CARDIO RUN 2025
17ème CONGRÈS DE PATHOLOGIE CARDIO-VASCULAIRE
17-18-19 SEPTEMBRE 2025
Hôtel Saint Alexis ILE DE LA RÉUNION France
CARDIORUN.ORG

TAVI - Etat des lieux en 2025 :

Epidémiologie, indications, technique et principaux résultats cliniques.

Cédric Delhaye

CHU Lille

CHU LILLE INSTITUT CŒUR POUMON

DÉCLARATION DE LIENS D'INTÉRÊT AVEC LA PRÉSENTATION

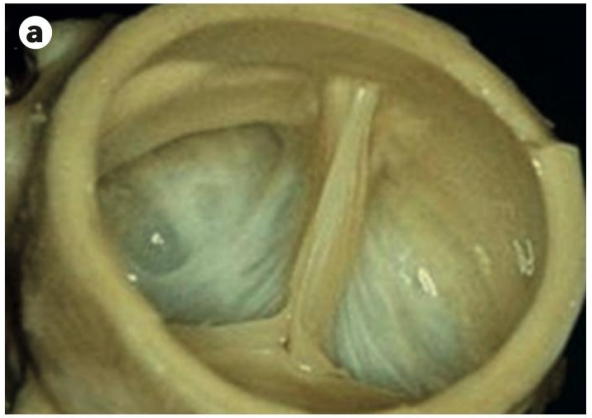
Speaker's name : Cédric DELHAYE, Lille

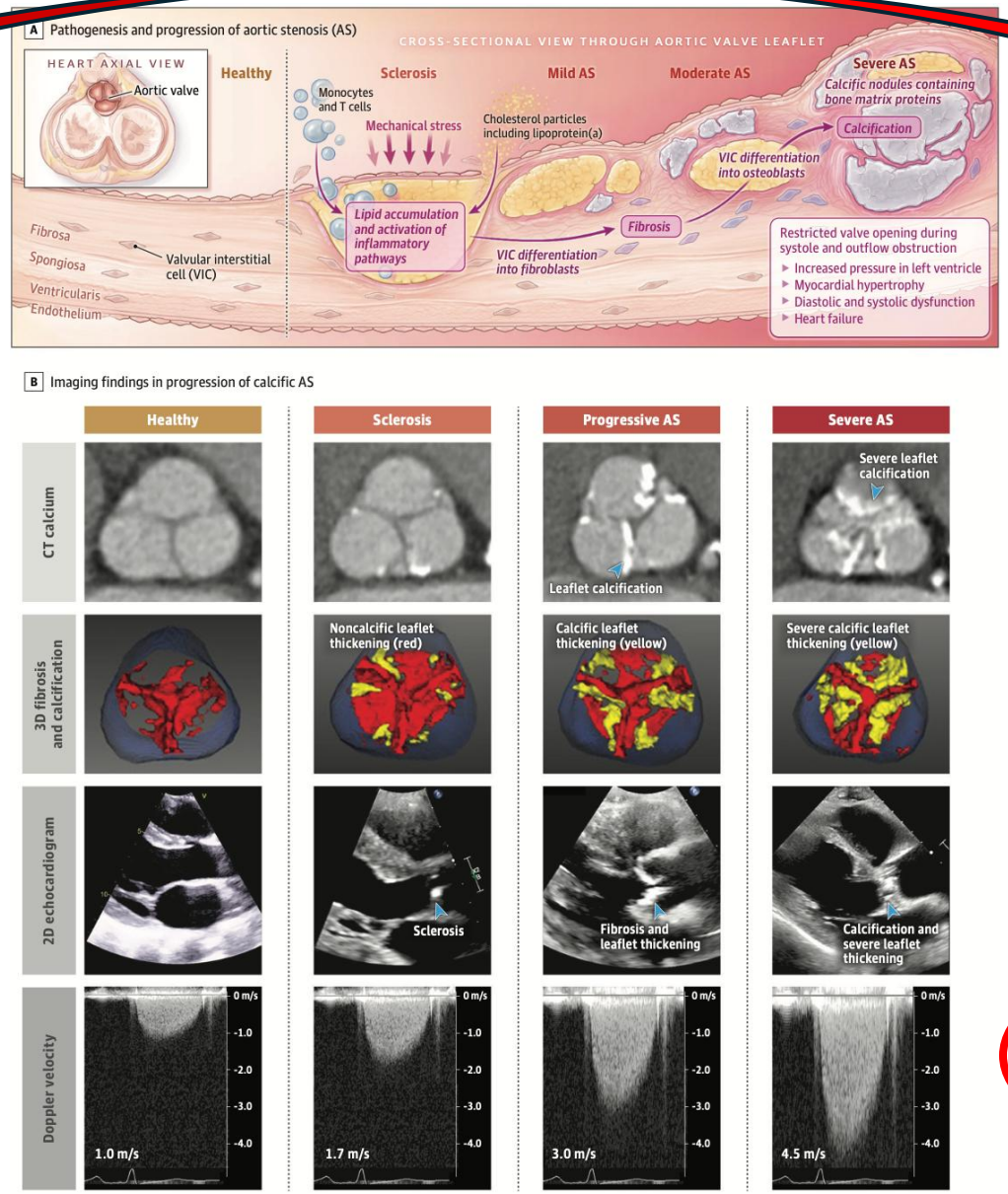
☑ Je déclare les liens d'intérêt potentiel suivants :

