

TAVI chez le sujet jeune: Ouvre-t-on la boite de pandore ?

Rencontre à la cafet

Cédric Delhaye
CHU Lille



Lionel Leroux
CHU Bordeaux





DÉCLARATION DE LIENS D'INTÉRÊT AVEC LA PRÉSENTATION

Speaker's name : Cédric DELHAYE, Lille

Je déclare les liens d'intérêt potentiel suivants :

Consultant : Medtronic

Speaker's name : Lionel LEROUX, Bordeaux

Je déclare les liens d'intérêt potentiel suivants :

Consultant : Medtronic, Abbott, Edwards, les macarons Adams, les canelés Baillardran



Pandore

[Des questions ?](#)[Discuter](#)

La légende dite de la « boîte de Pandore » (qui est en fait une jarre) lui est associée. Elle a donné l'expression « ouvrir la boîte de Pandore », qui signifie réaliser une action qui crée plein de problèmes, alors qu'ils seraient restés cachés et inoffensifs si l'on avait rien fait.

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- 1 Mythe
- 2 Interprétation
- 3 Voir aussi
 - 3.1 Pages pour les dieux

Mythe [modifier] [modifier le wikicode]



Pandore a été créée sur l'ordre de Zeus qui voulait se venger de Prométhée, car ce dernier avait volé le feu aux dieux pour le donner aux hommes. Elle fut fabriquée dans de l'argile par Héphaïstos, et Athéna lui donna la vie, puis Thétis lui apprit l'habileté manuelle et le tissage. Aphrodite lui offrit la beauté, Apollon le talent musical, et Hermès lui enseigna le mensonge et l'art de la persuasion.

Pandore épousa Épiméthée, le frère de Prométhée. Zeus donna ensuite à cette dernière une mystérieuse boîte(jarre) qu'elle ne devait pas ouvrir. Cette boîte contenait tous les maux de l'humanité, notamment la Vieillesse, la Maladie, la Guerre, la Famine, la Misère, la Folie, la Mort, la Vice, la Tromperie, la Passion, l'Orgueil ainsi que l'Espérance. Mais, poussée par la curiosité, elle brava cette interdiction. Alors, tous les maux contenus à l'intérieur de la boîte s'en échappèrent et partirent sur Terre. Pandore la referma, mais il était trop tard : plus aucun mal ne s'y trouvait, sauf l'Espérance, qui était plus lente à réagir.

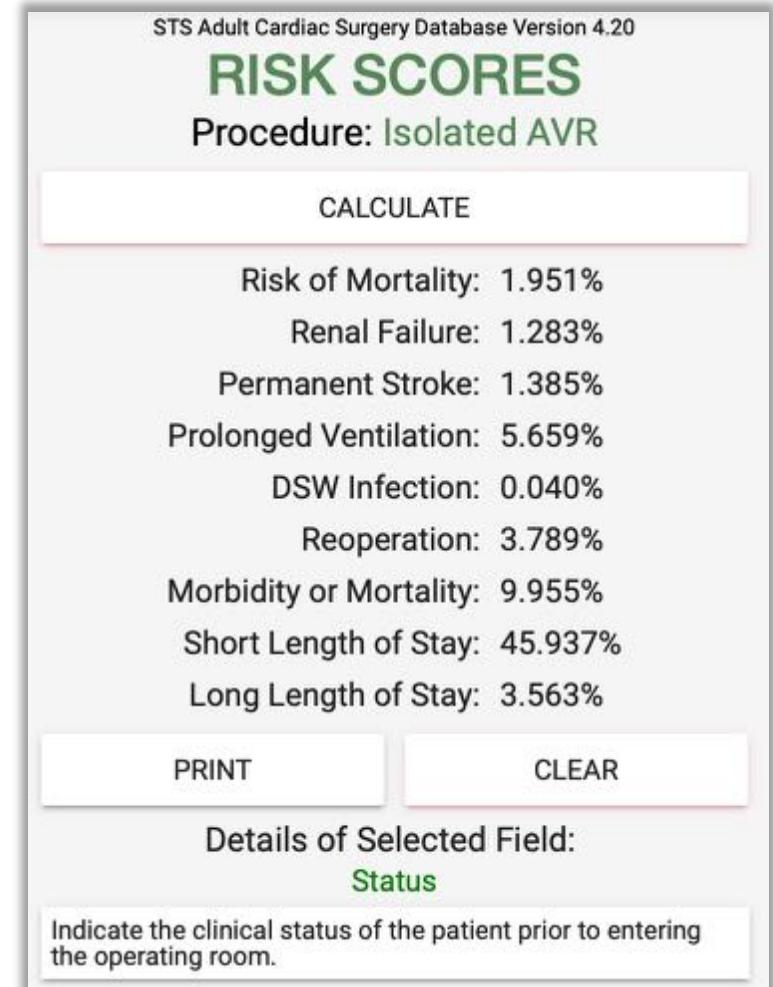


Pandore, détail d'une céramique grecque. ▶
A figure rouge originale du sud de l'Italie,
fin siècle avant J.-C., musée archéologique
de Catalogne, Barcelone.



Je viens de voir une dame en consultation adressée pour un TAVI...

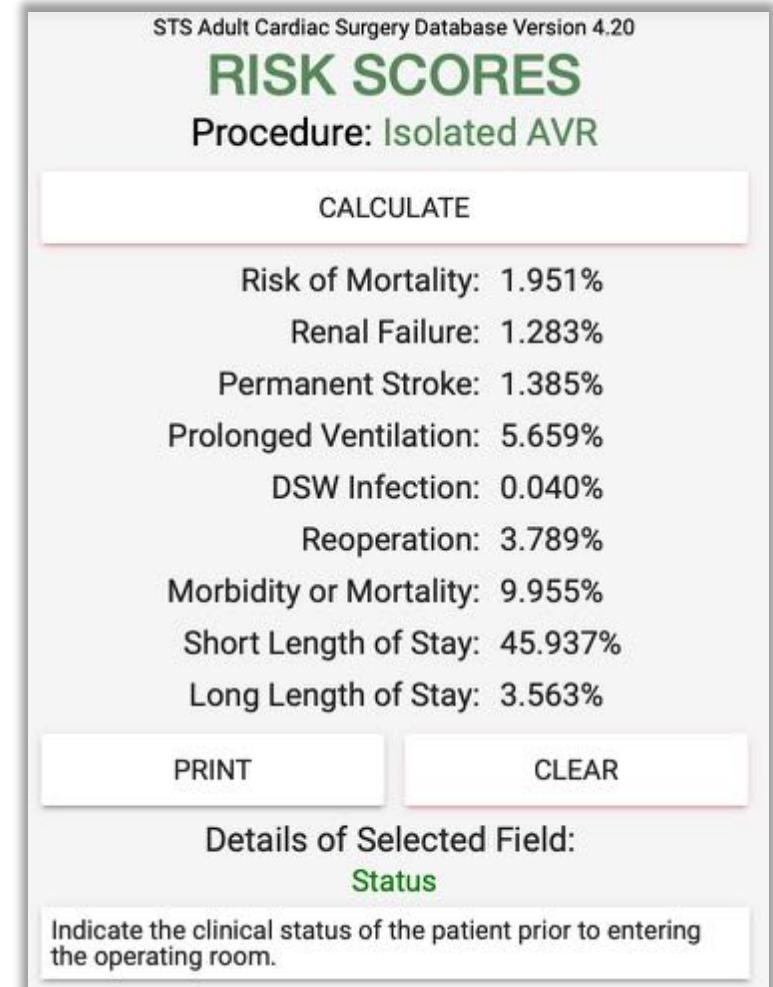
- 71 ans
- BEG, HTA, HCV
- Pas de comorbidités
- Dyspnée IIb NYHA
- RAC serré
- Bas risque (STS=1,9%)



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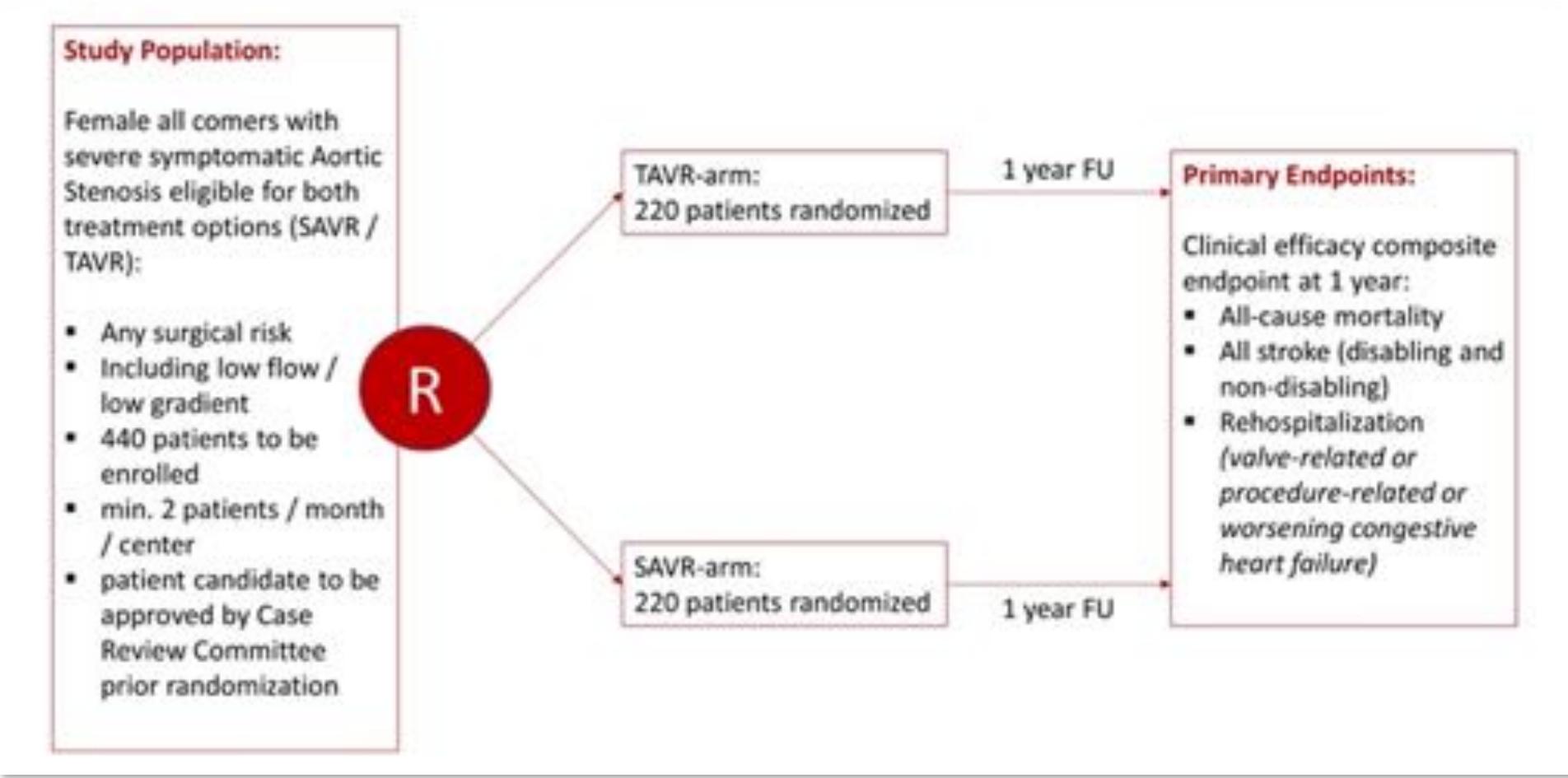
- 71 ans
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Lionel, t'en penses quoi ?
C'est peut être pas lui rendre service !



RHEIA Trial

Randomized Research in women all comers with aortic stenosis



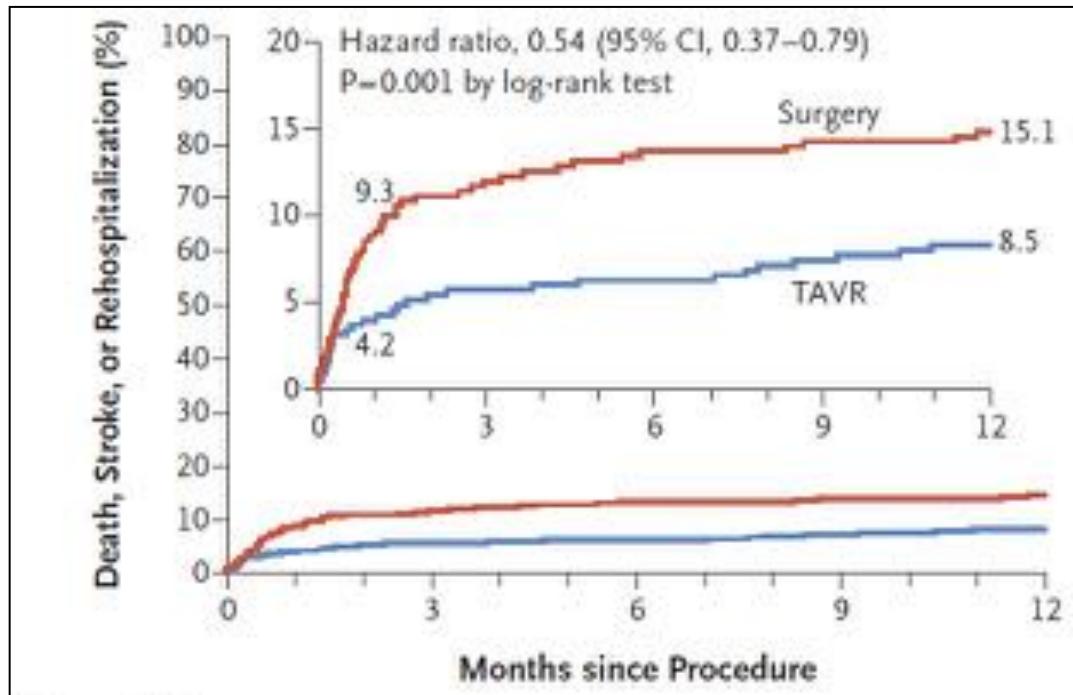
Indications for intervention in aortic stenosis and recommendations for the choice of intervention mode (*continued*)

Recommendations	Class	Level
The choice for intervention must be based on careful individual evaluation of technical suitability and weighing of risks and benefits of each modality (aspects to be considered are listed in the according table). In addition, the local expertise and outcomes data for the given intervention must be taken into account.	I	C
SAVR is recommended in patients at low surgical risk (STS or EuroSCORE II <4% or logistic EuroSCORE I <10% and no other risk factors not included in these scores, such as frailty, porcelain aorta, sequelae of chest radiation).	I	B

Clinical characteristics	Favours TAVI	Favours SAVR
STS/EuroSCORE II <4% (logistic EuroSCORE I <10%) ^a		+
STS/EuroSCORE II ≥4% (logistic EuroSCORE I ≥10%) ^a	+	
Presence of severe comorbidity (not adequately reflected by scores)	+	
Age <75 years		+
Age ≥75 years	+	
Previous cardiac surgery	+	
Frailty ^b	+	
Restricted mobility and conditions that may affect the rehabilitation process after the procedure	+	
Suspicion of endocarditis		+

TAVI vs. SAVR in low-risk patients

PARTNER 3 Trial



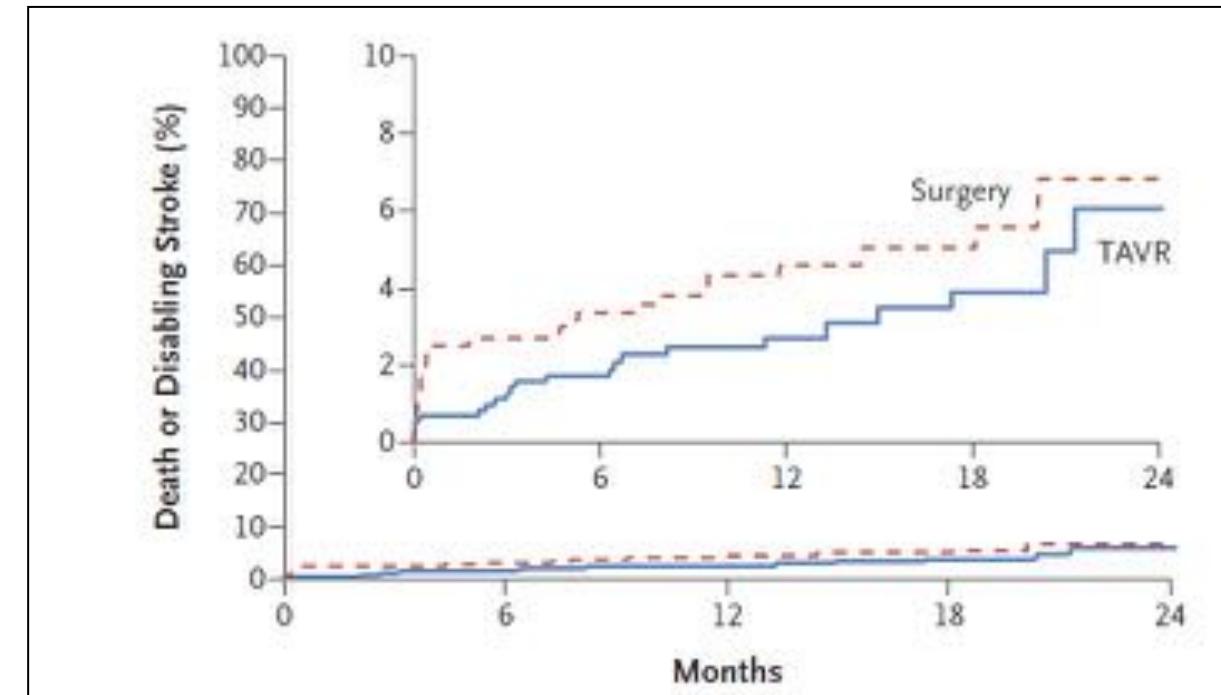
N=950

Mean age: 73 years

Mean STS score: 1.9

Low degree of comorbidities

EVOLUT Low Risk Trial



N=1468

Mean age: 74 years

Mean STS score: 1.9

Low degree of comorbidities

TAVI vs. SAVR in low-risk patients

Cardiovascular News

FDA Expands Approval for TAVR Valves to Low-risk Patients

Megan Brune
August 16, 2018



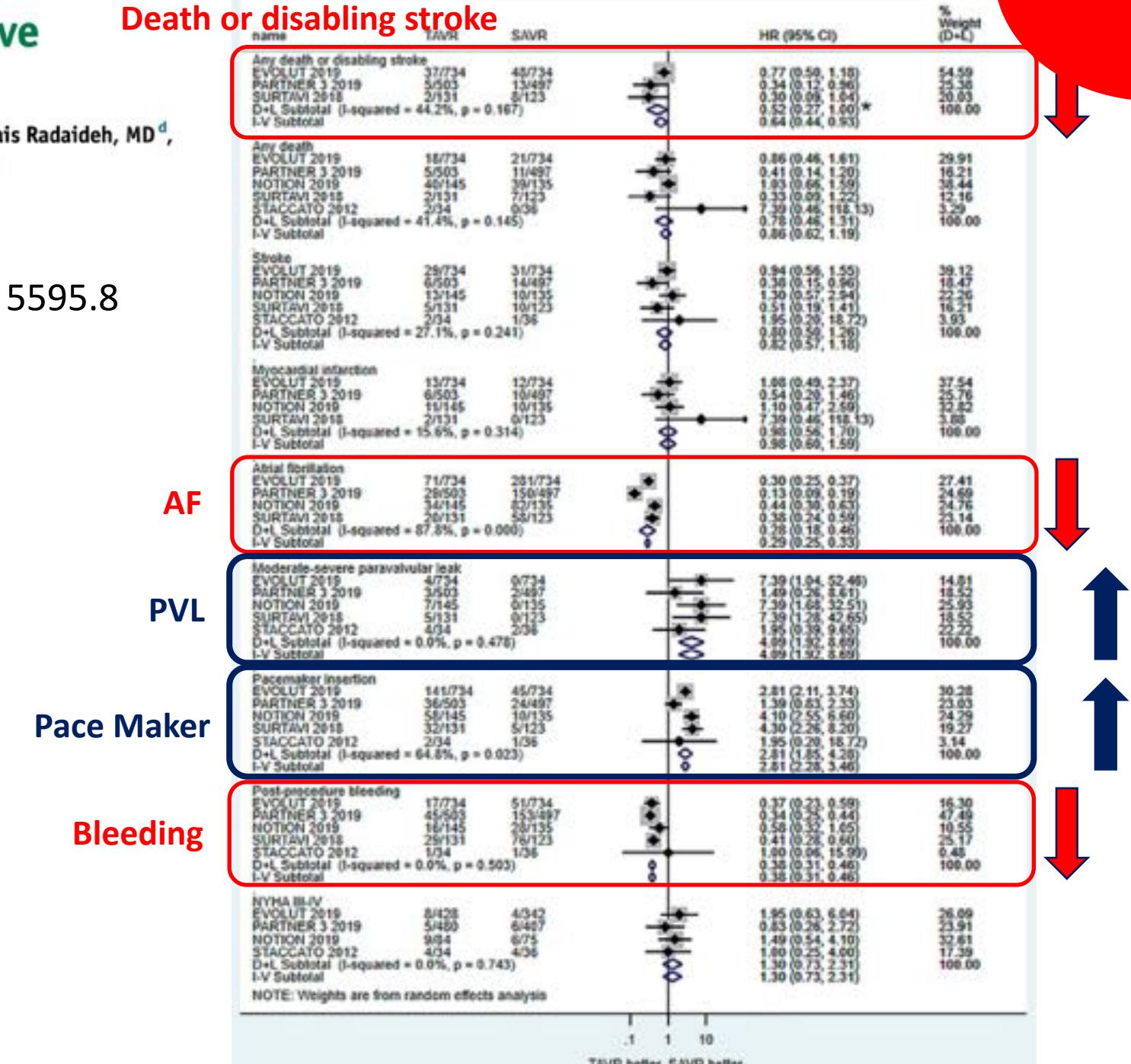
Meta-Analysis of Transcatheter Aortic Valve Replacement in Low-Risk Patients

Babikir Kheiri, MD, MRCP, PGDip^a, Mohammed Osman, MD^b, Ahmed Bakhit, MD^c, Qais Radaideh, MD^d, Mahmoud Barbarawi, MD^a, Yazan Zayed, MD^a, Harsh Golwala, MD^a, Firas Zahr, MD^a, Gregg W Stone, MD^e, Deepak L Bhatt, MD, MPH^f

5 trials randomizing 3072 patients with 5595.8 patient-years of follow-up.

