipients: a systematic review and meta-analysis.

Faroux L<sup>1</sup>, Chen S<sup>2</sup>, Muntané-Carol G<sup>1</sup>, Regueiro A<sup>3</sup>, Philippon F<sup>1</sup>, Sondergaard L<sup>4</sup>, Jørgensen TH<sup>4</sup>, Lopez-Aguilera J<sup>5</sup>, Kodali S<sup>2</sup>, Leon M<sup>2</sup>, Nazif T<sup>2</sup>, Rodés-Cabau J<sup>1</sup>

**Author information** ►

*European Heart Journal*, 01 Aug 2020, 41(29):2771-2781

DOI: 10.1093/eurheartj/ehz924 PMID: 31899484

## Accidente cerebro vascular

Índice de STROKE dentro de los 30 días varia de 1,4 a 1,9%

Solve-Tavi trial reporta Sapien 3 índices de hasta 6 % vs. CoreValve Evolut de 1 %

Clean-Tavi trial, 98 % de lesiones nuevas posterior al procedimiento.

Lesiones nuevas por resonancia. Stroke clínico 2% y 5%

La incidencia de accidente cerebrovascular perioperatorio después de TAVI se asocia con un riesgo de mortalidad 6 veces mayor en 30 días.

- Messé SR, Mack MJ. Improving outcomes from transcatheter aortic valve implantation: protecting the brain from the heart. JAMA. 2016;316(6):587-8. doi:10.1001/jama.2016.10316.
- Hassell ME, Nijveldt R, Roos YB, Majoie CB, Hamon M, Piek JJ, et al. Silent cerebral infarcts associated with cardiac disease and procedures. Nat Rev Cardiol. 2013;10(12):696-706. doi:10.1038/nrcardio.2013.162.
- Muntané-Carol G, Urena M, Munoz-Garcia A, Padrón R, Gutiérrez E, Regueiro A, et al. Late cerebrovascular events following transcatheter aortic valve replacement. JACC Cardiovasc Interv. 2020;13(7):872-81. doi:10.1016/j.jcin.2019.11.022.
- Haussig S, Mangner N, Dwyer MG, Lehmkühl L, Lücke C, Woitek F, et al. Effect of a cerebral protection device on brain lesions following transcatheter aortic valve implantation in patients with severe aortic stenosis: the CLEAN-TAVI randomized clinical trial. JAMA. 2016;316(6):592-601. doi:10.1001/jama.2016.10302.

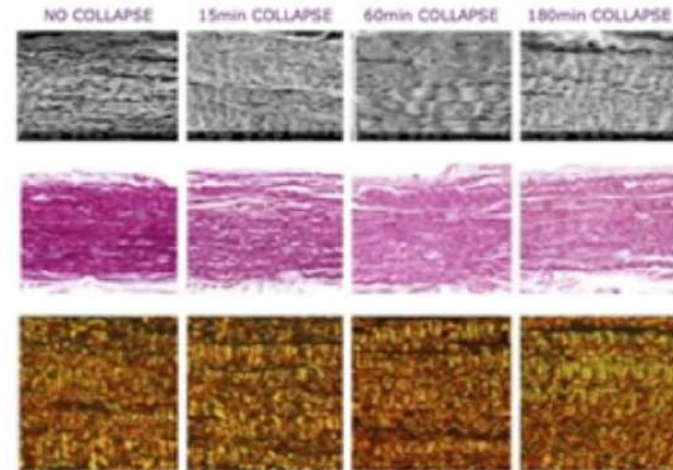
## Structural Valve Deterioration

- La manera de medir es durabilidad y longevidad de las válvulas.
  - No existe consenso definido.
  - VARC-3 criterios eco para seguimiento Sapiens XT inferior a sapien 3 y ambas con mayor tasa de reintervenciones comparado con SARV.
  - Partner 2 A nos muestra una tasa de reintervenciones de 33 % vs 25 %.
- 
- Van Belle E, Delhaye C, Vincent F. Structural Valve Deterioration at 5 Years of TAVR Versus SAVR: Half Full or Half Empty? J Am Coll Cardiol. 2020;76(16):1844-1847. doi: 10.1016/j.jacc.2020.09.009.
  - Pibarot P, Ternacle J, Jaber WA, Salaun E, Dahou A, Asch FM, et al. Structural deterioration of transcatheter versus surgical aortic valve bioprostheses in the PARTNER-2 trial. J Am Coll Cardiol. 2020;76(16):1830- 43. doi:10.1016/j.jacc.2020.08.049.

Perceval is not crimped and it has been shown in literature that the collapsing procedure of Perceval does not affect leaflet integrity.

## "Lack of Evidence of Pericardial Injury Following Pre-implantation Collapse in the Sorin Perceval Sutureless Prosthesis"

Mila Della Barbera, Cristina Basso, Marialuisa Valente, Gaetano Thiene  
 Department of Medical and Diagnostic Sciences and Special Therapies,  
 University of Padua Medical School, Padova, Italy  
 Cardiovascular pathology 2013



### Conclusions

**"Pre-implantation collapsing and ballooning does not affect the structural integrity of the collagen network of the pericardial cusp tissue in Sorin Perceval Sutureless prosthesis"**

Differently from Perceval the **Crimping procedure in TAVI** has been shown to induce **damage to the leaflets** (Kiefer et al. 2011;92:155-60)

# Trombosis Valvular

La prevalencia de trombosis valvular reportada es de alrededor de 1%.  
Rango de 0,6 % hasta 2%.

Ocean Tavi registri, 485 pac. tavi proc. Seg. 3 días, 6 meses, 1 año, 2 años, 3 años a los 3 días 9,3 % incidencia. (subclínicos).

Galileo trial, es respecto a el beneficio de la anticoagulación con antiagregación un terapia eficaz en la .protección a largo plazo de pacientes sometidos a TAVI.

Todas las revisiones dan tasas menores de trombosis a corto y largo plazo a favor de válvulas implantadas quirúrgicamente.

- Pibarot P, Salaun E, Dahou A, Avenatti E, Guzzetti E, Annabi MS, et al. Echocardiographic results of transcatheter versus surgical aortic valve replacement in low-risk patients: the PARTNER 3 trial. *Circulation*. 2020;141(19):1527-37. doi:10.1161/CIRCULATIONAHA.119.044574.
- 53. Faroux L, Alperi A, Muntané-Carol G, Rodes-Cabau J. Safety and efficacy of repeat transcatheter aortic valve replacement for the treatment of transcatheter prosthesis dysfunction. *Expert Rev Med Devices*. 2020;17(12):1303-10. doi:10.1080/17434440.2020.1848540.
- Chakravarty T, Søndergaard L, Friedman J, De Backer O, Berman D, Kofoed KF, et al. Subclinical leaflet thrombosis in surgical and transcatheter bioprosthetic aortic valves: an observational study. *Lancet*. 2017;389(10087):2383-92. doi:10.1016/S0140-6736(17)30757-2.

# Endocarditis infecciosa

- Igual incidencia aunque se presenta mas precoz en TAVI.
- El valveinvalve aumenta la incidencia de PVE.
- Allen CJ, Patterson T, Chehab O, Cahill T, Prendergast B, Redwood SR. Incidence and outcomes of infective endocarditis following transcatheter aortic valve implantation. *Expert Rev Cardiovasc Ther.* 2020;18(10):653-62. doi:10.1080/14779072.2020.1839419.