Mean age = 74.5 ± 6.1

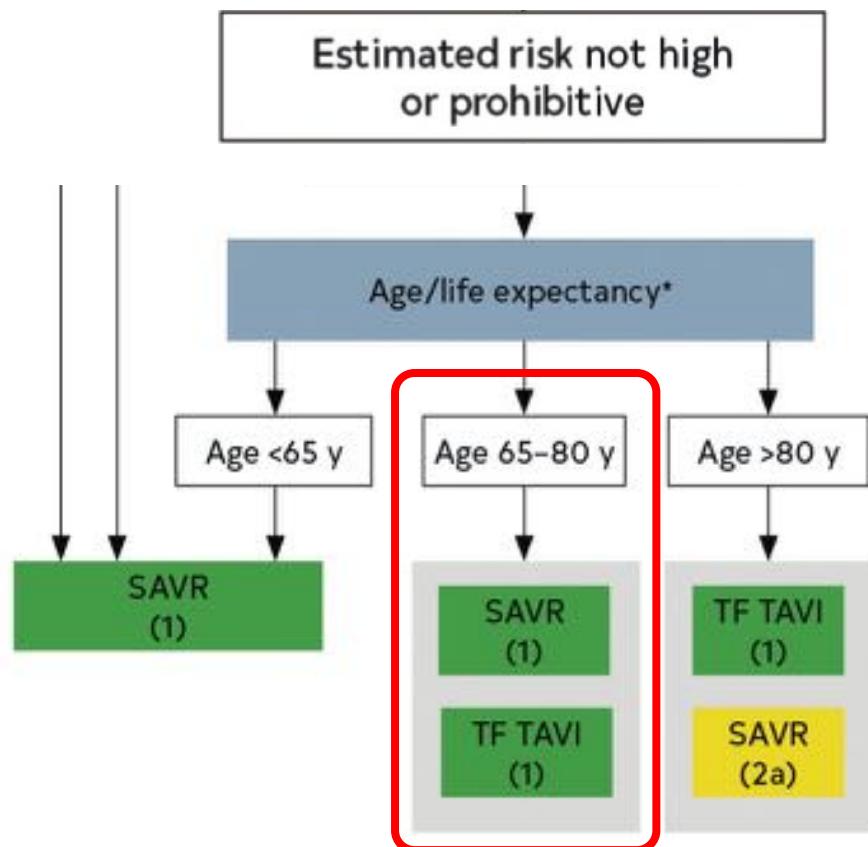
Mean STS score = 2.47%



2020 ACC/AHA Guideline for the Management of Patients With Valvular Heart Disease

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

TAVI or SAVR



- | | |
|---|---|
| 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.^{1,4-8}

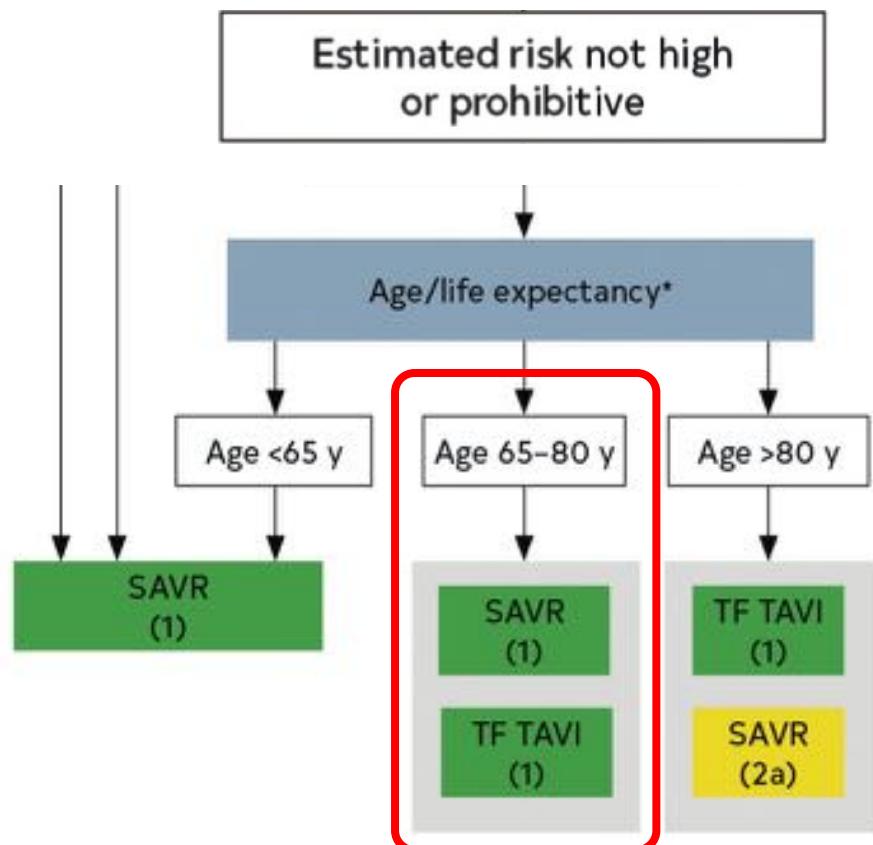
Un facteur clé dans la prise de décision est le rapport entre l'espérance de vie du patient et la durabilité connue de la valve,

Espérance de vie
d'une femme de 70 ans: 17 ans

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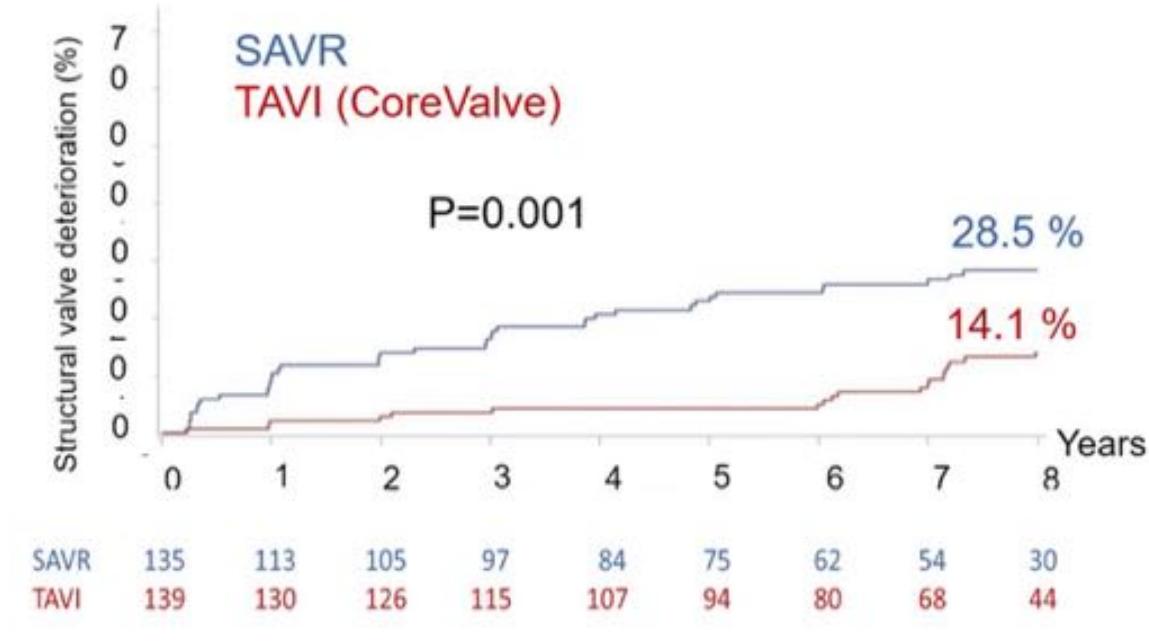
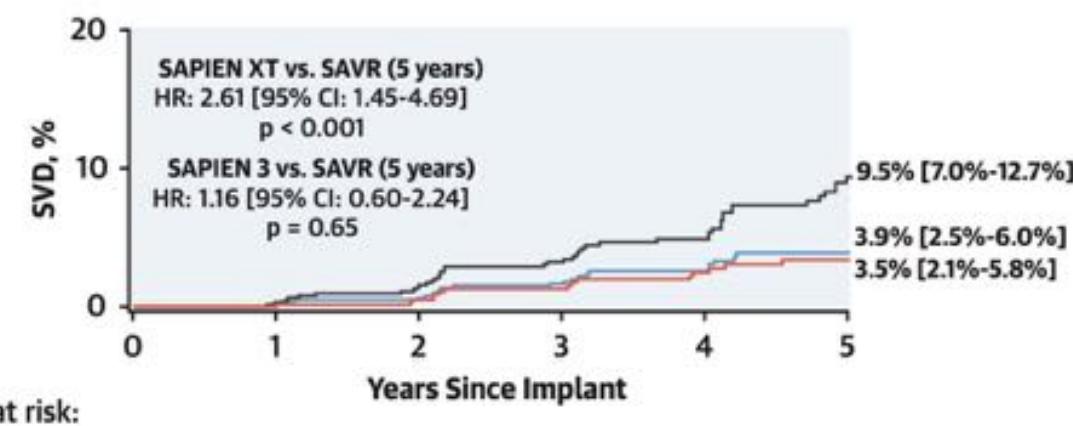
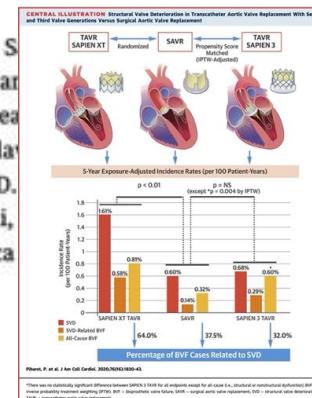
Espérance de vie
d'une femme de 70 ans: 17 ans

Alors Toujours TAVI ?
La durabilité ?
Si ça dégénère ?

Structural Deterioration of Transcatheter Versus Surgical Aortic Valve Bioprostheses in the PARTNER-2 Trial



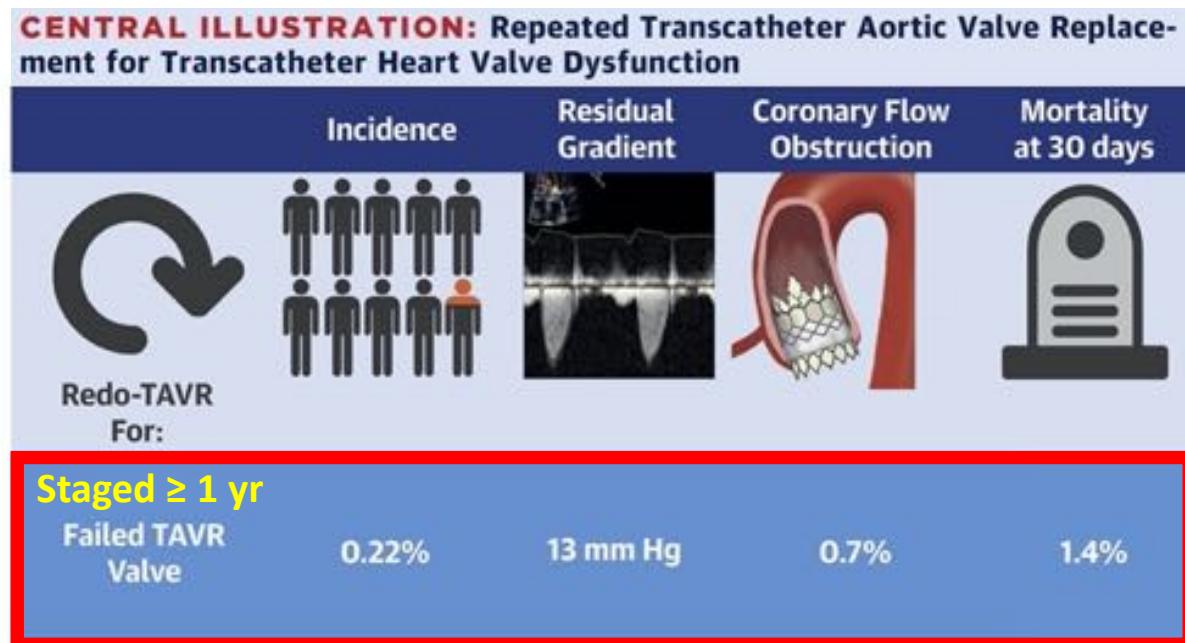
Philippe Pibarot, DVM, PhD,^a Julien Ternacle, MD, PhD,^a Wael A. Jaber, MD,^b Erwan S Abdellaziz Dahou, MD, PhD,^{c,d} Federico M. Asch, MD,^e Neil J. Weissman, MD,^e Leonar Ke Xu, PhD,^f Mohamed-Salah Annabi, MD, MS,^a Ezequiel Guzzetti, MD,^a Jonathan Bea Mathieu Bernier, MD,^a Jonathon Leipsic, MD,^e Philipp Blanke, MD,^e Marie-Annick Clav Erin Rogers, MENG,^f Maria C. Alu, MS,^{c,d} Pamela S. Douglas, MD,^h Raj Makkar, MD,ⁱ D. Samir R. Kapadia, MD,^b Michael J. Mack, MD,^k John G. Webb, MD,^g Susheel K. Kodali, Howard C. Herrmann, MD,^j Vinod H. Thourani, MD,^m Martin B. Leon, MD,^{c,d} Rebecca for the PARTNER 2 Investigators



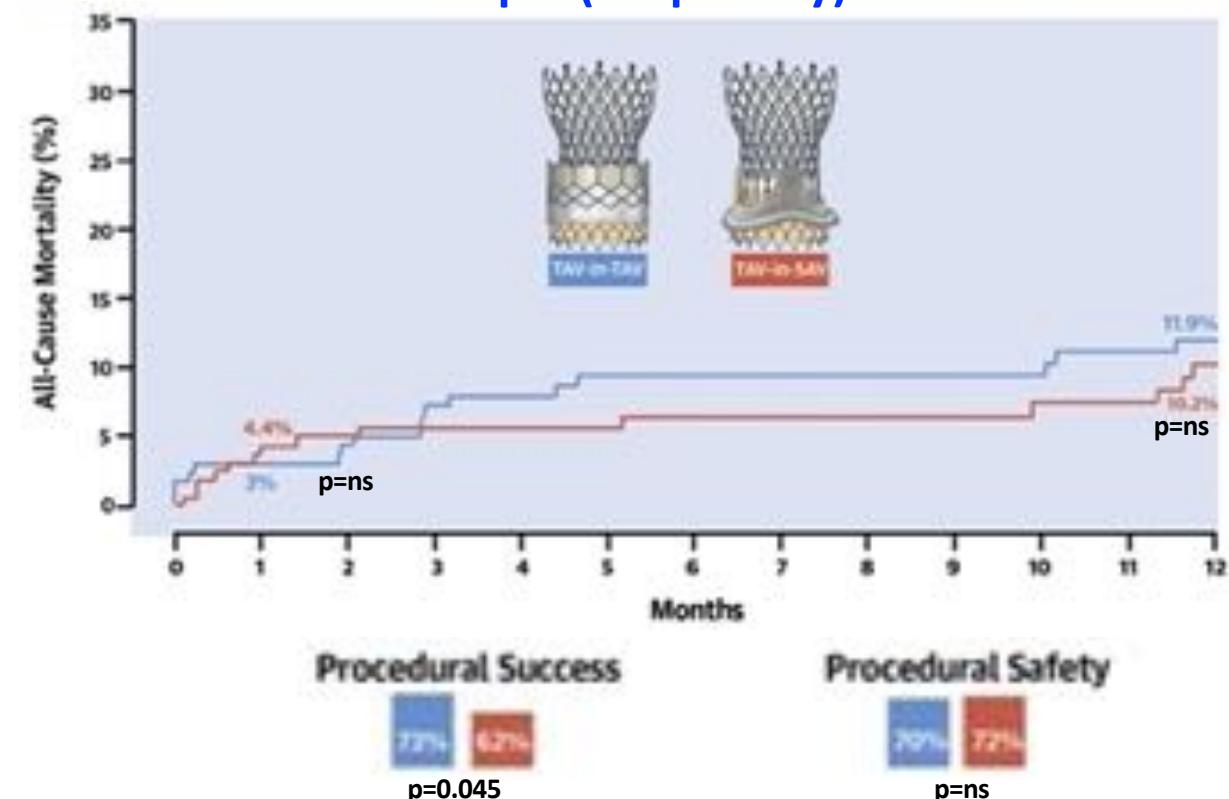
Outcomes of Redo-TAVR

Redo-TAVR International Registry

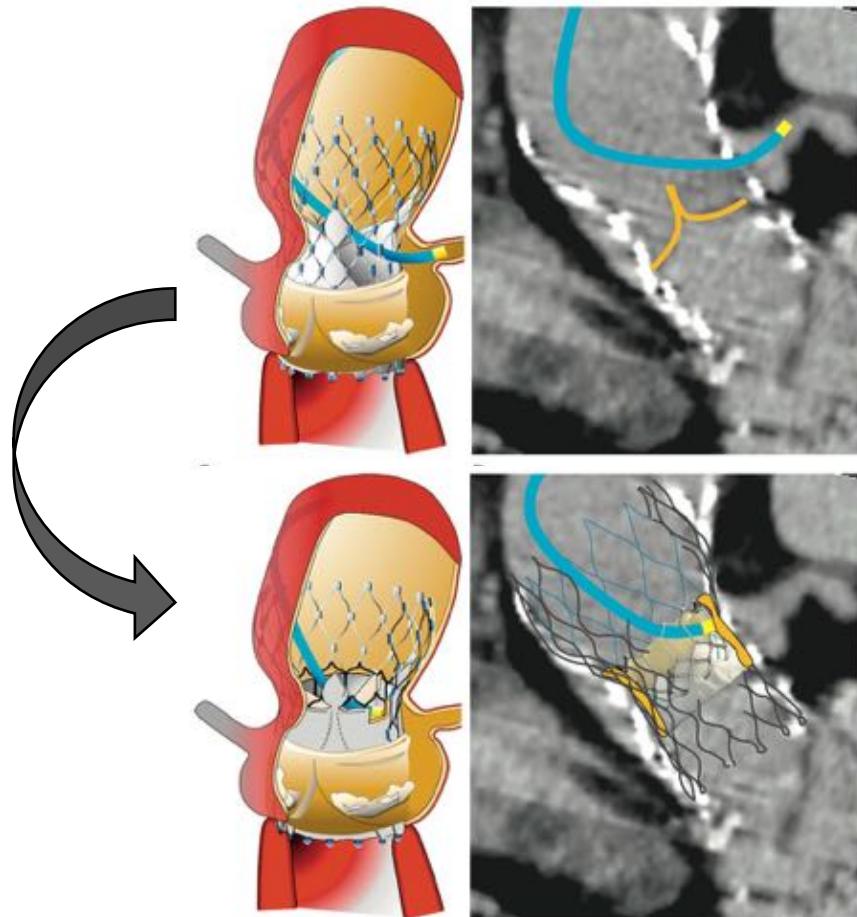
Redo-TAVR n=212/63876 pts (0.33%)



TAV-in-TAV (n=434) / TAV-in-SAV (n=624)
330 matched pts (Propensity): 165 vs 165



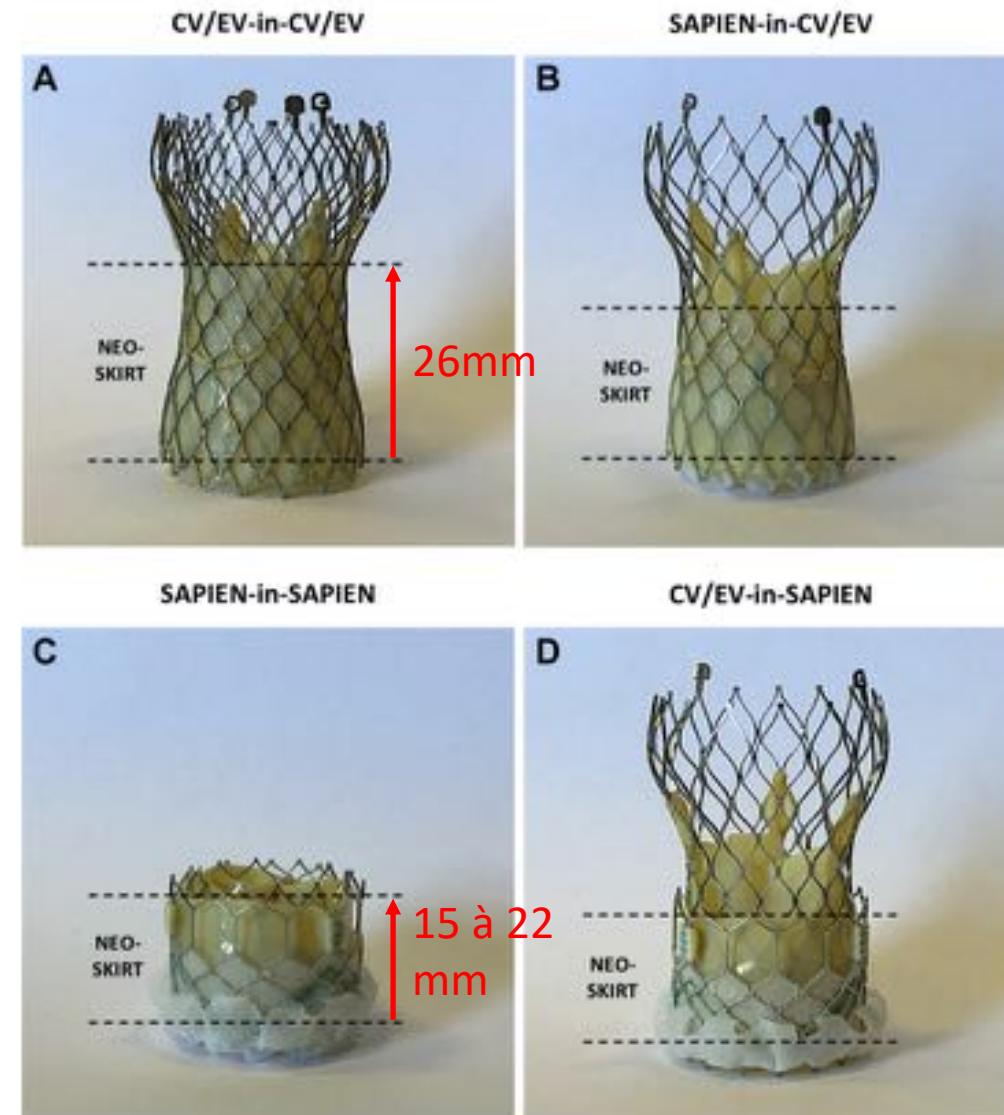
Redo-TAVI: problème d'accès aux coronaires



**Future coronary access hindered
in up to 78% of patients after TAVR-in-TAVR**

Buzzatti N, J Am Coll Cardiol Img. 2020;13:508–515

Forrestal B, Circ Cardiovasc Interv. 2020;13:e009496



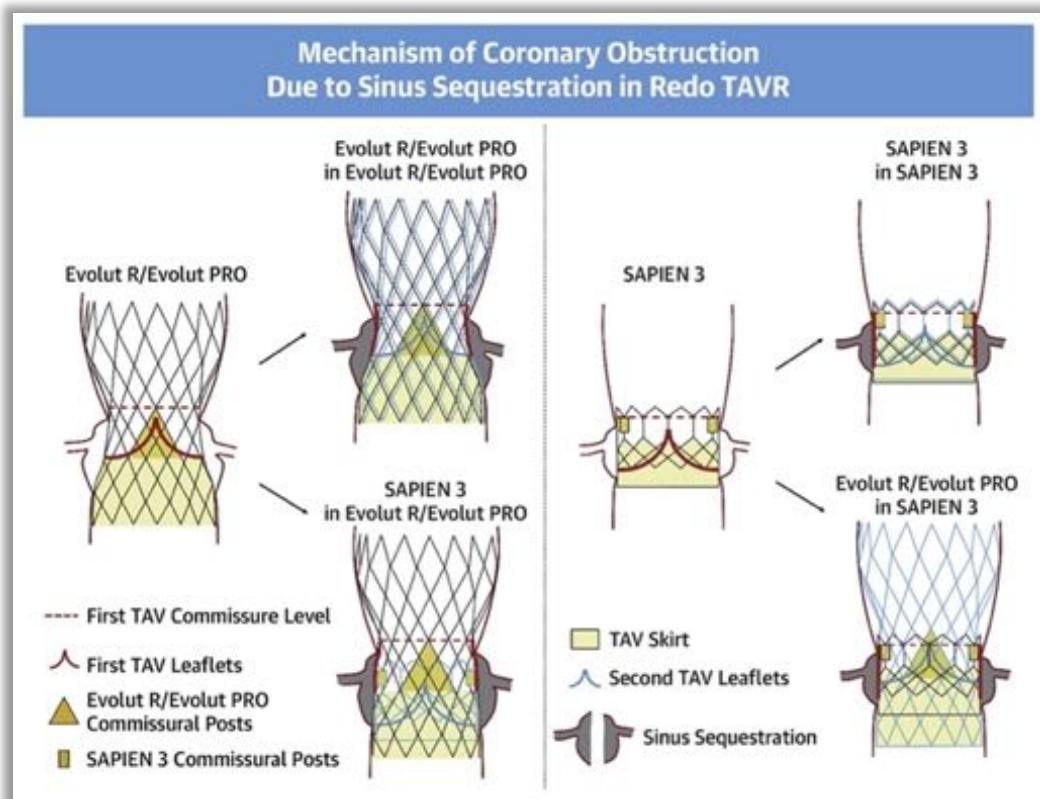
De Backer O, J Am Coll Cardiol Intv 2020;13:2528–38

Redo-TAVR: possible pour tous ?