# Trombocitopenia

- Rango de presentación entre 25% a 100 % según los trials publicados.
  - Mayor incidencia en los balón expandibles.
  - Factor predictor de mala evolución en los primeros 30 días.
- 
- Mitrosz M, Kazimierczyk R, Chlabicz M, Sobkowicz B, Waszkiewicz E, Lisowska A, et al. Perioperative thrombocytopenia predicts poor outcome in patients undergoing transcatheter aortic valve implantation. *Adv Med Sci.* 2018;63(1):179-84. doi:10.1016/j.advms.2017.11.001.
  - 66. Hernández-Enríquez M, Chollet T, Bataille V, Campelo-Parada F, Boudou N, Bouisset F, et al. Comparison of the frequency of thrombocytopenia after transfemoral transcatheter aortic valve implantation between balloon- expandable and self-expanding valves. *Am J Cardiol.* 2019;123(7):1120-6. doi:10.1016/j.amjcard.2018.12.036.
  - 67. Flaherty MP, Mohsen A, Moore JB 4th, Bartoli CR, Schneibel E, Rawasia W, et al. Predictors and clinical impact of pre-existing and acquired thrombocytopenia following transcatheter aortic valve replacement. *Catheter Cardiovasc Interv.* 2015;85(1):118-29. doi:10.1002/ccd.25668.
  - 68. Gomes WJ. Thrombocytopenia after aortic valve procedures - a possible not so harmless finding. *Int J Cardiol.* 2019;296:55-6. doi:10.1016/j.ijcard.2019.08.025

# Reoperaciones luego de TAVI

- Mayor mortalidad y morbilidad que SAVR. 17,1 % de mortalidad
- STS record 123 pacientes.
- Las indicaciones más comunes fueron: paravalvular leak (15%), structural prosthetic deterioration (11%), failed repair (11%), sizing, or position issues (11%), and PVE (10%).
  
- Jawitz OK, Gulack BC, Grau-Sepulveda MV, Matsouaka RA, Mack MJ, Holmes DR Jr, et al. Reoperation after transcatheter aortic valve replacement: an analysis of the society of thoracic surgeons database. JACC Cardiovasc Interv. 2020;13(13):1515-25. doi:10.1016/j.jcin.2020.04.029.

2022

## Complicaciones vasculares

- Incidencia 6% a 8% que determina mayor mortalidad al año.

Scarsini R, De Maria GL, Joseph J, Fan L, Cahill TJ, Kotronias RA, et al. Impact of complications during transfemoral transcatheter aortic valve replacement: how can they be avoided and managed? J Am Heart Assoc. 2019;8(18):e013801. doi:10.1161/JAHA.119.013801.

**ACC/AHA CLINICAL PRACTICE GUIDELINE****2020 ACC/AHA Guideline for the Management of Patients With Valvular Heart Disease: Executive Summary**

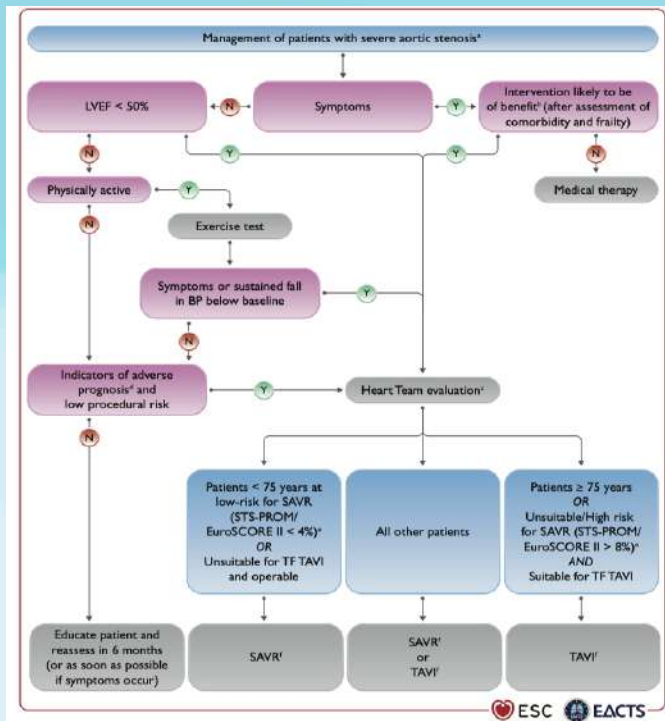
A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines

*3.2.4.2. Choice of SAVR Versus TAVI for Patients for Whom a Bioprosthetic AVR Is Appropriate*

**Recommendations for Choice of SAVR Versus TAVI for Patients for Whom a Bioprosthetic AVR Is Appropriate**  
 Referenced studies that support the recommendations are summarized in [Online Data Supplements 11 to 13](#).

COR	LOE	Recommendations
1	A	1. For symptomatic and asymptomatic patients with severe AS and any indication for AVR who are <65 years of age or have a life expectancy >20 years, SAVR is recommended. <sup>123–125</sup>
1	A	2. For symptomatic patients with severe AS who are 65 to 80 years of age and have no anatomic contraindication to transfemoral TAVI, either SAVR or transfemoral TAVI is recommended after shared decision-making about the balance between expected patient longevity and valve durability. <sup>123,126–130</sup>
1	A	3. For symptomatic patients with severe AS who are >80 years of age or for younger patients with a life expectancy <10 years and no anatomic contraindication to transfemoral TAVI, transfemoral TAVI is recommended in preference to SAVR. <sup>123,126–132</sup>

# 2021 ESC/EACTS Guidelines for the management of valvular heart disease



### C) Mode of intervention

Aortic valve interventions must be performed in Heart Valve Centres that declare their local expertise and outcomes data, have active interventional cardiology and cardiac surgical programmes on site, and a structured collaborative Heart Team approach.

The choice between surgical and transcatheter intervention must be based upon careful evaluation of clinical, anatomical, and procedural factors by the Heart Team, weighing the risks and benefits of each approach for an individual patient. The Heart Team recommendation should be discussed with the patient who can then make an informed treatment choice.

SAVR is recommended in younger patients who are low risk for surgery (<75 years<sup>g</sup> and STS-PROM/EuroSCORE II <4%)<sup>e,f</sup>, or in patients who are operable and unsuitable for transfemoral TAVI.<sup>2,44</sup>

TAVI is recommended in older patients (≥75 years), or in those who are high risk (STS-PROM/EuroSCORE II<sup>f</sup> >8%) or unsuitable for surgery.<sup>197–206,245</sup>

SAVR or TAVI are recommended for remaining patients according to individual clinical, anatomical, and procedural characteristics.<sup>202–205,207,209,210,212</sup> f.g

Non-transfemoral TAVI may be considered in patients who are inoperable and unsuitable for transfemoral TAVI.

Balloon aortic valvotomy may be considered as a bridge to SAVR or TAVI in haemodynamically unstable patients and (if feasible) in those with severe aortic stenosis who require urgent high-risk NCS (Figure 1 T).

I	C
I	C
I	B
I	A
I	B
IIb	C
IIb	C

2022

SPECIAL ARTICLE

Braz J Cardiovasc Surg 2021;36(2):278-88

## The 2020 American College of Cardiology/ American Heart Association (ACC/AHA) Guideline for the Management of Patients with Valvular Heart Disease. Should the World Jump In?

Walter J Gomes<sup>1</sup>, MD, PhD; Rui M S Almeida<sup>2</sup>, MD, PhD; Orlando Petrucci<sup>3</sup>, MD, PhD; Manuel J. Antunes<sup>4</sup>, MD, PhD;  
Luciano C. Albuquerque<sup>5</sup>, MD, PhD

### European Heart Journal



Issues More Content ▾ Submit ▾ Purchase Advertise ▾ About ▾

All European Heart Journa ▾

Advanced Search

#### The new ESC/EACTS recommendations for transcatheter aortic valve implantation go too far

[Get access >](#)

Victor Dayan ✉, Walter J. Gomes



Download



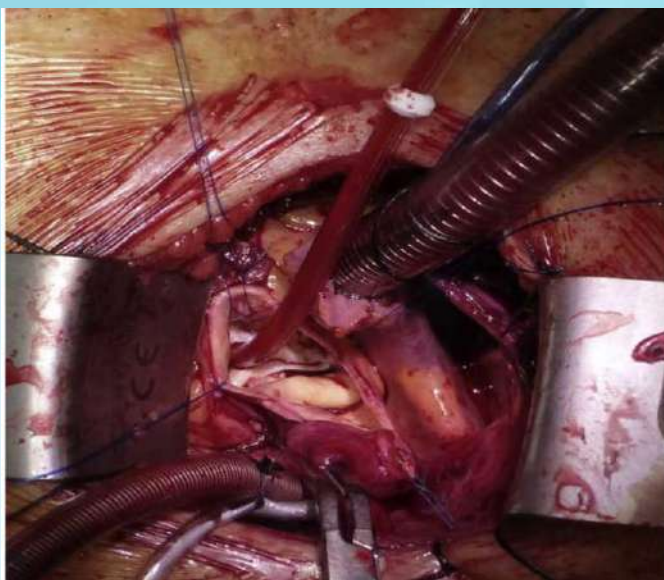
XLIV Jornadas SOLACI

## Niveles de desarrollo en cirugía cardíaca mínimamente invasiva

Nivel	Visión	Abordaje	Incisión
1	Directa	Miniesternotomía Hemiesternotomía Minitoracotomía anterior derecha	< 8 cm
2	Videoasistida/directa/combinación de ambas	Minitoracotomía anterolateral derecha	4 a 6 cm
3	Endoscópica videodirigida/telemanipulación robótica	Microincisiones	1,2 a 4 cm
4	Telemanipulación robótica	Acceso por puertos	< 1,2 cm y un puerto de trabajo de 2 a 4 cm

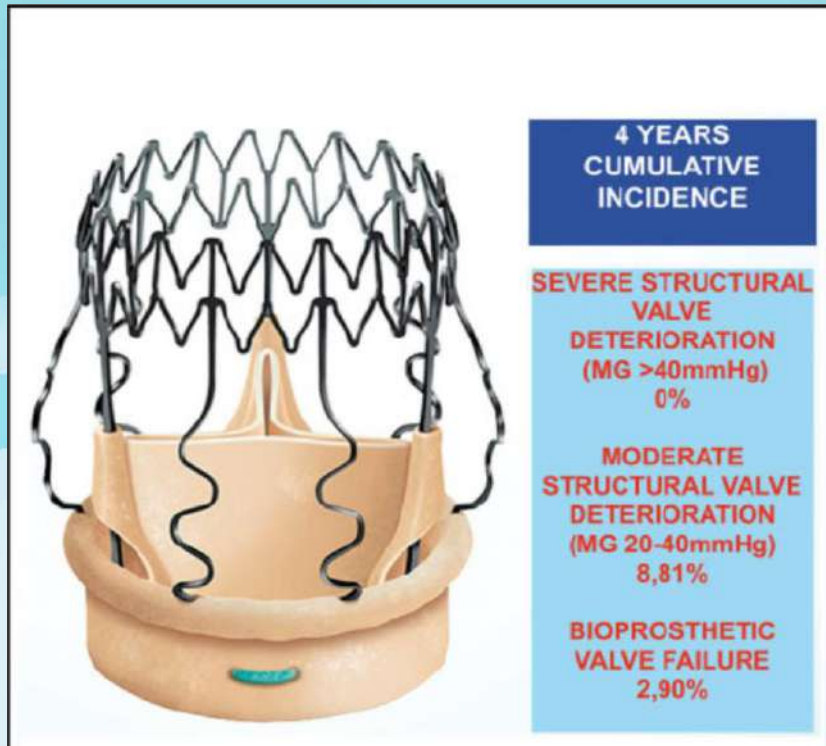
## Parámetros postoperatorios en CVMI con respecto a la esternotomía media