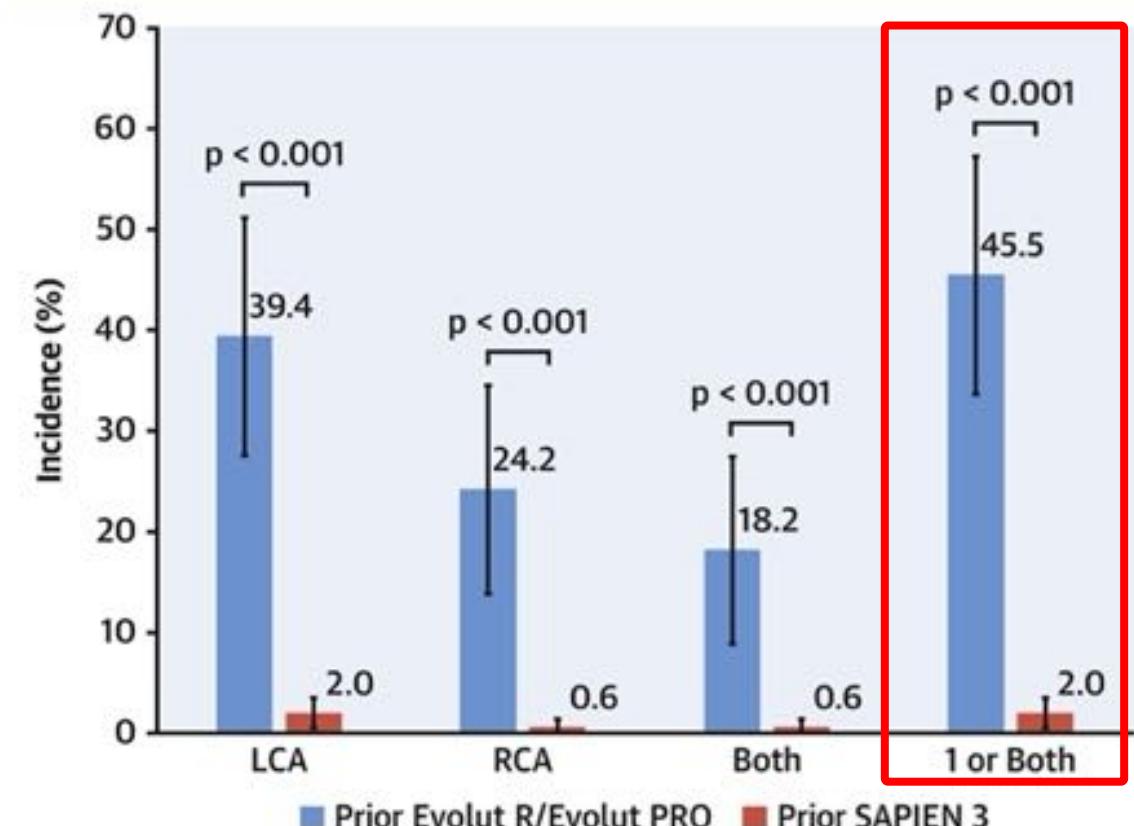
Etude de simulation sur Scanner Cardiaque

TAV-in-TAV at Risk of Coronary Obstruction
Due to Sinus Sequestration

First TAV Commissure Level > STJ Level
and
The Distance between TAV and STJ < 2.0 mm



Computed Tomography-Identified Risk of Coronary Obstruction Due to Sinus Sequestration in Redo TAVR

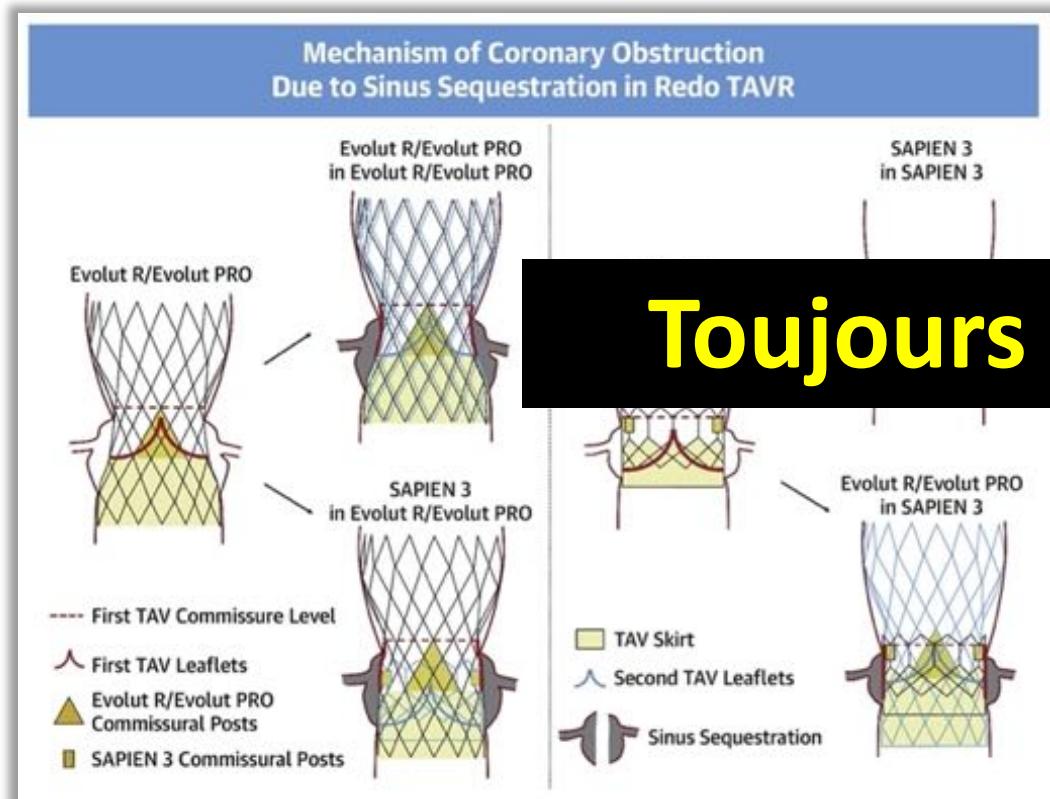


Redo-TAVR: possible pour tous ?

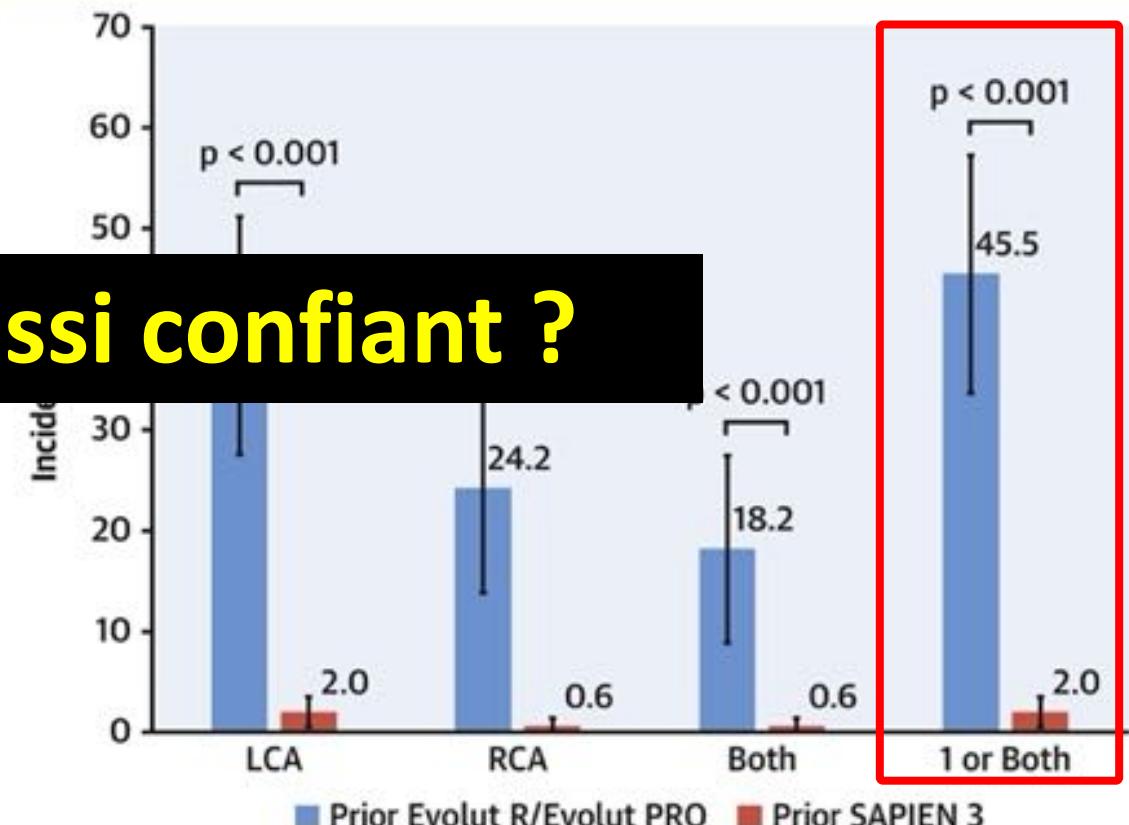
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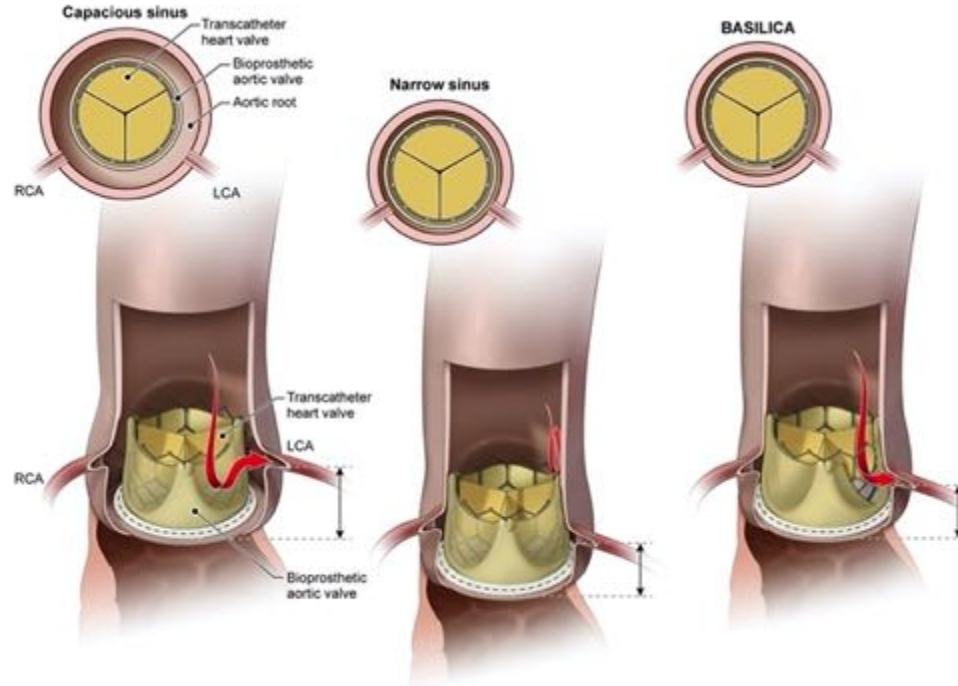
Computed Tomography-Identified Risk of Coronary Obstruction Due to Sinus Sequestration in Redo TAVR



Toujours aussi confiant ?

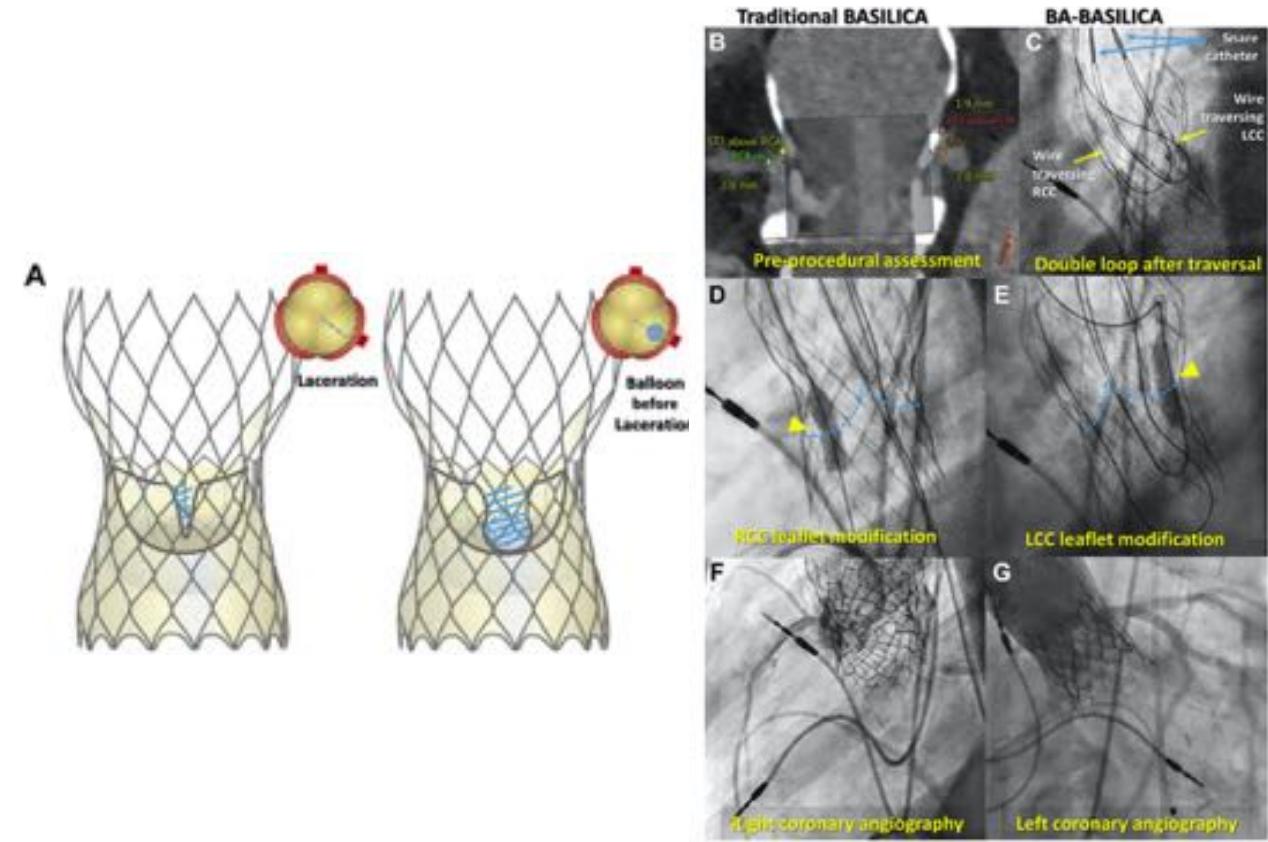
Transcatheter Laceration of Aortic Leaflets to Prevent Coronary Obstruction During Transcatheter Aortic Valve Replacement

Concept to First-in-Human



Balloon-Assisted BASILICA to Facilitate Redo TAVR

Adam B. Greenbaum, MD,^a Norihiko Kamioka, MD,^a John P. Vavalle, MD,^b John C. Lisko, MD, MPH,^b Patrick T. Gleason, MD,^a Gaetano Paone, MD,^c Kendra J. Grubb, MD, MHA,^c Christopher G. Bruce, MB ChB,^d Robert J. Lederman, MD,^d Vasilis C. Babaliaros, MD^a



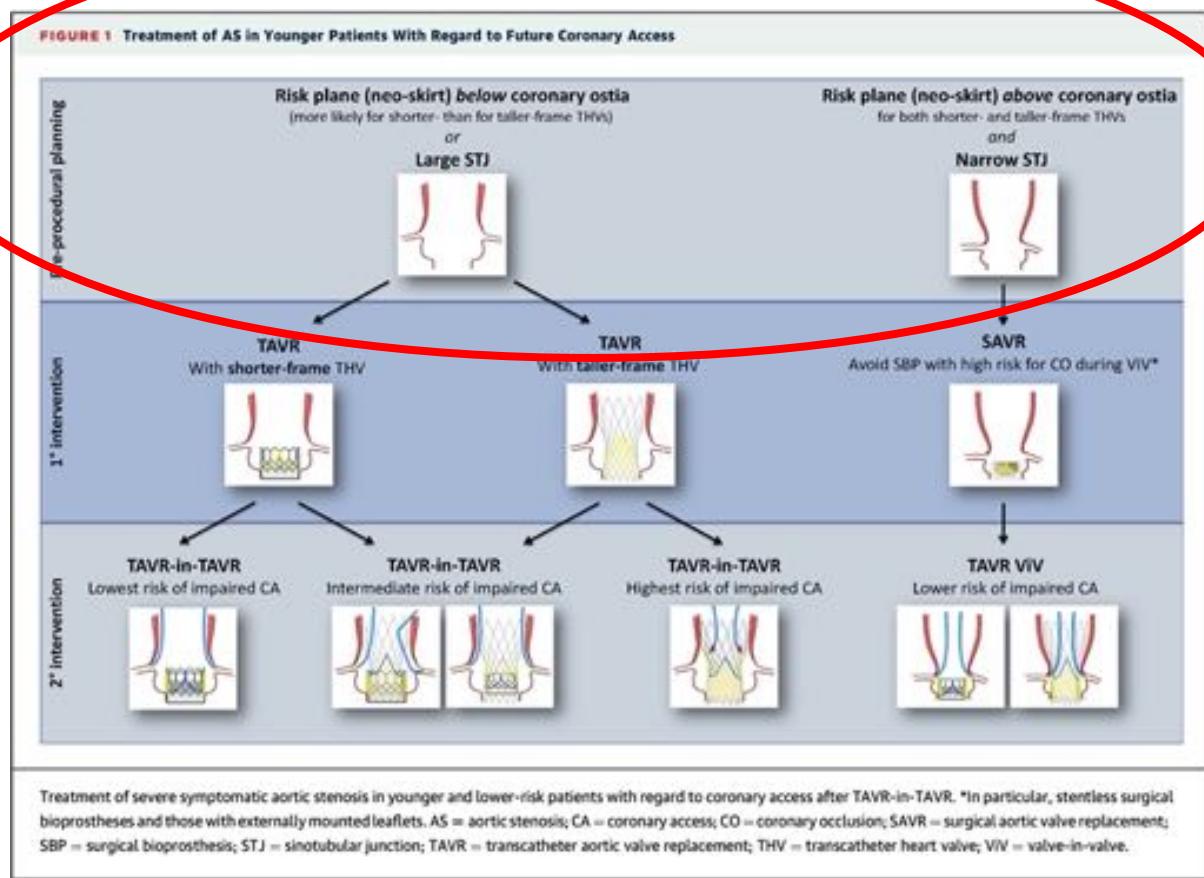
TAVI vs SAVR ?

**Tu peux anticiper la possibilité de TAVI-in-TAVI
lors de la procédure index ?**

Coronary Access and TAVR-in-TAVR

Don't Put Off Until Tomorrow What You Can Do Today*

Giuseppe Tarantini, MD, PhD, Luca Nai Fovino, MD, PhD



TAV-in-TAV: Future Considerations for Intermediate- and Low-Risk Patients

Challenges to the transcatheter management of severe aortic stenosis across a lifetime.

By Akshay Kamath, MD; Shravan Rao, MD; Brett Sheridan, MD; Christian Spies, MD; and David Daniels, MD

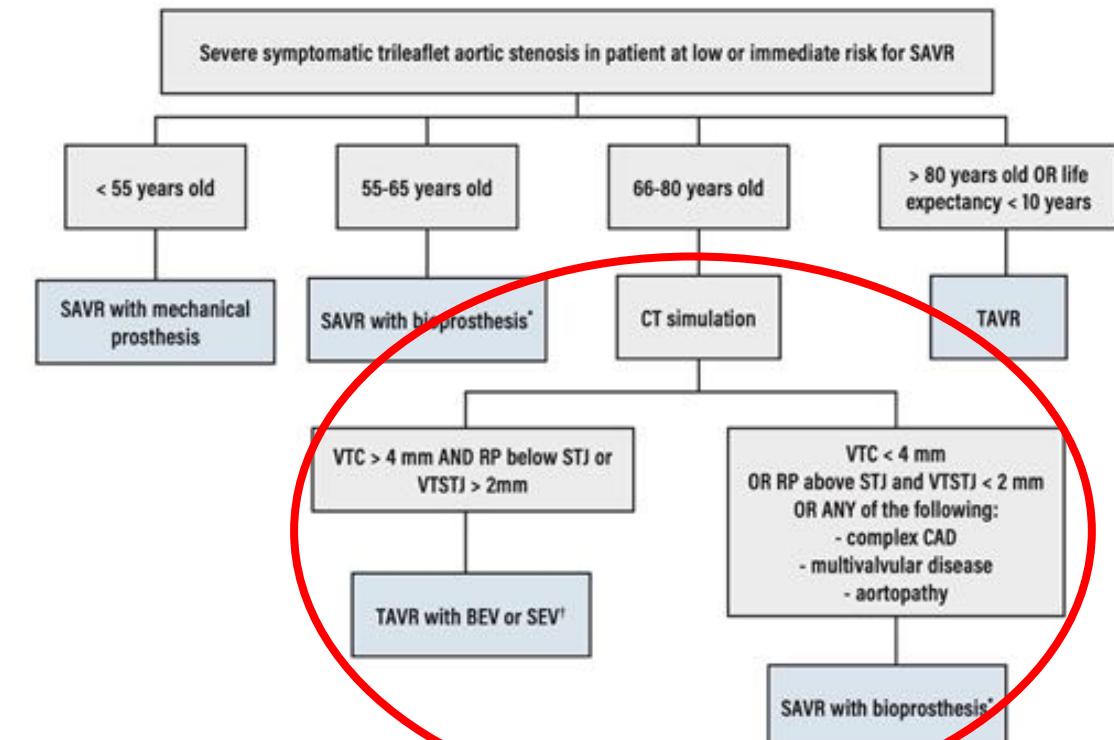
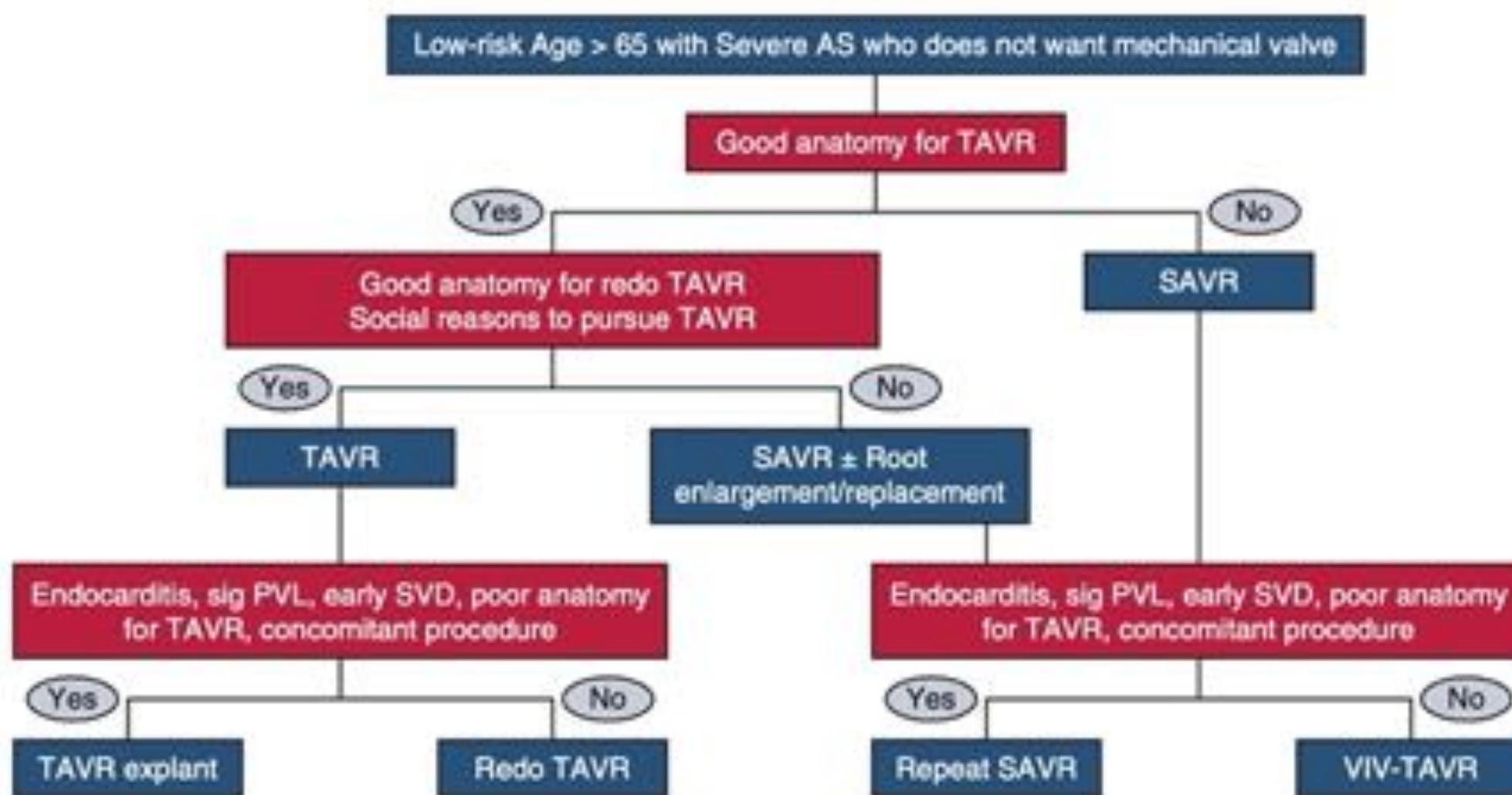


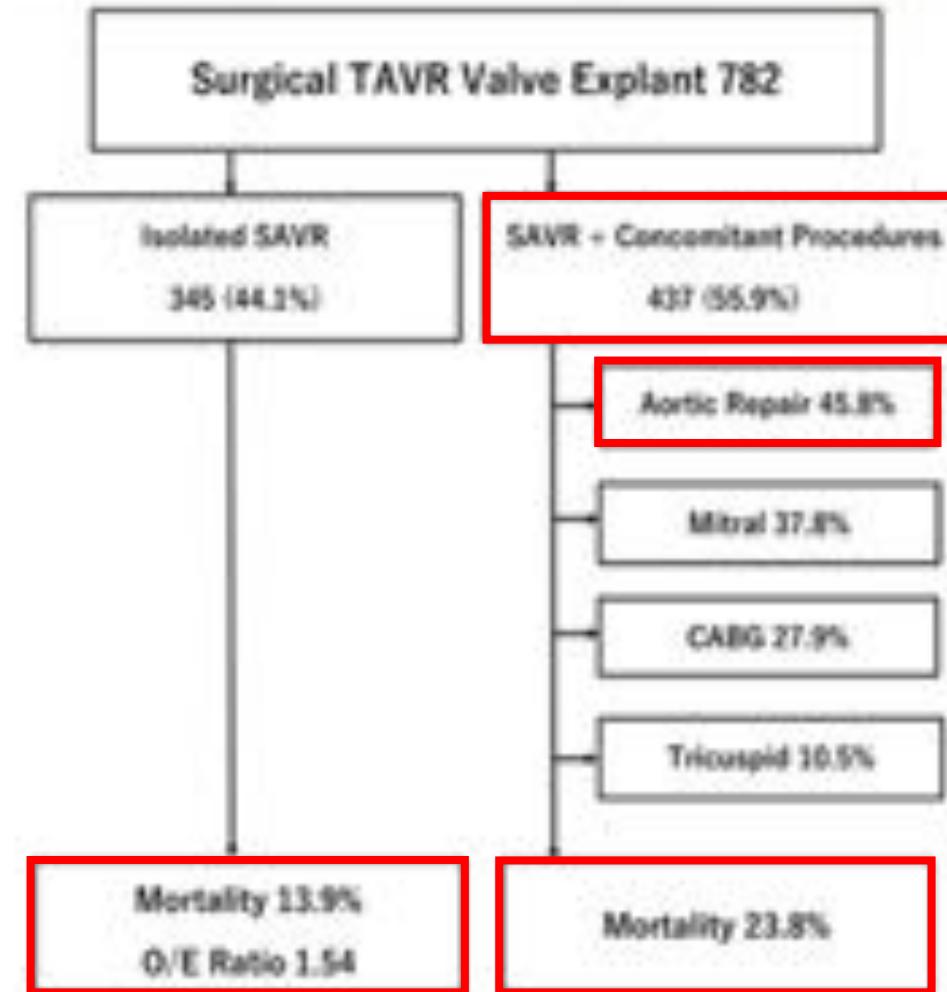
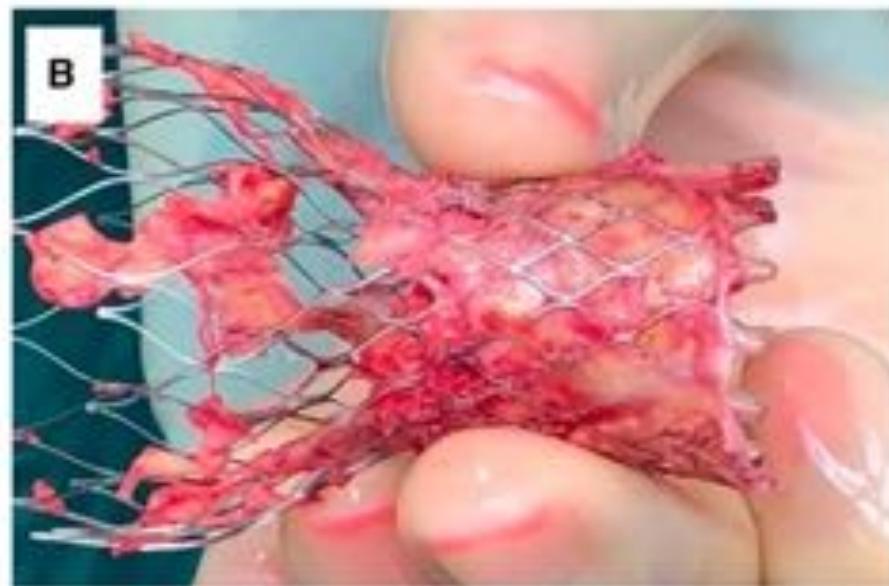
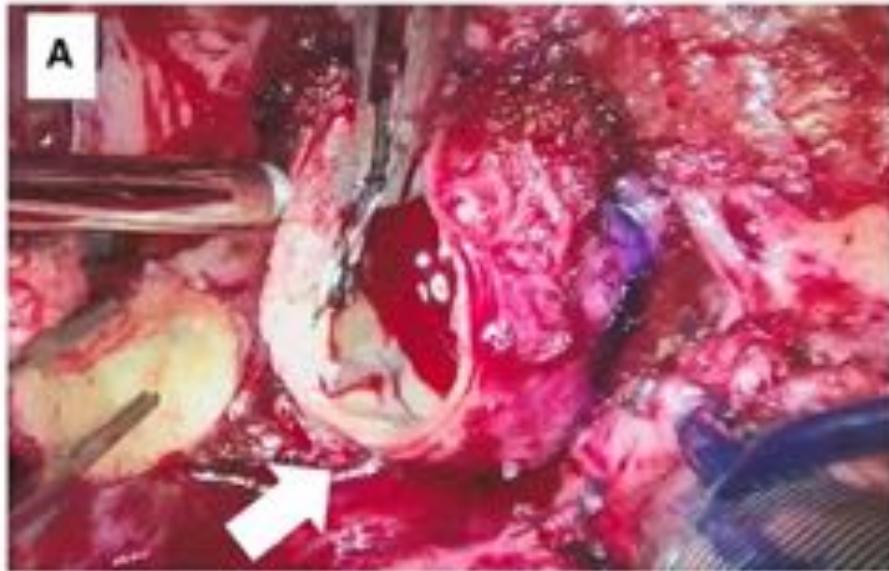
Figure 3. Treatment of severe symptomatic AS in patients at low or intermediate risk for SAVR. *Avoid stentless valves or valves with externally mounted leaflets; if annulus < 23 mm or will not accommodate > 21 mm prosthesis, consider aortic root enlargement. †Consider commissural alignment using "hat" orientation.

Algorythm for TAVR vs SAVR in patients age > 65

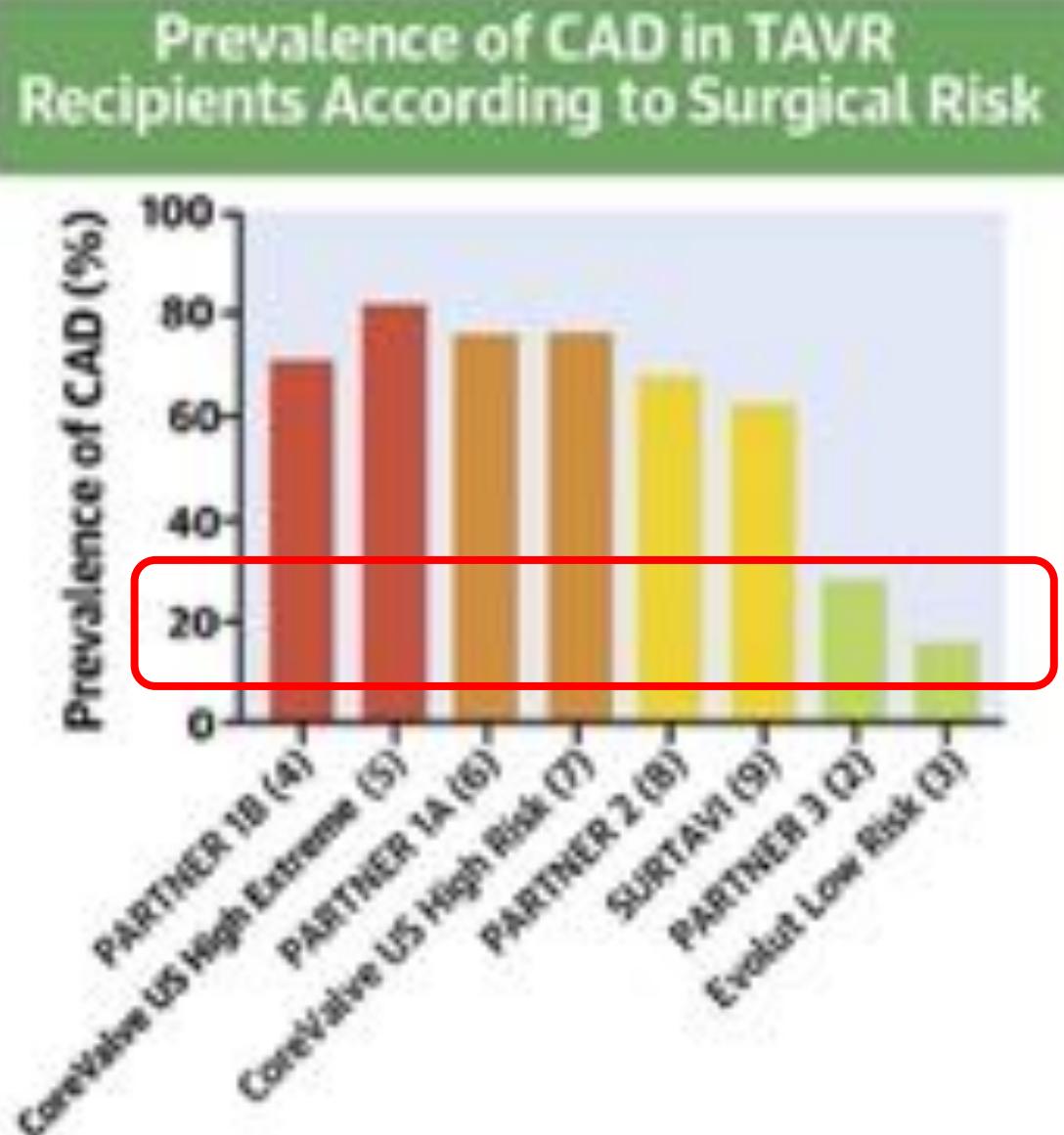


Surgical Explantation of Transcatheter aortic Bioprostheses

An analysis from the STS Database (2011-2018)

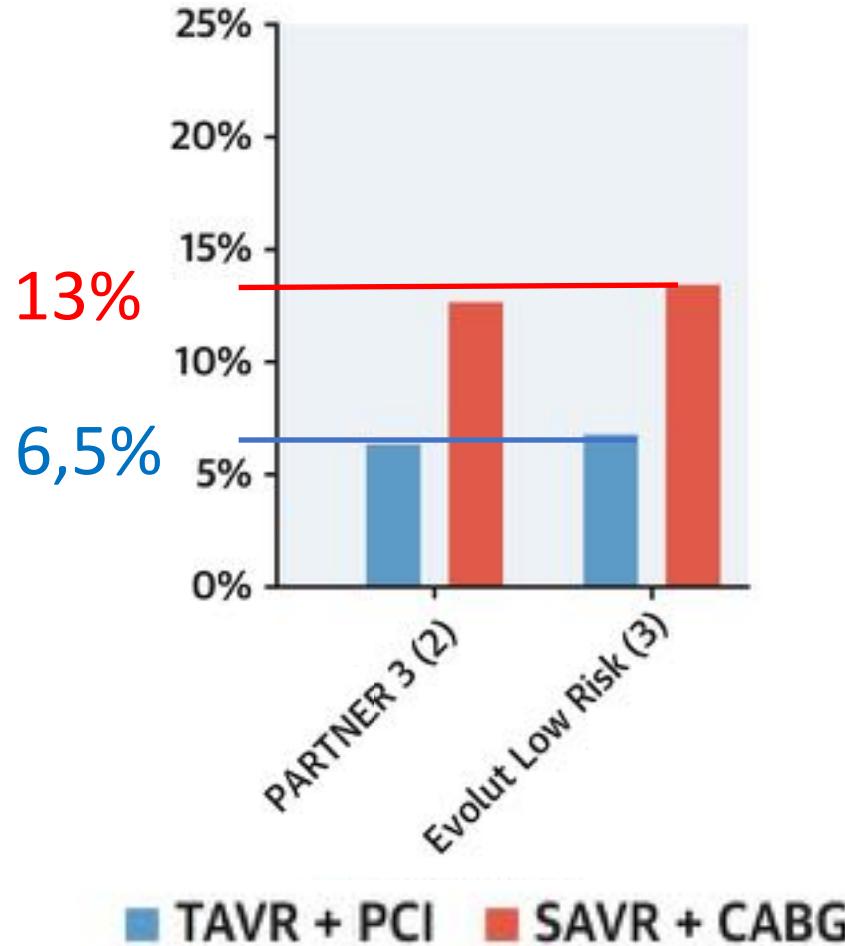


En plus elle est peut être coronarienne ?