Parámetros de superioridad	Parámetros de no inferioridad
Menor dolor	Mortalidad
Menor estancia en UCI	Eventos cardíacos
Menor número de infecciones de la vía de acceso	Eventos neurológicos
Mejor función respiratoria	Mediastinitis
Menor número de transfusiones	Fallo renal
Menor estancia hospitalaria	Ventilación prolongada
Incorporación más temprana a las labores diarias habituales	
Preservación de parte del pericardio intacto, lo que facilita futuras reintervenciones	
Mejor percepción cosmética	



Como debemos operar en tiempos de TAVI.

- Abordajes minimamente invasivos



### Mid-term assessment of structural valve deterioration of perceval S sutureless prosthesis using the last European consensus definition

José Manuel Martínez-Comendador<sup>a,\*</sup>, Francisco Estevez-Cid<sup>a</sup>, Miguel González Barbeito<sup>a</sup>, Carlos Velasco García De Sierra<sup>b</sup>, Alberto Bouzas Mosquera<sup>b</sup>, Cayetana Barbeito<sup>b</sup>, José Cuenca Castillo<sup>c</sup> and José Herrera-Noreña<sup>a</sup>

<sup>a</sup> Department of Cardiovascular Surgery, Hospital Universitario A Coruña, A Coruña, Spain

<sup>b</sup> Department of Cardiology, Hospital Universitario A Coruña, A Coruña, Spain

<sup>c</sup> Department of Cardiovascular surgery, Hospital San Rafael, A Coruña, Spain

\* Corresponding author. Department of Cardiovascular Surgery, A Coruña University Hospital Complex, As Xubias 84, A Coruña 15006, Spain. Tel: +34-610580092; e-mail: josemmcomendador@gmail.com (J.M. Martínez-Comendador).

Received 24 August 2020; received in revised form 26 October 2020; accepted 27 October 2020

**RESULTS:** The mean age and EuroSCORE II were 79 years and 2.74. Thirty-day mortality was 0.47%. The survival rate was 96.8%, 88.1% and 85.7% at 1, 3 and 4 years, respectively. The median echocardiographic follow-up was 3.28 years. The mean pressure gradient was