Complex CAD were excluded in low-risk RCT

Concomitant procedures in low risk RCT



Partner 3 trial

(only RCT showing results for revascularized pts)

TAVR + PCI (n=32) and SAVR + CABG (n=58)

No difference regarding
Composite of mortality / stroke / rehosp :

9.4% in the TAVR + PCI group vs

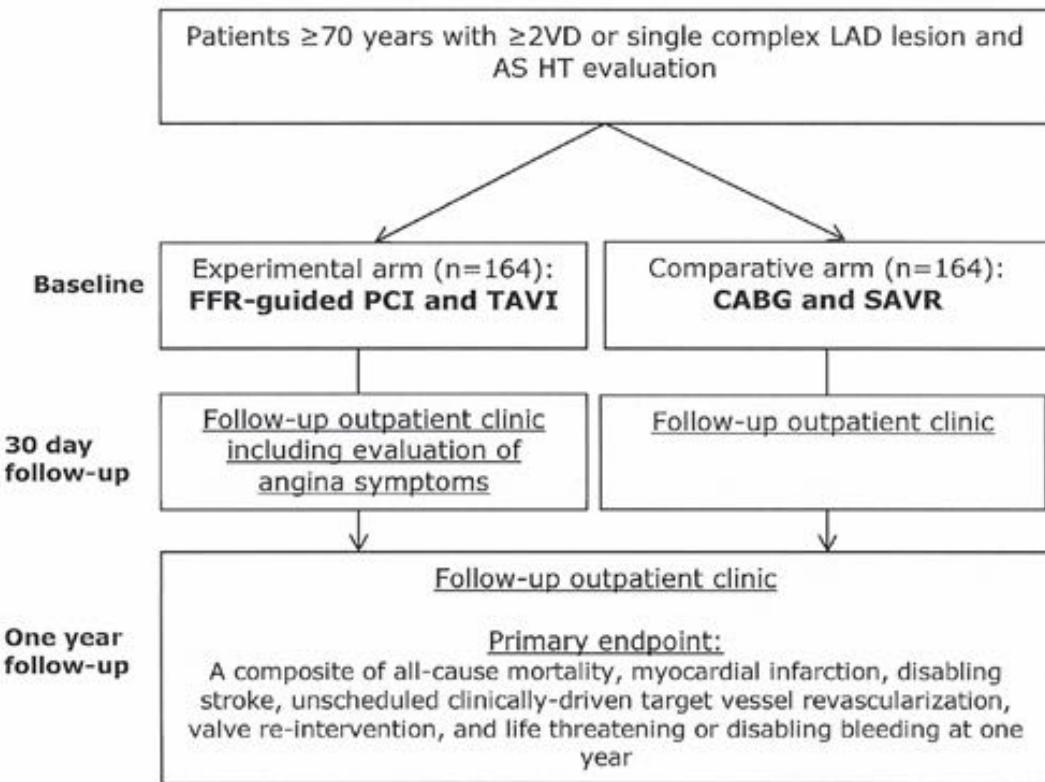
12.1% in the SAVR + CABG group

HR= 0.77; 95% CI: 0.20 to 2.98

Etudes de stratégies en cours pour coronaropathie et TAVI / Chirurgie

Etude TCW

Study	Study Design	Population	Sample Size	Intervention	Primary Endpoint
CT-CA (NCT03291925)	Randomized open-label trial (pilot study)	Patients with symptomatic severe AS eligible for TAVR	200	Selective invasive angiography based on CT/coronary CTA imaging vs. systematic invasive angiography	Number of patients enrolled in the study of all those that are eligible
FORTUNA (NCT03665389)	Prospective open-label registry (exploratory)	Patients with moderate stenotic lesions (30%–<70%) or severe stenotic lesions on CTA who are candidates for PCI following TAVR	25	Measurement of iFR before TAVR, FFRct before TAVR and FFR + iFR after TAVR	FFRct before TAVR
TCW (NCT03424941)	Randomized open-label noninferiority trial	Patients age ≥70 yrs with severe AS feasible for treatment by both TF or TSc approach TAVR as well as conventional SAVR, and >2 de-novo coronary lesions ≥50% diameter stenosis on main artery or side branch >2 mm or single LAD lesion >20 mm length or involving a bifurcation, feasible for treatment with CABG as well as PCI	328	FFR-guided PCI and TAVR vs. CABG and SAVR	Composite of all-cause mortality, myocardial infarction, disabling stroke, unscheduled clinically-driven target vessel revascularization, valve re-intervention, and life threatening or disabling bleeding at 1 yr
FAITAVI (NCT03360591)	Randomized open-label trial	Patients with severe AS with the indication of TAVR and at least one coronary stenosis ≥50% at angiography	320	Physiologically-guided strategy (PCI of lesions with FFR ≤0.80) vs. angiographically guided strategy (PCI of all lesions >50% by visual estimation of major branches >2.5 mm)	Composite of all-cause death, myocardial infarction, stroke, major bleeding and target vessel revascularization at 1 yr
ACTIVATION (NCT07583693)	Randomized trial	Patients with symptomatic severe AS accepted for TAVR, and ≥1 proximal stenosis of ≥70% in a major epicardial artery deemed suitable for PCI	310	Pre-TAVR PCI vs. no pre-TAVR PCI	Mortality and rehospitalization at 1 yr
NOTION-3 (NCT03058627)	Randomized open-label trial	Patients with severe aortic stenosis selected for TAVR and at least one coronary stenosis with FFR ≤0.80 or diameter stenosis >90% in a coronary artery ≥2.5 mm	452	TAVR only vs. TAVR + FFR-guided complete revascularization	All-cause mortality, myocardial infarction, or urgent revascularization at 1 yr

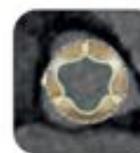
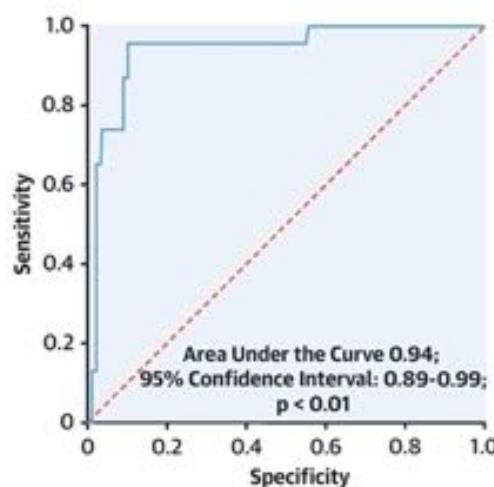


Pour accéder aux coronaires ça peut être compliqué...

RE-ACCESS study, 300 pts (2018-2020)

7.7% of unsuccessful coronary cannulation
after TAVR

CENTRAL ILLUSTRATION: Predictors of Unsuccessful Coronary Cannulation After Transcatheter Aortic Valve Replacement and Receiver-Operating Characteristic Curve Analysis Applied to Logistic Regression Model



Transcatheter Aortic Valve/
Sinuses of Valsalva Relation
Odds Ratio 1.1;
95% CI: 1.0-1.2; p < 0.01



Transcatheter Aortic Valve Implant Depth
Odds Ratio 1.7;
95% CI: 1.3-2.3; p < 0.01

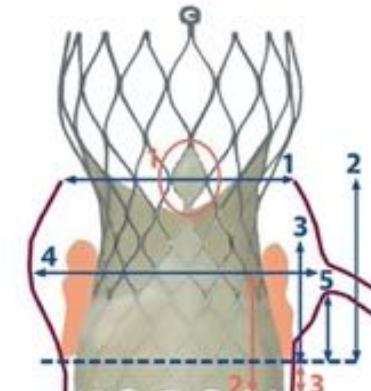


Evolut Transcatheter Aortic Valve
Odds Ratio 29.6;
95% CI: 2.6-335.0; p < 0.01

Barbanti, M. et al. J Am Coll Cardiol Intv. 2020;13(21):2542-55.

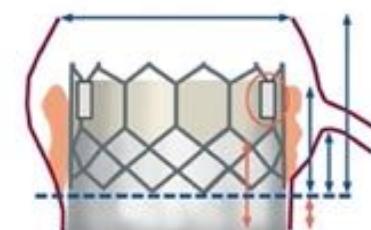
CENTRAL ILLUSTRATION: Coronary Reaccess After TAVR

Factors Impacting Coronary Access



Anatomical

1. Sinotubular junction dimensions
2. Sinus height
3. Leaflet length and bulkiness
4. Sinus of Valsalva width
5. Coronary height



Device and Procedural

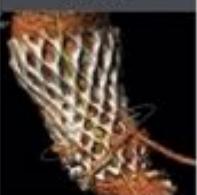
1. Commissural tab orientation
2. Sealing skirt height
3. Valve implant depth

Imaging Evaluation

Fluoroscopy



MDCT



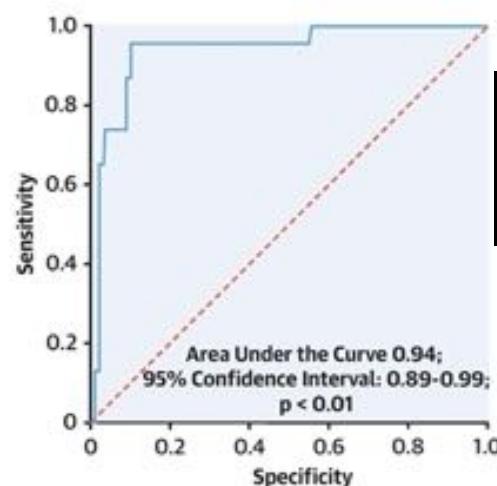
Yudi, M.B. et al. J Am Coll Cardiol. 2018;71(12):1360-78.

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Characteristic Curve Analysis Applied to Logistic Regression Model



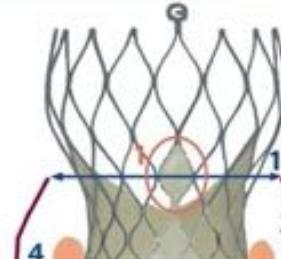
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Tu peux pas le nier

CENTRAL ILLUSTRATION: Coronary Reaccess After TAVR

Factors Impacting Coronary Access



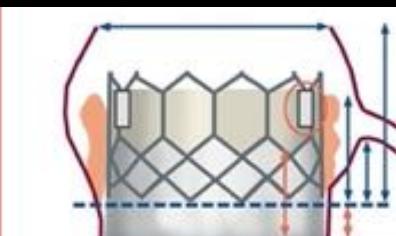
Anatomical

1. Sinotubular junction dimensions
2. Sinus height
3. Leaflet length and bulkiness
4. Valsalva width and height

Imaging Evaluation

Fluoroscopy

MDCT

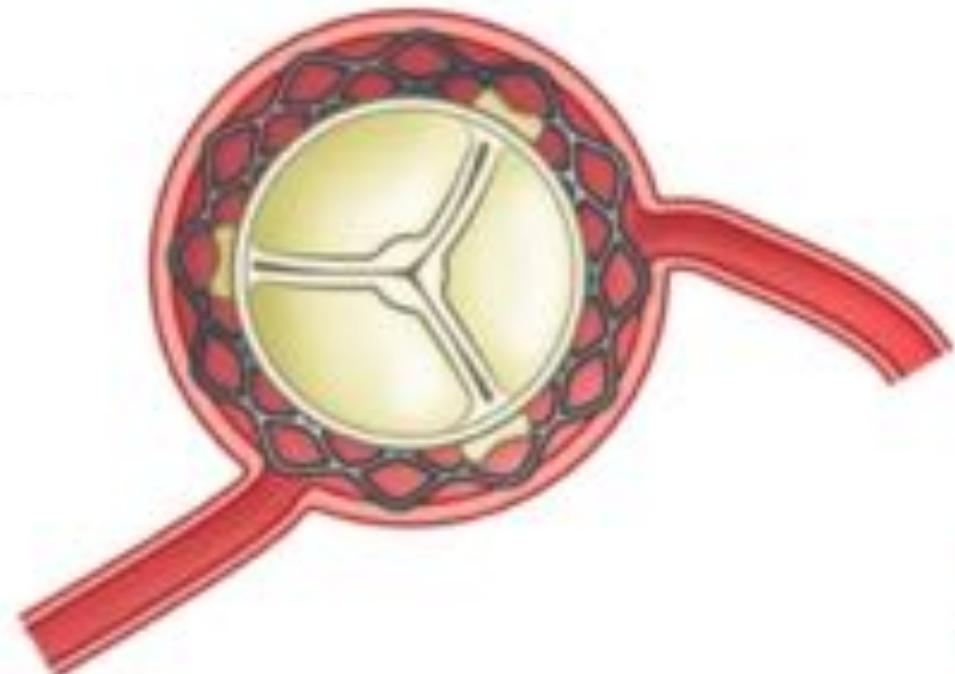


Device and Procedural

1. Commissural tab orientation
2. Sealing skirt height
3. Valve implant depth

Yudi, M.B. et al. J Am Coll Cardiol. 2018;71(12):1360-78.

Commissural alignment after TAVR



Commissural alignment



Commissural misalignment



Alignment of Transcatheter Aortic-Valve Neo-Commissures (ALIGN TAVR)



Impact on Final Valve Orientation and Coronary Artery Overlap

1. Commissural tab should be loaded 90 degrees clockwise from the "Hat" marker
2. Valve should be inserted with flush port at 3 o'clock
3. Tracking the "Hat" marker to the outer curve (center front for cusp overlap)
4. Results in Commissural tab in the inner curve and better commissural alignment
 - LM overlap: 66.0% → 15.7%
 - RCA overlap: 51.1% → 7.1%



Conventional insertion technique:
Flush port at 12 o'clock

Modified insertion technique:
Flush port at 3 o'clock



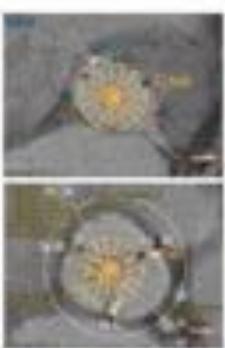
Outer Curve



Center Front



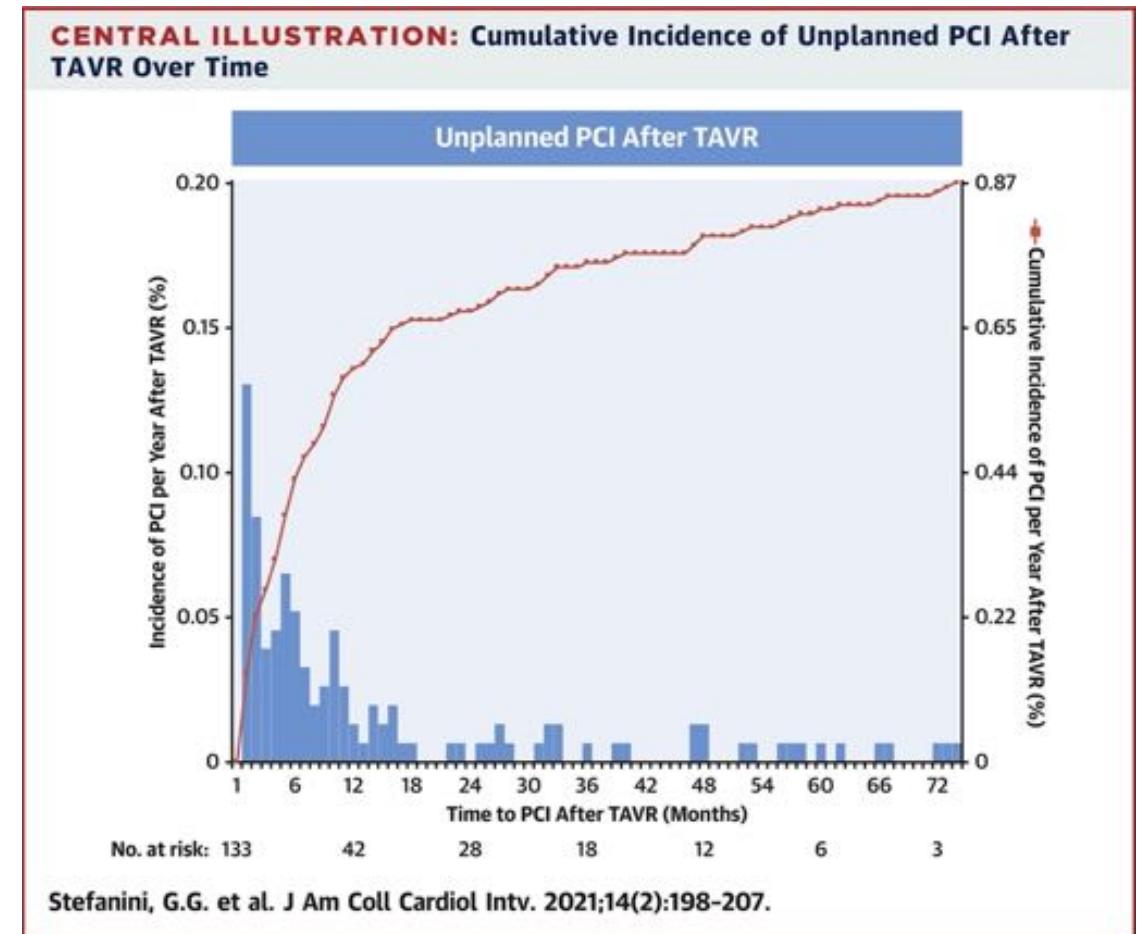
Inner Curve



Le probabilité de devoir y retourner est faible !

Unplanned PCI after TAVR

- Infrequent (0.9% - 3.5%)
- Most present early after the TAVR
- Patients requiring a cath had higher rates of:
 - CAD (76.5% versus 50.6%, P<0.001)
 - MI (20.6% versus 11.5%, P=0.03)
 - Previous CABG (22.1% versus 11.0%, P=0.01)
- PCI successful in almost all cases (97%)

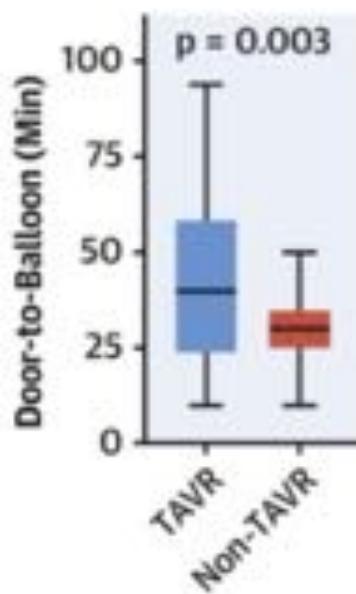


OK mais quand ca arrive c'est bcp plus grave

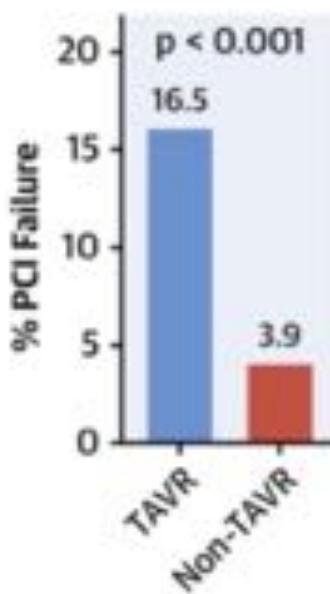
CENTRAL ILLUSTRATION: ST-Segment Elevation Myocardial Infarction Following Transcatheter Aortic Valve Replacement

STEMI Following TAVR

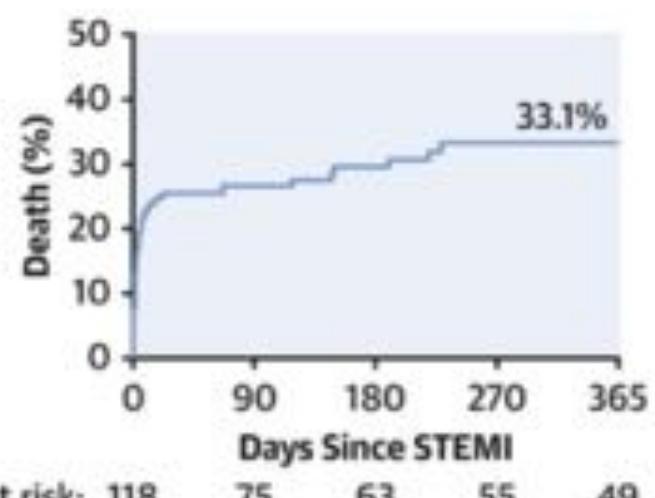
- 33% longer door-to-balloon time



- 4-fold higher PCI failure rate



- Poor clinical outcomes



Patients at risk: 118

Faroux, L. et al. J Am Coll Cardiol. 2021;77(17):2187-99.

L'anatomie est-elle favorable ?

	Favors SAVR	Favors TAVI	Favors Palliation
Valve anatomy	BAV Subaortic (LV outflow tract) calcification Rheumatic valve disease Small or large aortic annulus*	Calciific AS of a trileaflet valve	

Otto C, Circulation. 2021;143:e72–e227

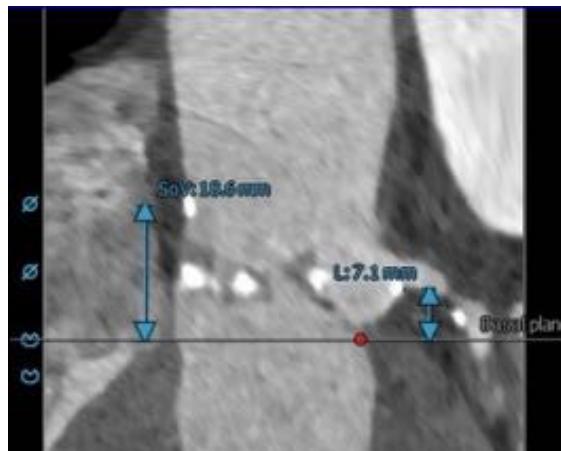


Risque de { fuite péri-prothétique
rupture d'anneau

L'anatomie est-elle favorable ?

	Favors SAVR	Favors TAVI	Favors Palliation
Valve anatomy	BAV Subaortic (LV outflow tract) calcification Rheumatic valve disease Small or large aortic annulus ¹	Calciific AS of a trileaflet valve	
Procedure-specific impediments	<p>Valve anatomy, annular size, or low coronary ostial height precludes TAVI</p> <p>Vascular access does not allow transfemoral TAVI</p>	Previous cardiac surgery with at-risk coronary grafts Previous chest irradiation	Valve anatomy, annular size, or coronary ostial height precludes TAVI Vascular access does not allow transfemoral TAVI

Otto C, Circulation. 2021;143:e72–e227



Y a-t-il des pathologies cardiaques associées ?