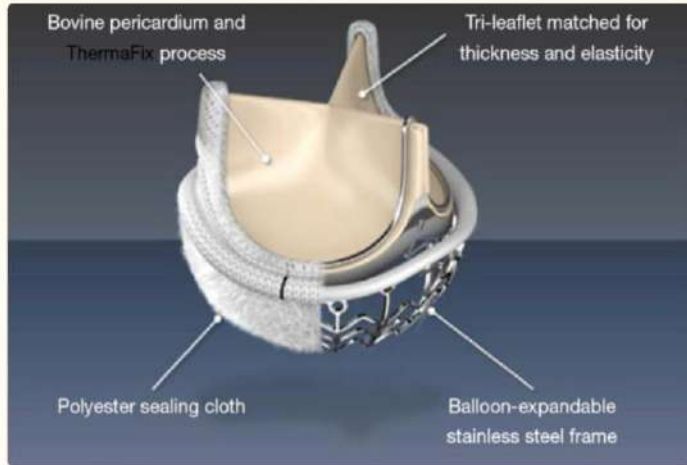


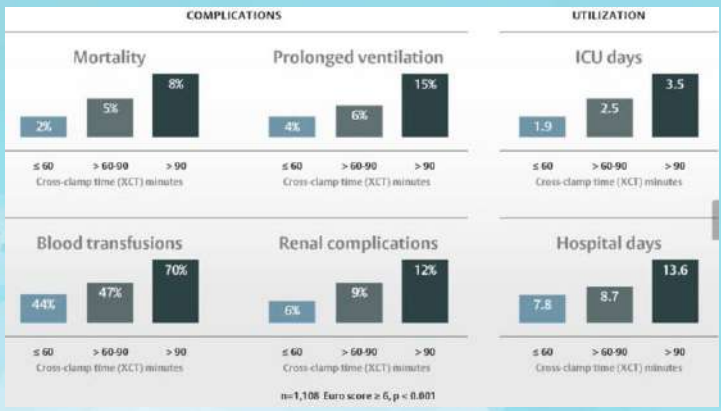
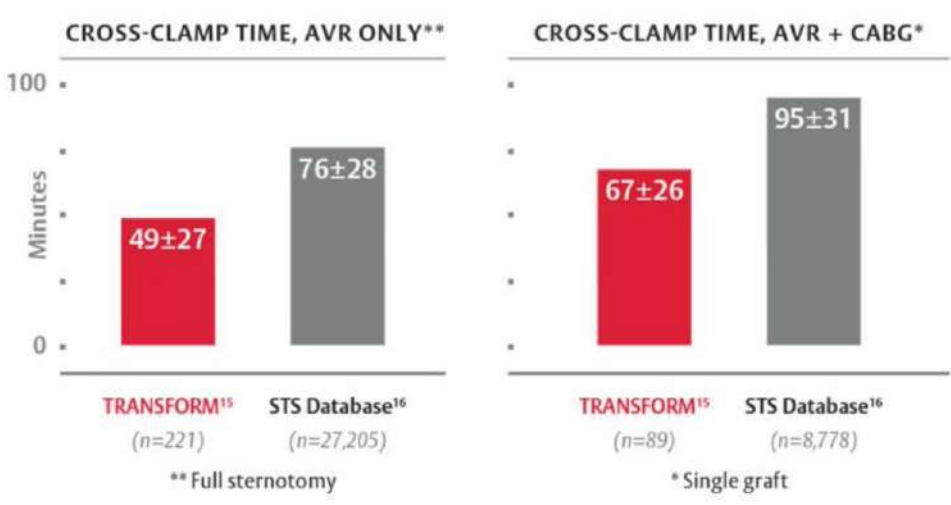
Figure 8

The Intuity sutureless valve (courtesy from Edwards).

Impact of shorter XCT*			Impact of MIAVR*	
	Reduction <sup>14</sup>	Cost savings	Reduction <sup>17,18,20</sup>	Cost savings
Impact of shorter XCTs (<60 min vs. >90min)			Impact of MIAVR	
Mortality rate	6%	—	>0.0%	—
ICU days	1.6 days	\$2,963 <sup>21</sup>	0.89 days	\$1,618
Hospital ward days	4.2 days	\$5,166 <sup>21</sup>	0.41 days	\$504
OR time	>30 minutes	>\$834 <sup>22</sup>	—	—
Ventilator use >24 hours	11%	\$167 <sup>21</sup>	—	—
Blood transfusion	26%	\$448 <sup>24</sup>	13%	\$223
Renal complication	6%	\$654 <sup>25</sup>	—	—
<b>Total: \$10,232</b>			<b>Total: \$2,375</b>	
<b>Potential cost savings: \$12,607</b>				

\*Reductions are calculated using percent decrease for XCTs, complications and usage rates reported. Plus complication and usage rate reductions for MIAVR. Cost savings are based on the following unit costs: \$1,852/day in the ICU and \$1,230/day in the hospital ward<sup>21</sup>, \$1,698/hour of OR time<sup>22</sup>, \$1,522/day for ventilator use<sup>23</sup>, \$1,724 average blood cost for an AVR<sup>24</sup>, \$1,050/event for renal complications (weighted average mix of renal complication type and hospital days)<sup>25</sup>.

Up to \$12,607 may be saved with an MIAVR procedure with a XCT of less than 60 minutes.