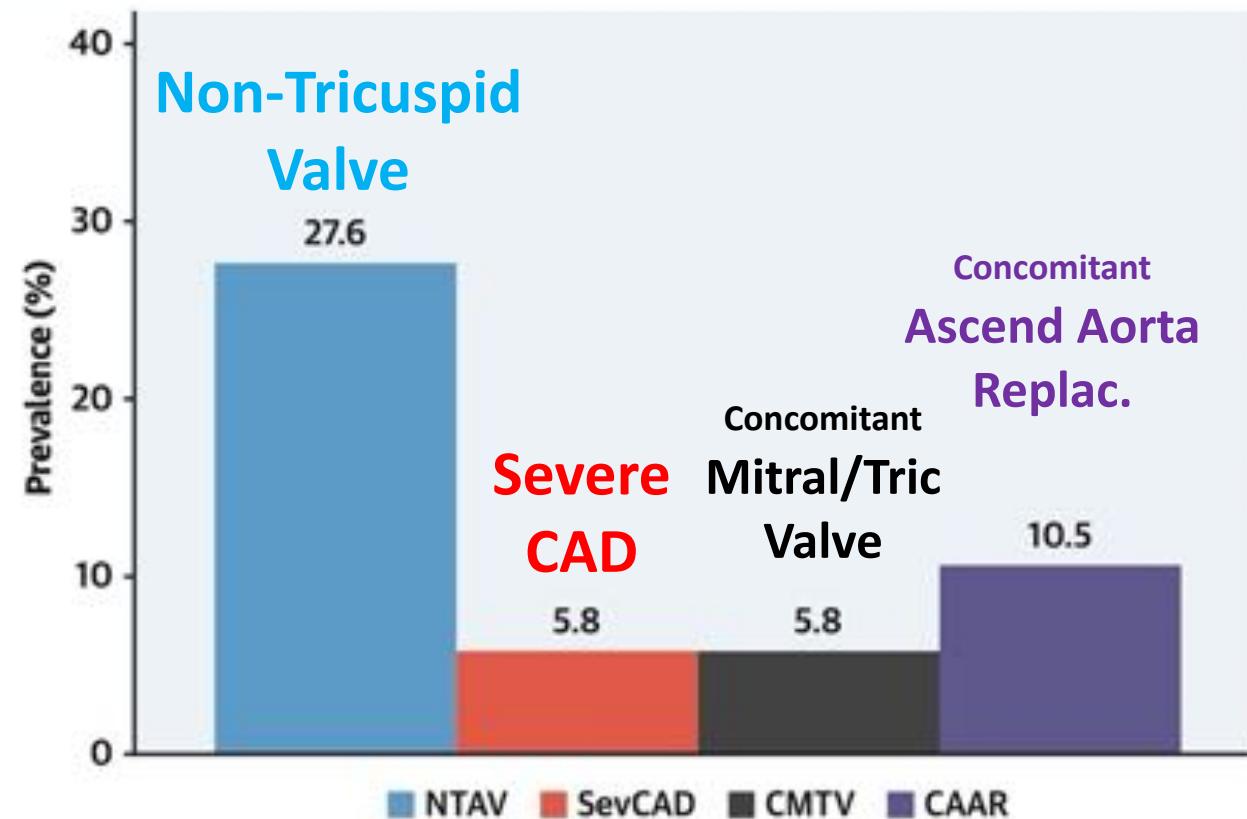
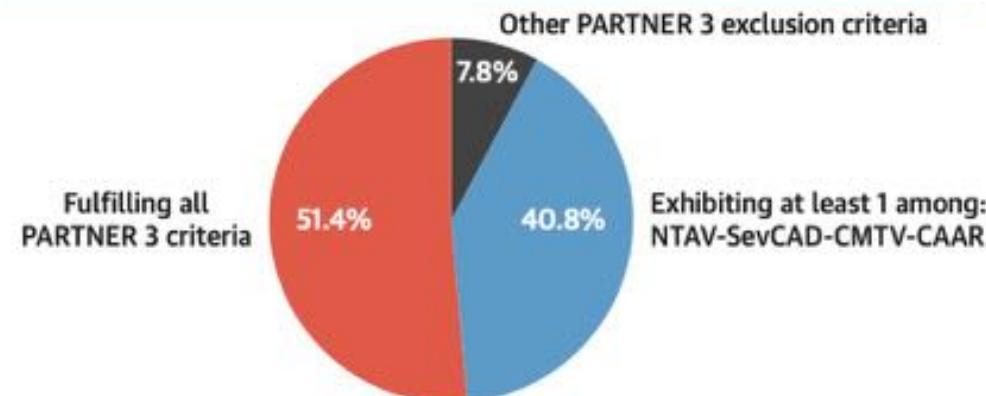
	Favors SAVR	Favors TAVI	Favors Palliation
Concurrent cardiac conditions	Aortic dilation‡ Severe primary MR Severe CAD requiring bypass grafting Septal hypertrophy requiring myectomy AF	Severe calcification of the ascending aorta ("porcelain" aorta)	Irreversible severe LV systolic dysfunction Severe MR attributable to annular calcification

Otto C, Circulation. 2021;143:e72–e227

Aortic Valve Replacement in Low-Risk Patients With Severe Aortic Stenosis Outside Randomized Trials

Alberto Alperi, MD, Pierre Voisine, MD, Dimitri Kalavrouziotis, MD, Eric Dumont, MD, François Dagenais, MD, Jean Perron, MD, Iria Silva, MD, Fernando Bernardi, MD, Siamak Mohammadi, MD, Josep Rodés-Cabau, MD, PhD

5310 patients, 68 +/- 10 ans, STS < 4%, 2000-2019



Y a-t-il des pathologies cardiaques associées ?

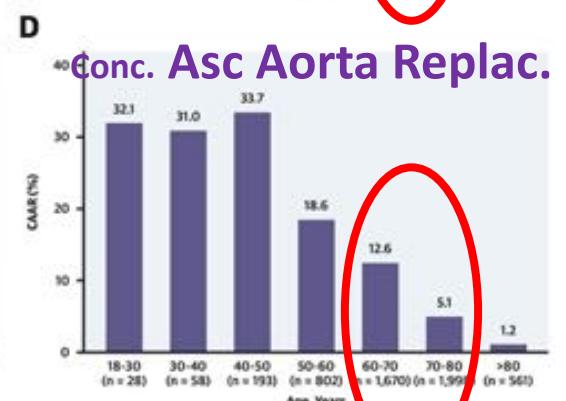
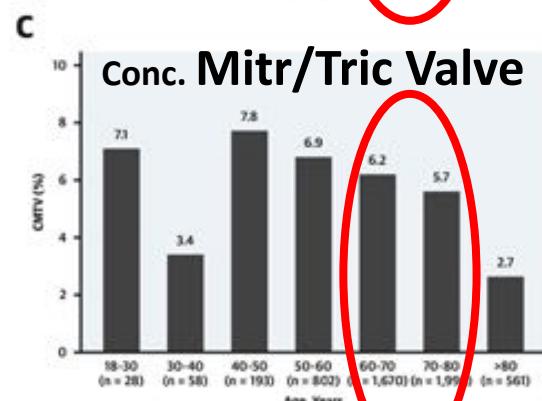
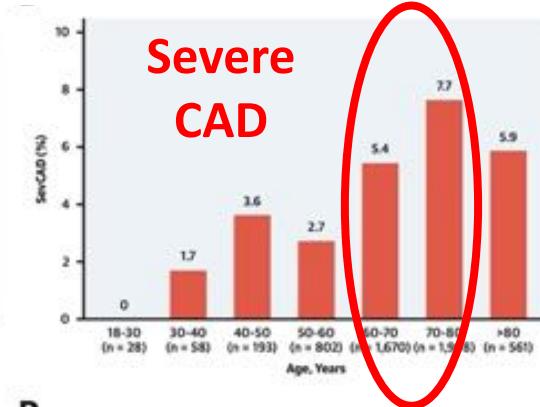
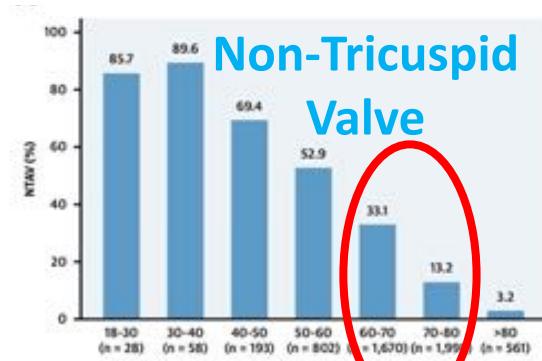
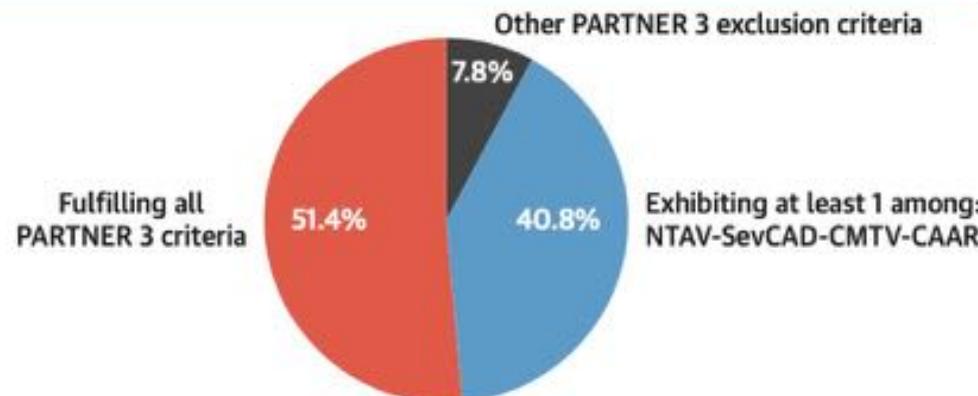
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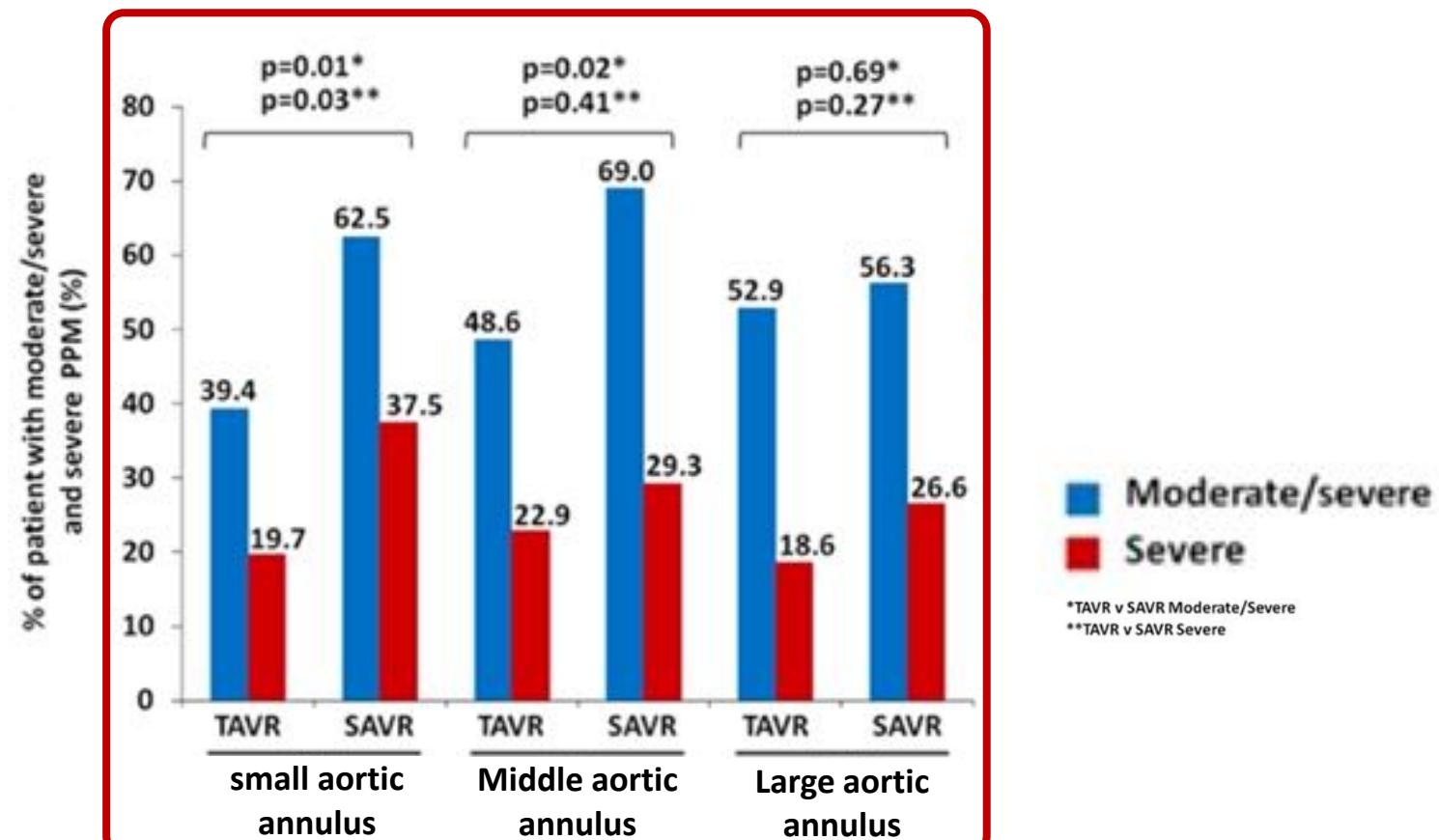


En plus tu lui éviteras un mismatch...

Impact of Aortic Annulus Size on Valve Hemodynamics and Clinical Outcomes After Transcatheter and Surgical Aortic Valve Replacement

Insights From the PARTNER Trial

- SAVR has higher incidence of mismatch than TAVR
- Difference in SAVR vs. TAVR mismatch most pronounced in patient with small annulus size

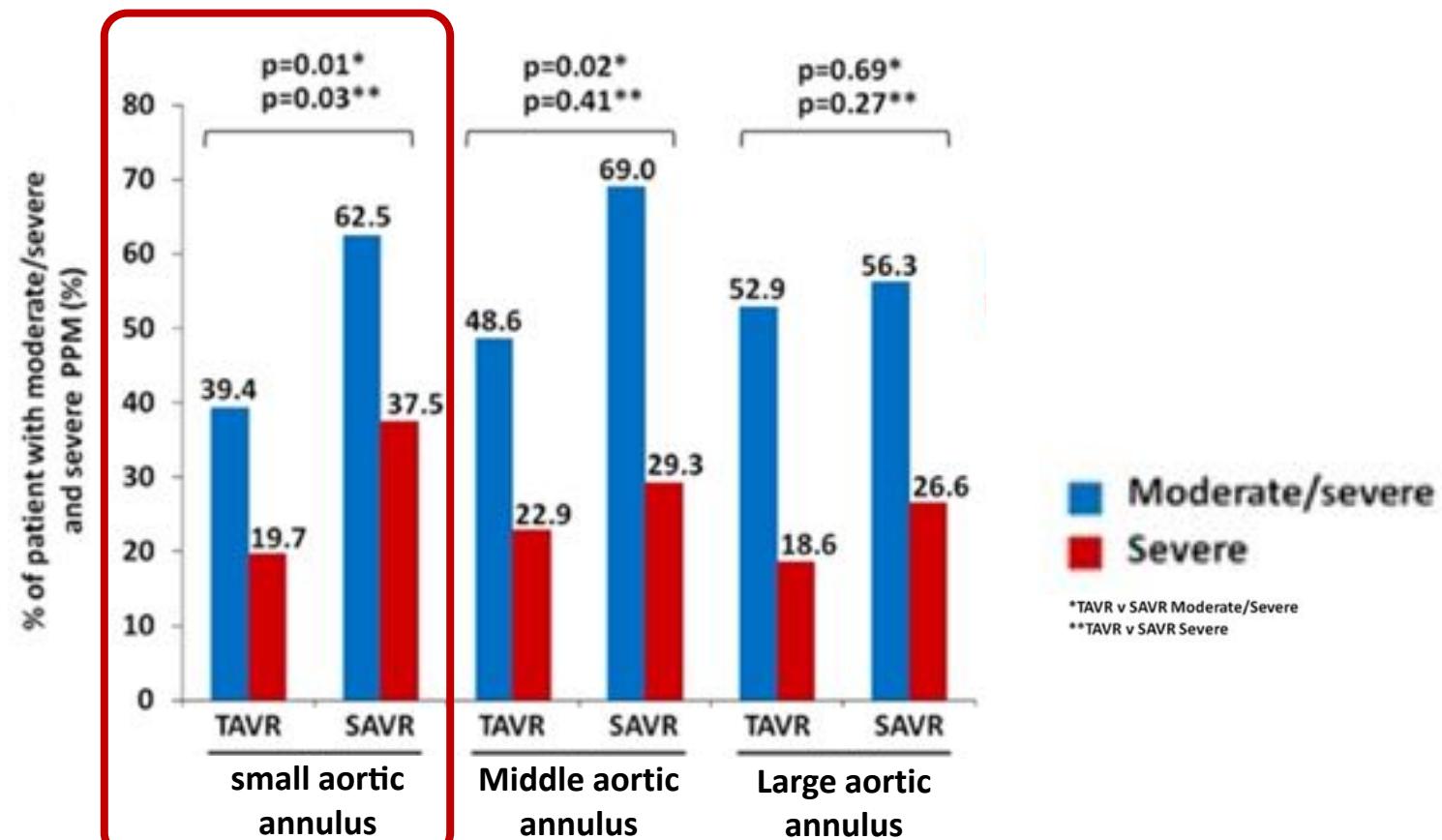


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On peut lui proposer un élargissement de l'anneau ?



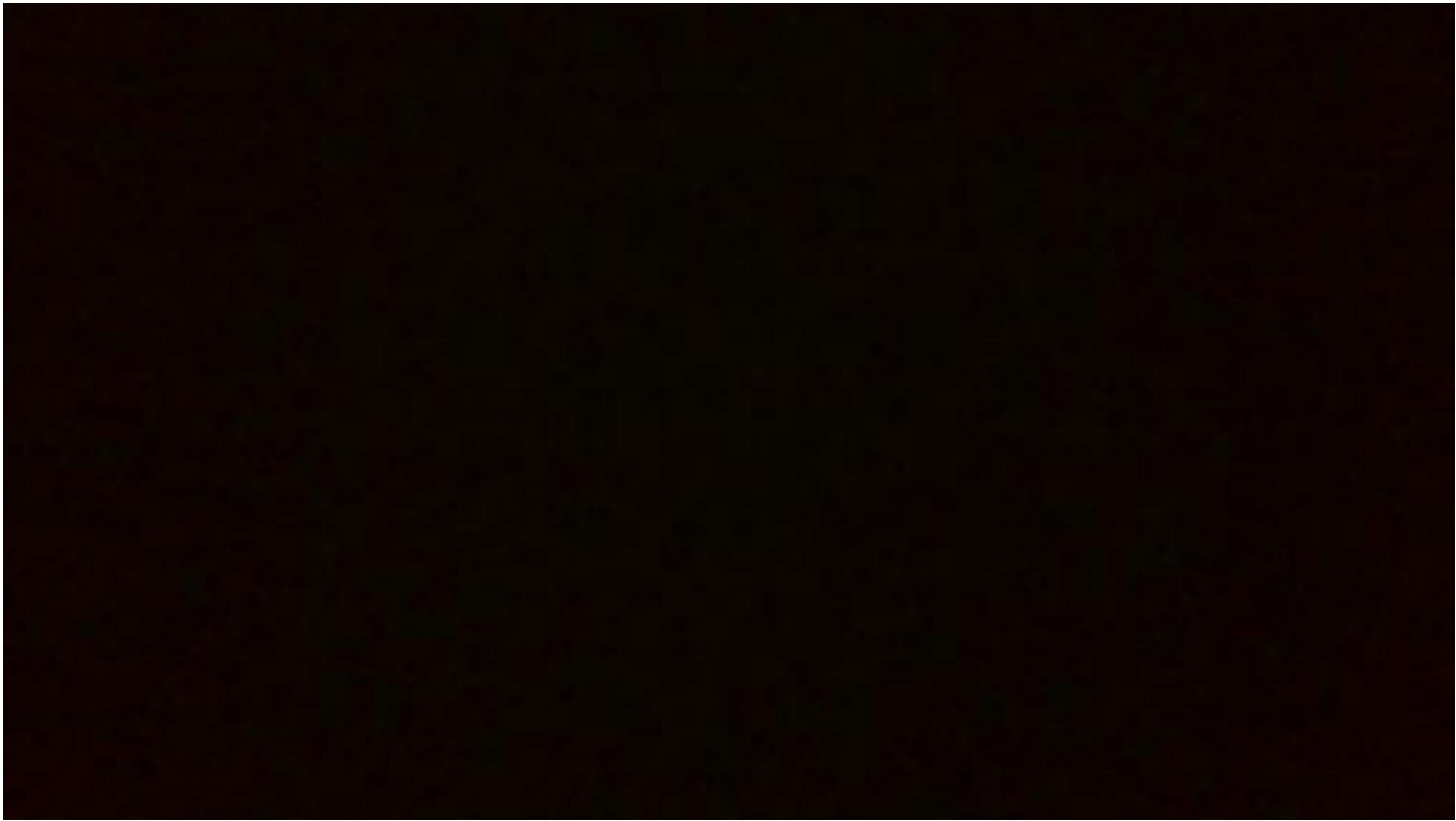
Allo Copain Chir

On peut lui proposer un élargissement de l'anneau ?



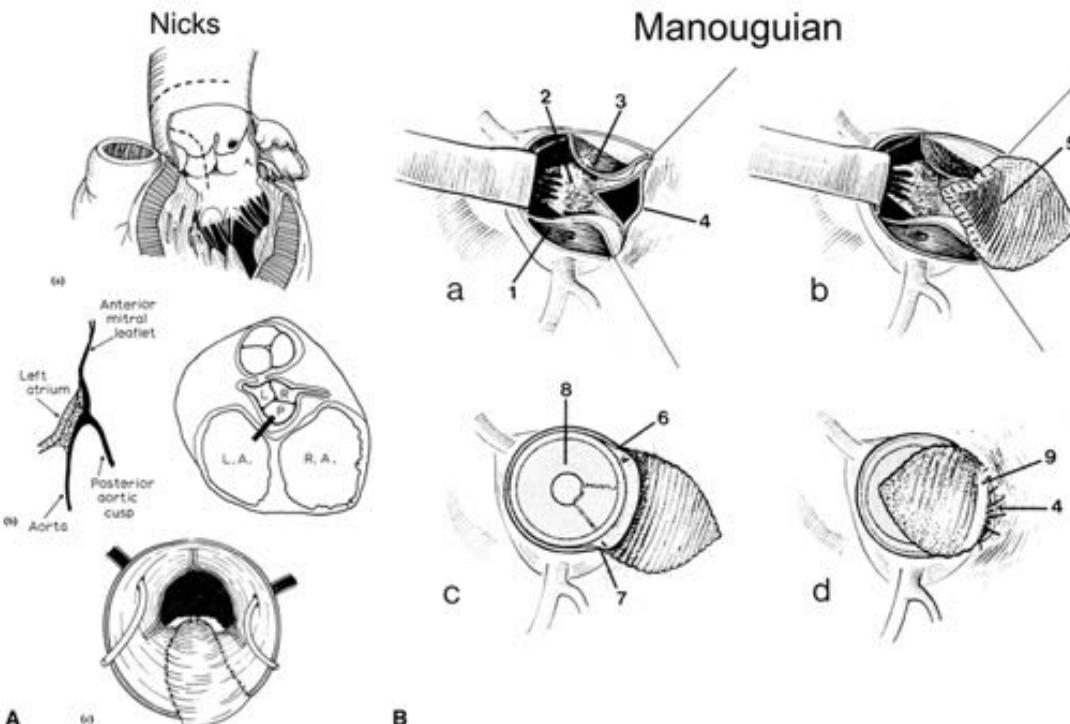
Allo Copain Chir





On peut lui proposer un élargissement de l'anneau ?

	Favors SAVR	Favors TAVI	Favors Palliation
Prosthetic valve preference	Mechanical or surgical bioprosthetic valve preferred Concern for patient-prosthesis mismatch (annular enlargement might be considered)	Bioprosthetic valve preferred Favorable ratio of life expectancy to valve durability TAVI provides larger valve area than same size SAVR	



Aortic root enlargement: What are the operative risks?

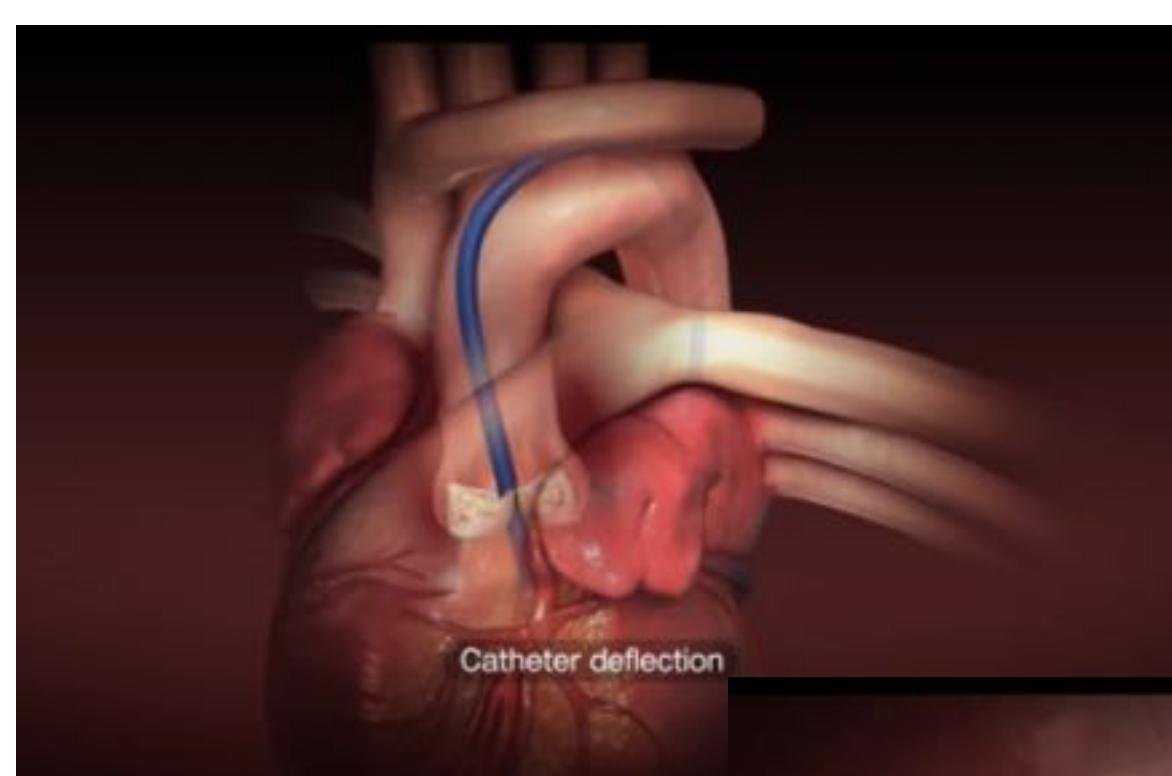
Jayesh Dhareshwar, MD,^a Thoralf M. Sundt III, MD,^a Joseph A. Dearani, MD,^a Hartzell V. Schaff, MD,^a David J. Cook, MD,^b and Thomas A. Orszulak, MD^a

J Thorac Cardiovasc Surg 2007;134:916-24

Aortic root enlargement: When and how

Samuel A. Massias BSc (Hons)¹ | Ashleigh Pittams MBChB, BSc (Hons)² |
Malak Mohamed³ | Shajada Ahmed³ | Hiba Younas BSc (Hons)¹ |
Amer Harky MRCS, MSc^{4,5,6} ●

J Card Surg 2021;36:229-235



Catheter deflection



Expander positioning in valve



ET le risque de Pace ?

Pacemaker - Partner 3

	30 Days			1 Year		
	TAVR (N = 496)	Surgery (N = 454)	Treatment Effect [95% CI]	TAVR (N = 496)	Surgery (N = 454)	Treatment Effect [95% CI]
New permanent pacemaker	6.5% (32)	4.0% (18)	1.66 [0.93, 2.96]	7.3% (36)	5.4% (24)	1.39 [0.83, 2.33]
New permanent pacemaker (Baseline pacemaker excluded)	6.6% (32)	4.1% (18)	1.65 [0.92, 2.95]	7.5% (36)	5.5% (24)	1.38 [0.82, 2.32]
New LBBB	22.0% (106)	8.0% (35)	3.17 [2.13, 4.72]	23.7% (114)	8.0% (35)	3.43 [2.32, 5.08]

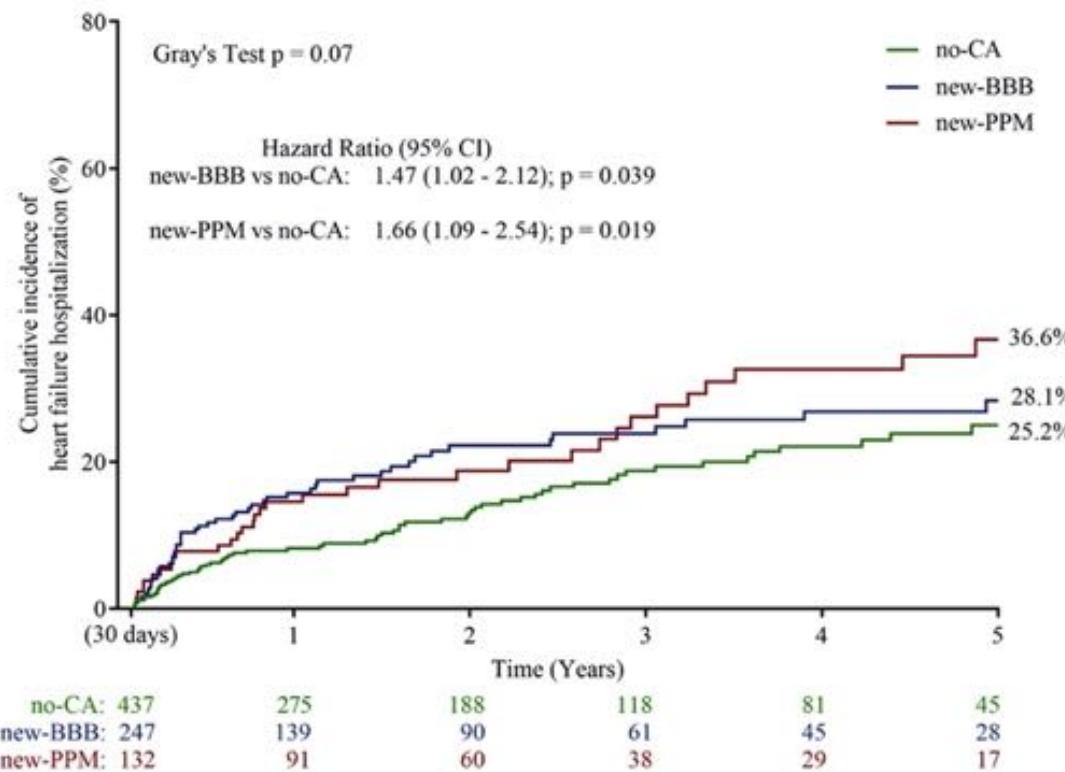
Pacemaker - EVOLUT LR

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

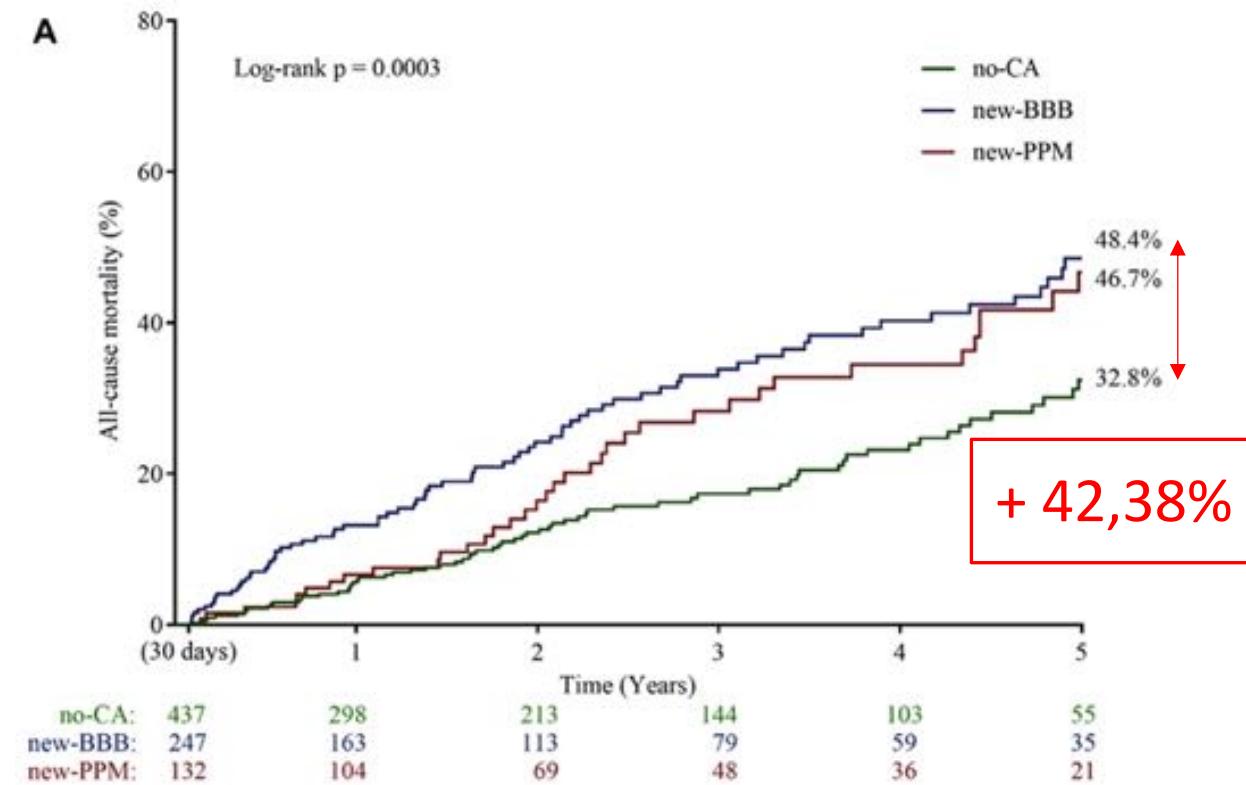
End Point	30 Days						12 Months					
					Difference, TAVR–Surgery (95% BCI)						Difference, TAVR–Surgery (95% BCI)	
	TAVR	Surgery	% of patients	percentage points	TAVR	Surgery	% of patients	percentage points	TAVR	Surgery	% of patients	percentage points
Permanent pacemaker implantation	17.4	6.1		11.3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

Impact pronostic des Troubles conductifs post TAVI

First Heart Failure Hospitalization

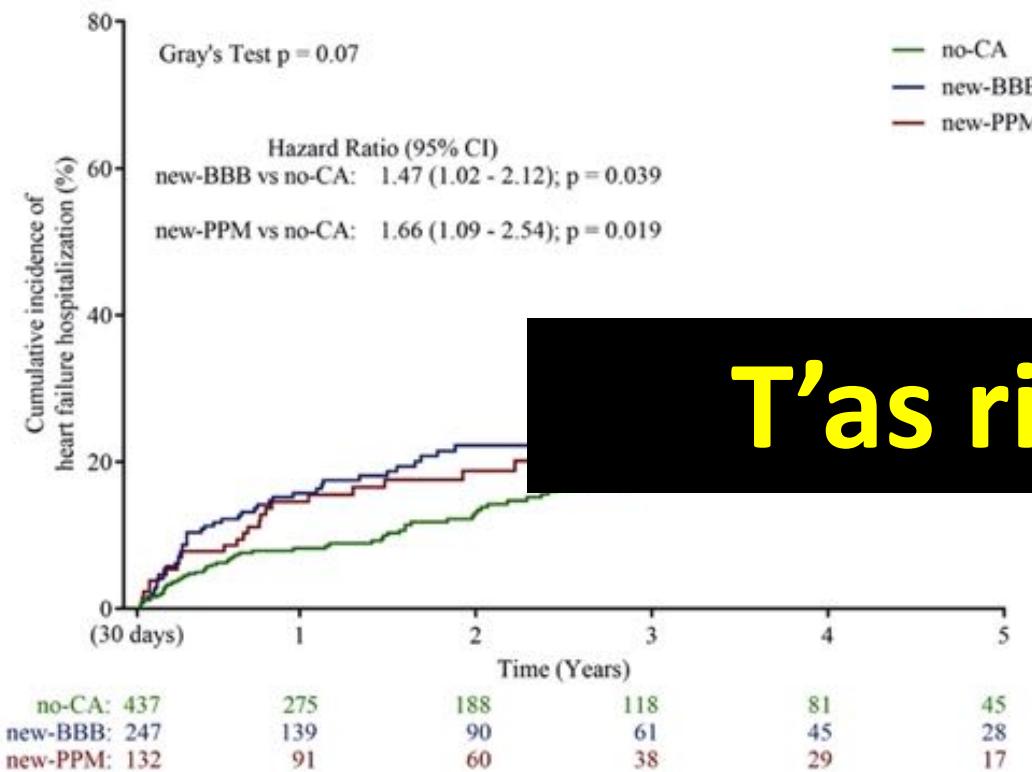


5-year All-Cause Mortality



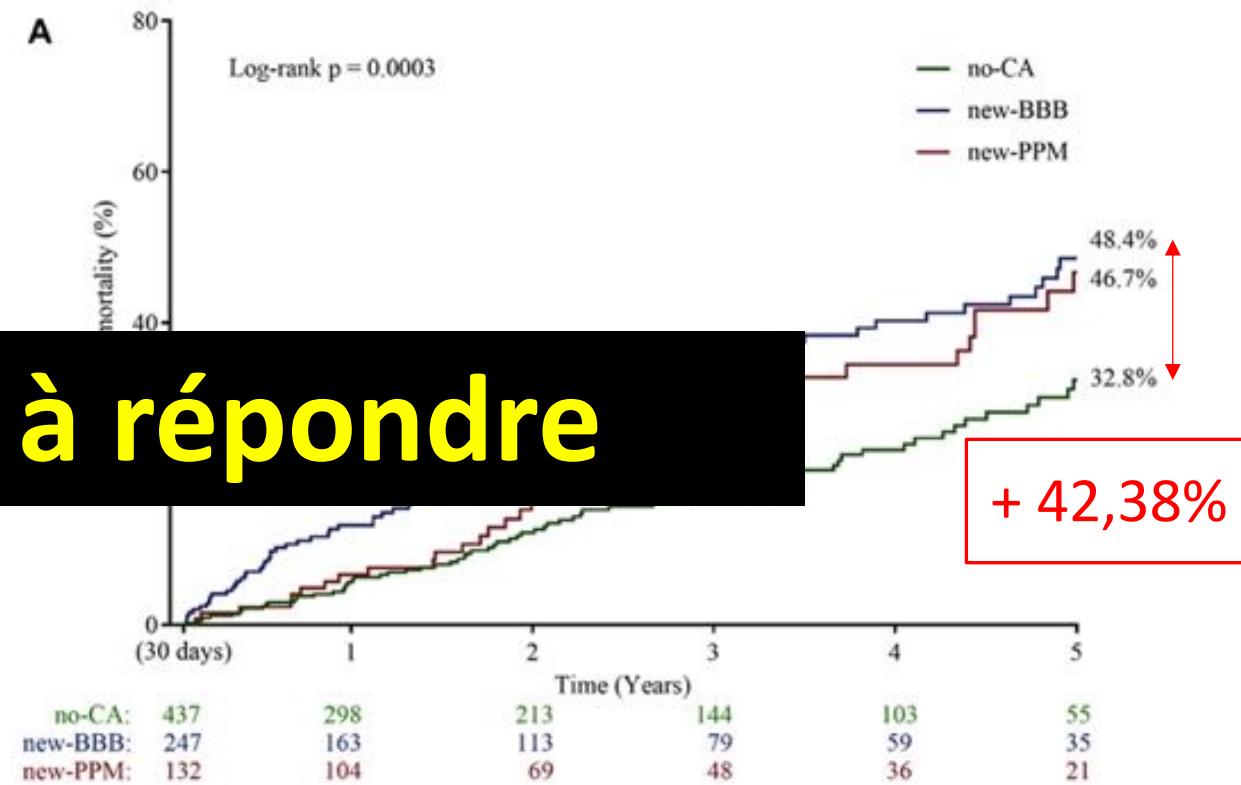
Impact pronostic des Troubles conductifs post TAVI

First Heart Failure Hospitalization



T'as rien à répondre

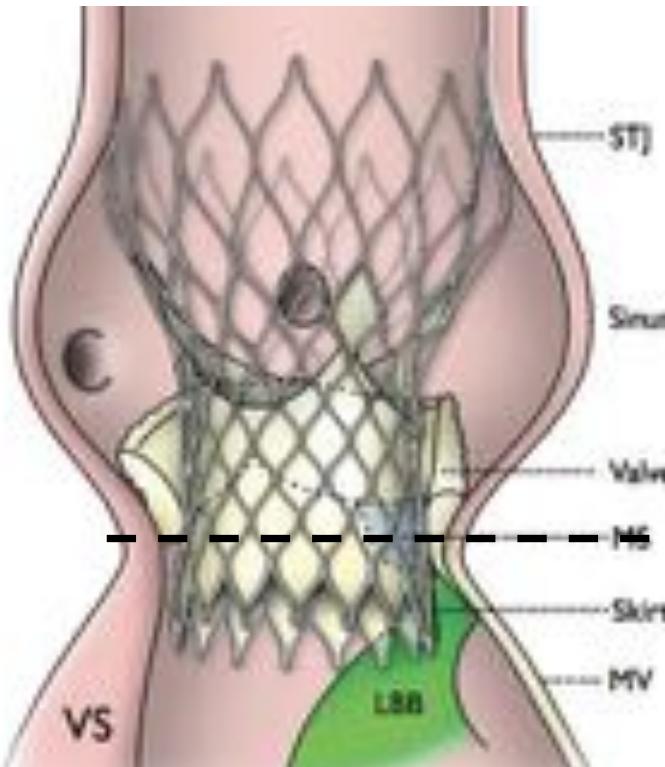
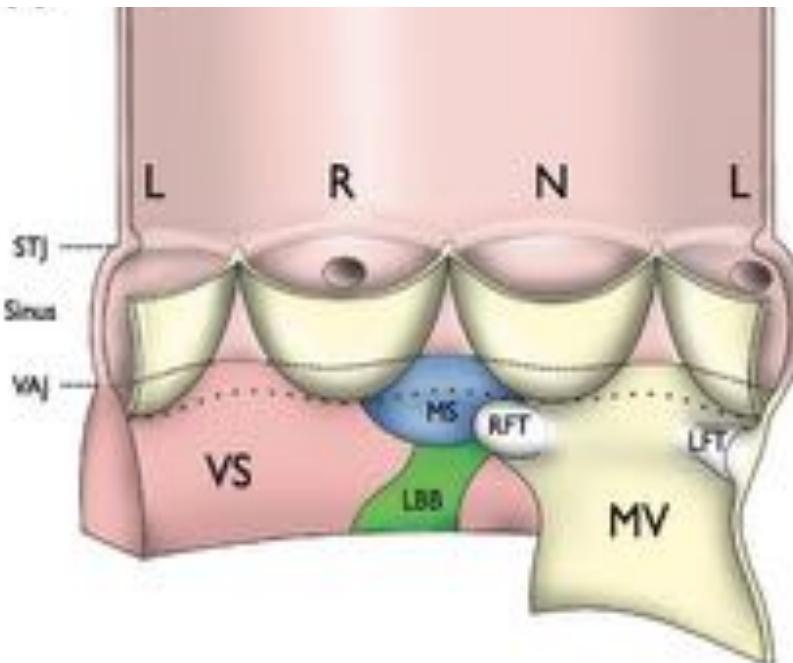
5-year All-Cause Mortality