## Published Data for SU-SAVR and R-SAVR

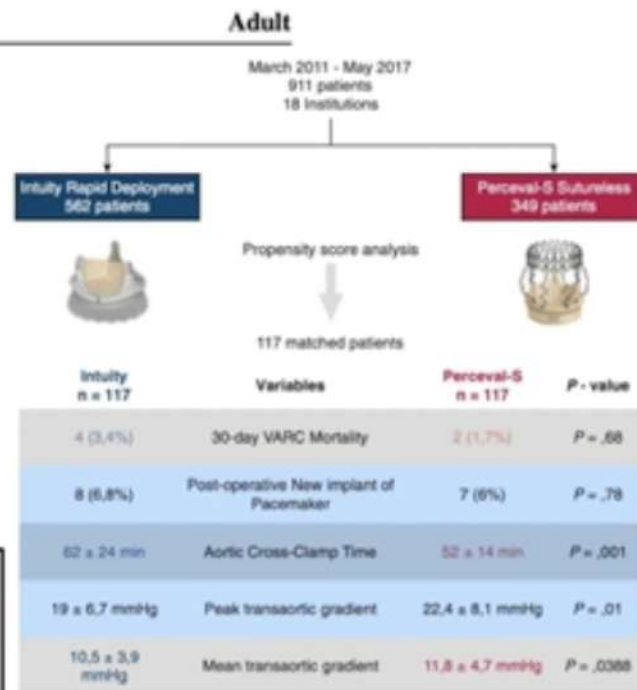
D'Onofrio et al

### Surgical aortic valve replacement with new-generation bioprostheses: Sutureless versus rapid-deployment

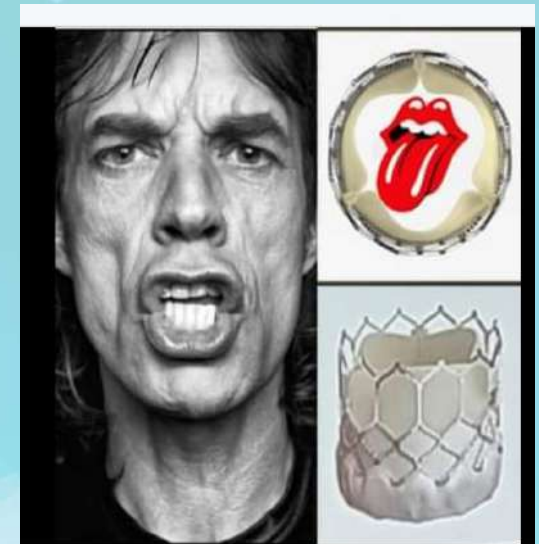
#### Central Message

Sutureless Perceval-S (Livanova, London, United Kingdom) and rapid-deployment Intuity (Edwards Lifesciences, Irvine, Calif) bioprostheses represent a good option for patients with aortic valve stenosis. They provide good and similar early clinical and hemodynamic outcomes.

PPI-rate is increased for SU-SAVR (6%) and R-SAVR (6.8%) when compared to standard SAVR (as low as 3%)



2022



Cirugia

Menor mortalidad global

Mayor durabilidad DEMOSTRADA

Menor tasa de complicaciones vasculares

Menor incidencia de colocación de marcapasos

Clin Res Cardiol  
DOI 10.1007/s00392-014-0698-y

REVIEW

## Worldwide TAVI registries: what have we learned?

Stephan Haussig · Gerhard Schuler ·  
Axel Linke

Why do the risk scores decrease over time?

Due to the growing TAVI experience, which is accompanied by a decrease in short-term mortality as compared to the older registries, there is an expansion of the methodology to younger and lower risk patients, although there are no data available from randomized controlled trials justifying an expansion of indications. [51, 52, 60] In addition, there are also younger, informed patients who refuse surgery and explicitly ask for TAVI. However, it is the responsibility of the heart team to critically evaluate the patients and convince them to undergo conventional surgery, if this is the recommended treatment according to the current guidelines.