Techniques modernes d'implantation

Depth of Implantation: Predictor of Conduction disturbances +++

Proximity between aortic annulus and LBB



Risk of conduction abnormality

Low risk

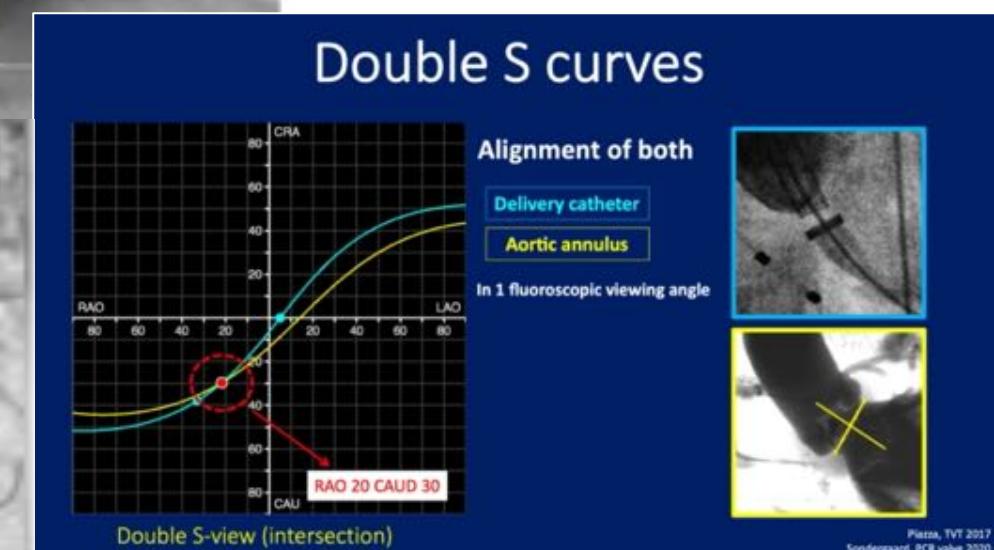
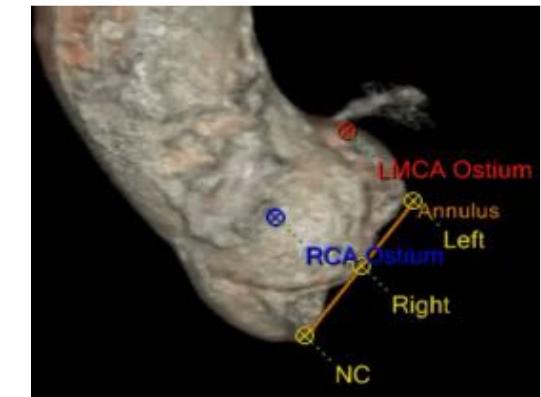
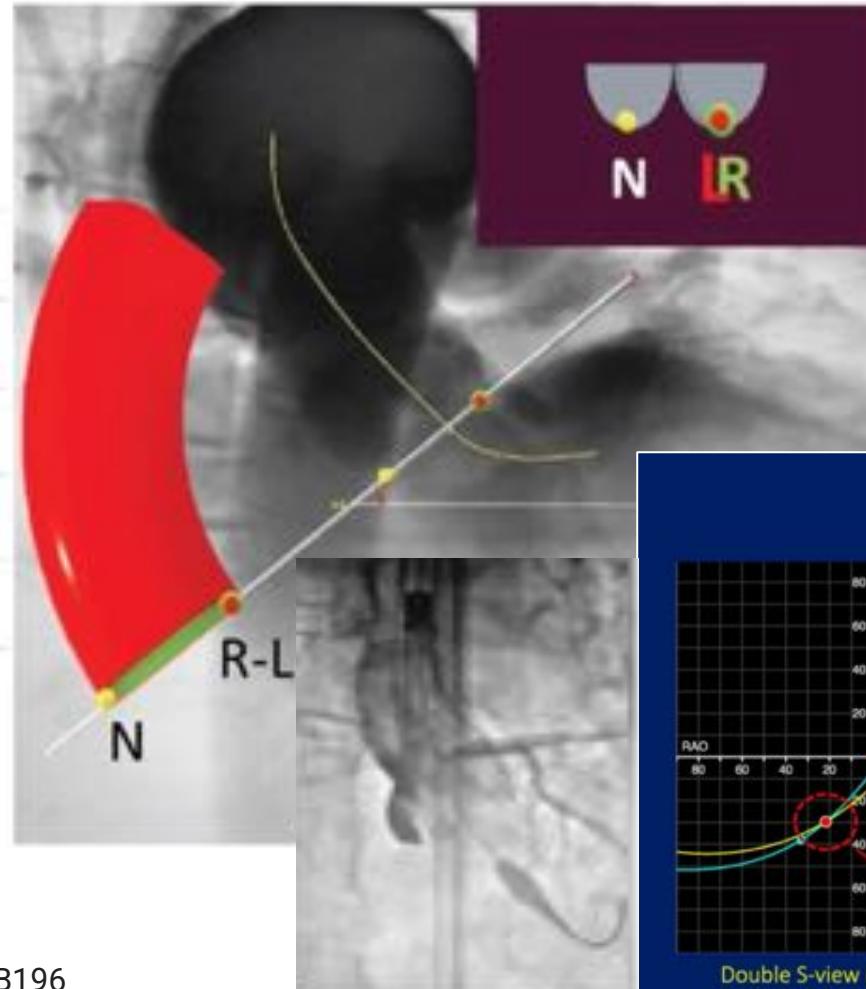
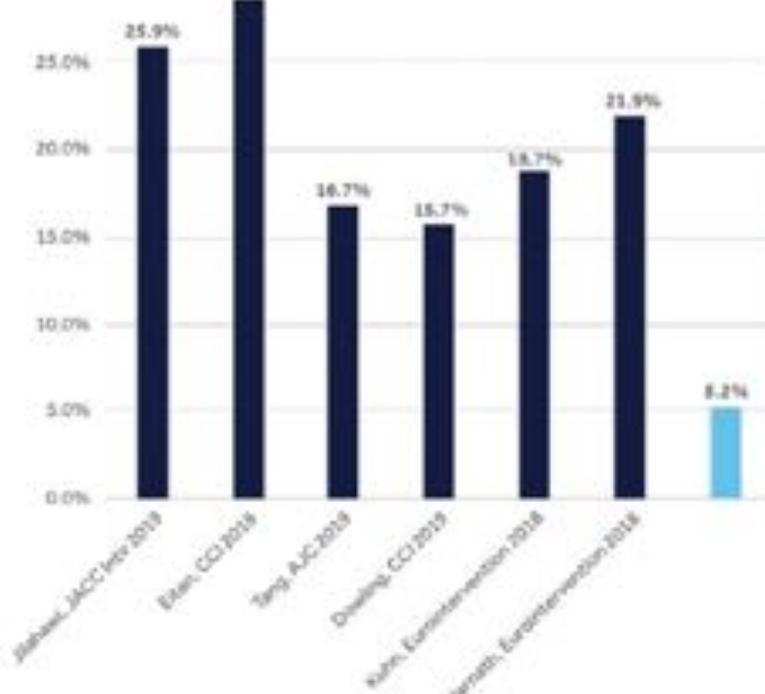
THV Implantation

High risk

Cusp overlap Technique

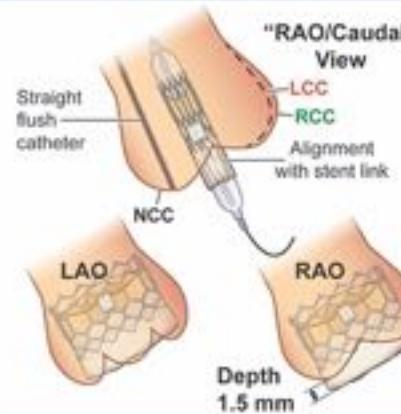
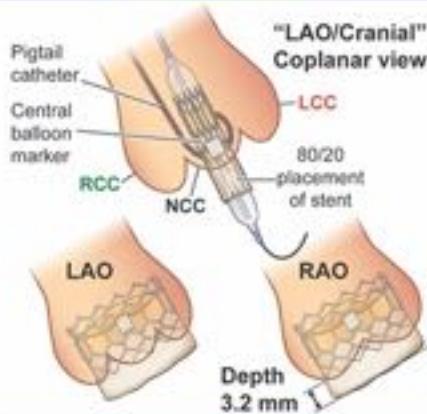
La vue Cusp Overlap permet d'isoler la cusp non coronaire et d'obtenir le référentiel anatomique adéquat pour un déploiement précis de la valve.

Rate of PPI in the UPMC Pinnacle
34-mm Evolut R series



Conventional Deployment Technique

High Deployment Technique



Implantation Depth

3.2 ± 1.9 mm

1.5 ± 1.6 mm



30-day Permanent Pacemaker Implantation

13.1%

5.5%



New-onset Left Bundle Branch Block at Discharge

12.2%

5.3%



1-year Aortic Regurgitation

15.9%
2.7%

Mild ($\geq 1+ - < 2+$)
Moderate-to-severe ($\geq 2+$)

16.5%
1%

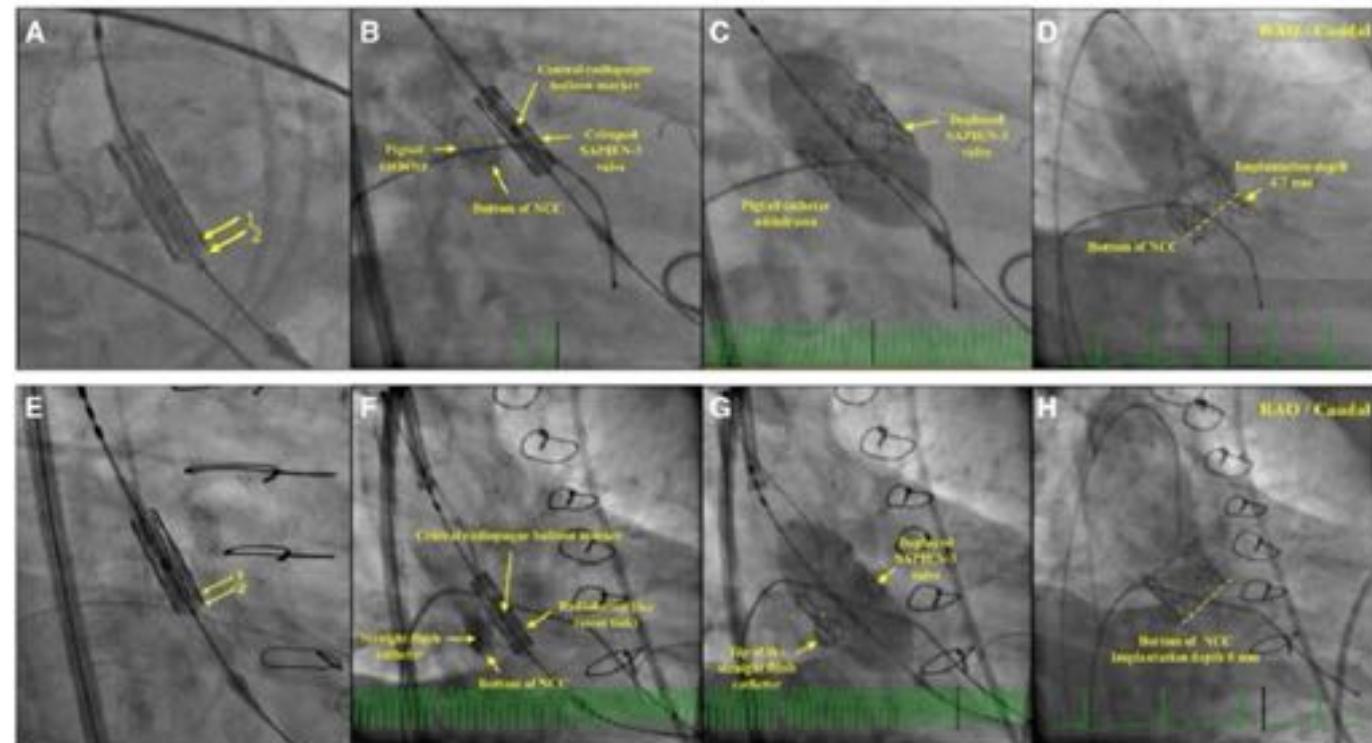


1-year Hemodynamic Performance

Mean gradient
22.5 \pm 9 mmHg
0.48 \pm 0.13

Peak gradient
25 \pm 11.9 mmHg
Doppler velocity index 0.47 \pm 0.15

©2020 Cleveland Clinic



Au fait, elle préfère quoi la Dame ?

	Favors SAVR	Favors TAVI	Favors Palliation
Goals of Care and patient preferences and values	<p>Less uncertainty about valve durability</p> <p>Avoid repeat intervention</p> <p>Lower risk of permanent pacer</p> <p>Life prolongation</p> <p>Symptom relief</p> <p>Improved long-term exercise capacity and QOL</p> <p>Avoid vascular complications</p> <p>Accepts longer hospital stay, pain in recovery period</p>	<p>Accepts uncertainty about valve durability and possible repeat intervention</p> <p>Higher risk of permanent pacer</p> <p>Life prolongation</p> <p>Symptom relief</p> <p>Improved exercise capacity and QOL</p> <p>Prefers shorter hospital stay, less postprocedural pain</p>	<p>Life prolongation not an important goal</p> <p>Avoid futile or unnecessary diagnostic or therapeutic procedures</p> <p>Avoid procedural stroke risk</p> <p>Avoid possibility of cardiac pacer</p>

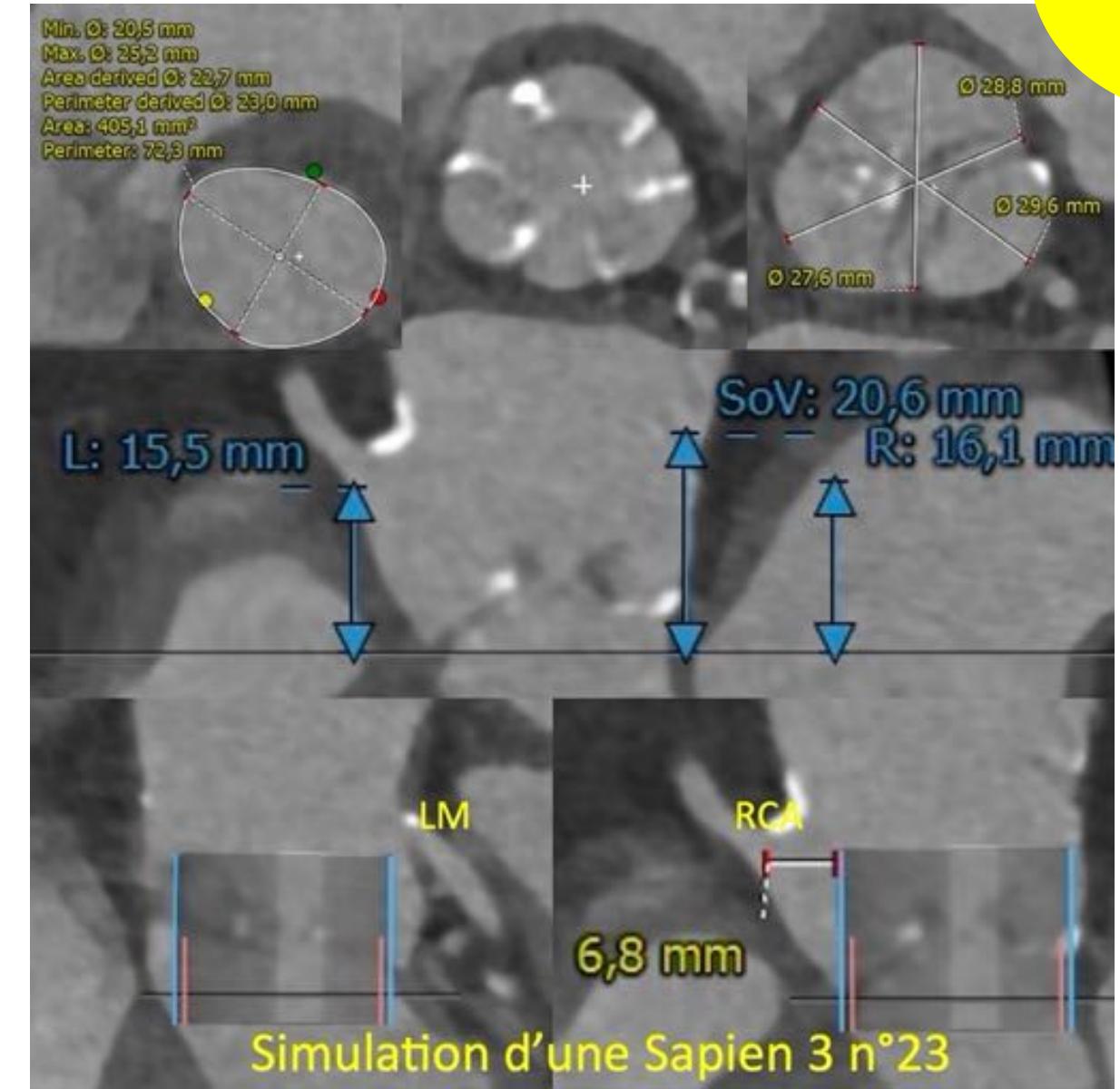
Il faut discuter avec les patients!

Alors on fait quoi ?

Mme ...

- 71 ans
- BEG, HTA, HCV
- Pas de comorbidités
- Dyspnée IIb NYHA
- RAC serré (STS=1,9%)
- ECG: PR normal, QRS fin, HVG
- Coro normale
- CT Scan:
 - Voie fémorale OK
 - Anatomie favorable

TAVI ou Chirurgie ?



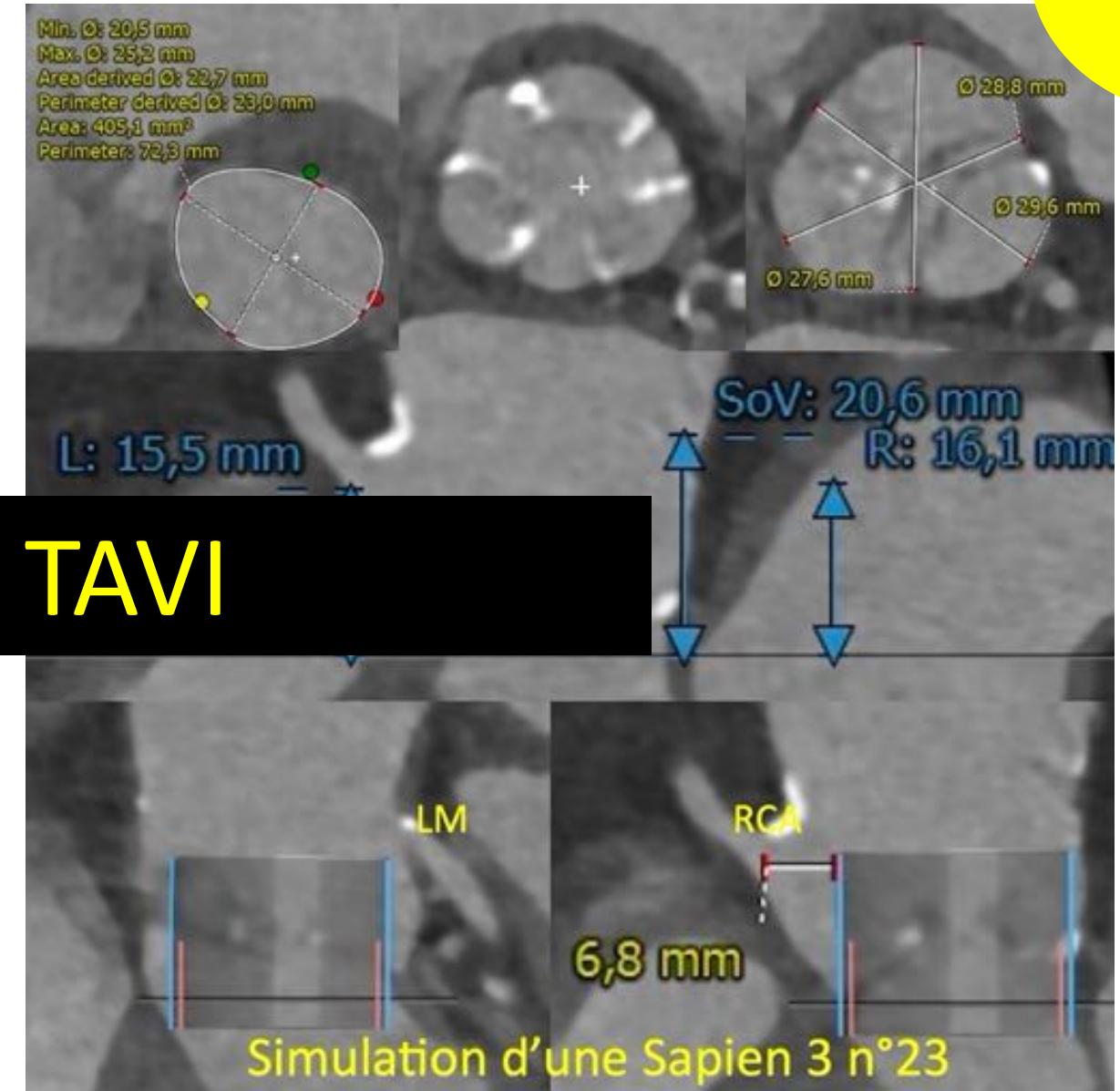
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- Dyspnée IIb NYHA
- RAC serré (S)
- ECG: PR normal, QRS mm, nivo
- Coro normale
- CT Scan:
 - Voie fémorale OK
 - Anatomie favorable

TAVI ou Chirurgie ?

Alors TAVI



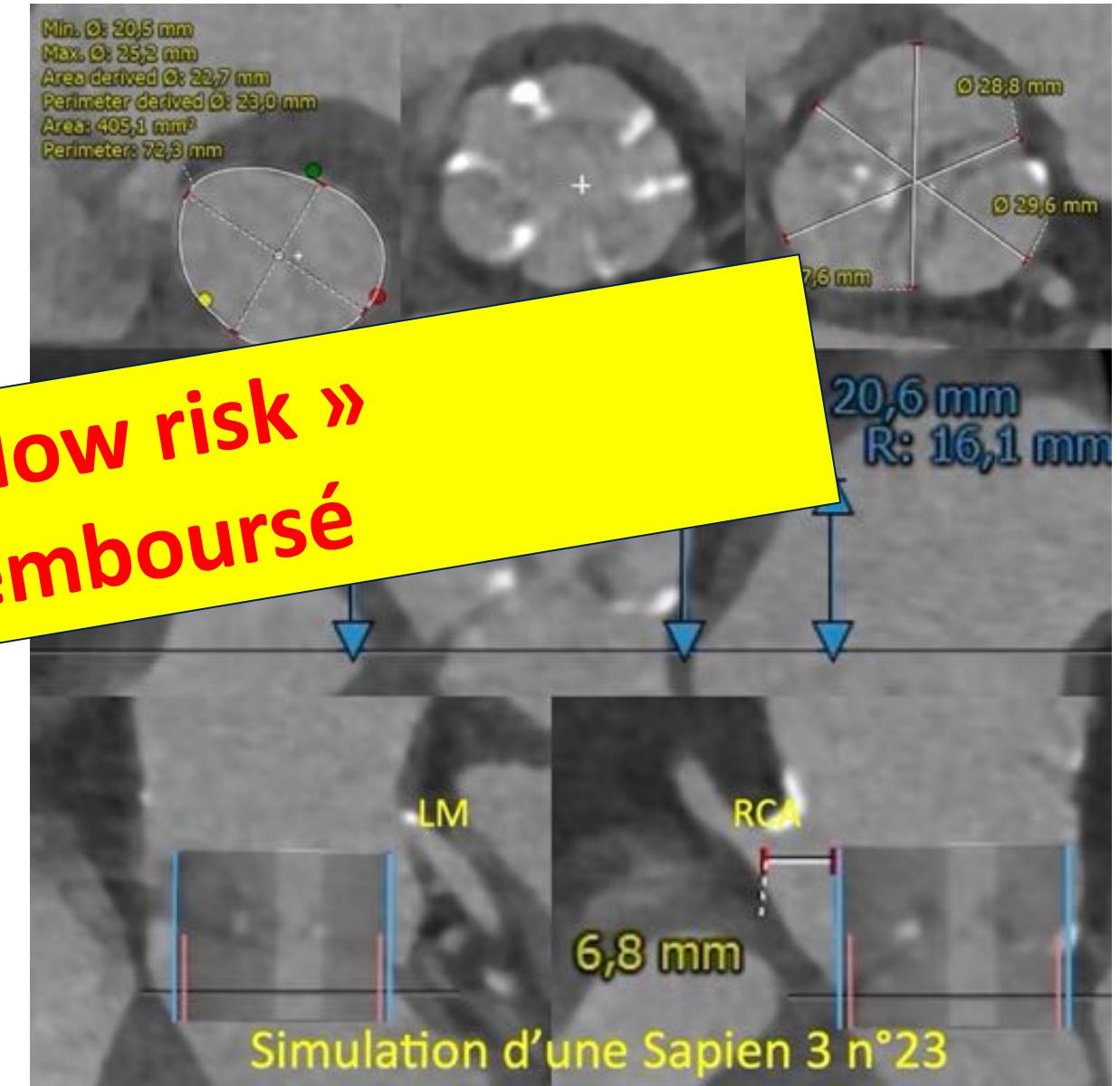
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- Coro normale
- CT Scan:
 - Voie fémorale OK
 - Anatomie favorable

TAVI ou Chirurgie ?

TAVI « low risk »
Pas remboursé



ET vous, vous ouvrez la boite ?



Merci



Lionel.leroux@chu-bordeaux.fr

cedric.delhaye@chru-lille.fr