Consultant / Proctoring : Abbott, Asahi, Medtronic

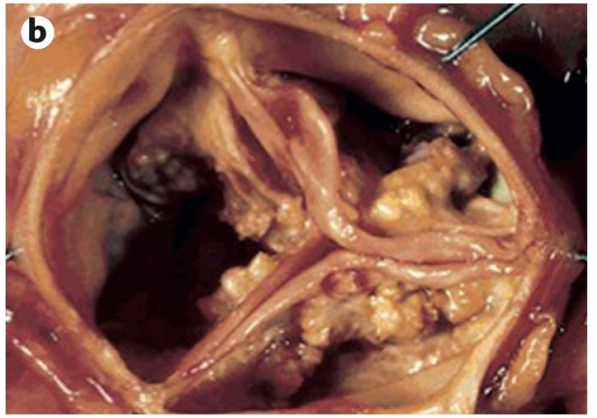
Histoire naturelle de la sténose aortique

Valve Normale





Rac serré



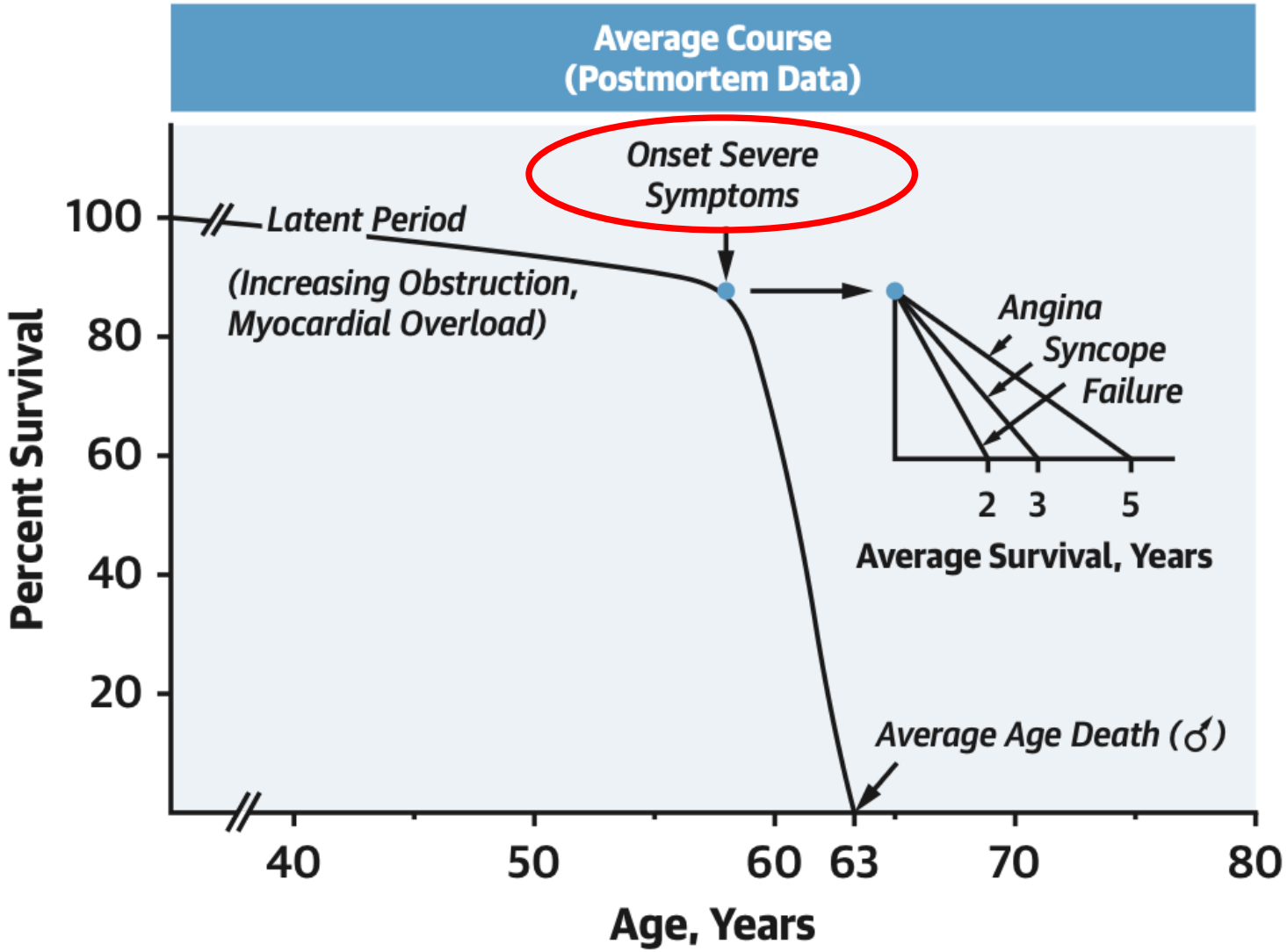
Augmentation Pression VG
Hypertrophie VG
Dysfonction diastolique et systolique
Insuffisance cardiaque
Décès

Lindman BR et al. Nat Rev Dis Primers. 2016 Mar 3:2:16006.

Otto C et al. JAMA. 2024;332(23):2014-2026.

Histoire naturelle de la sténose aortique

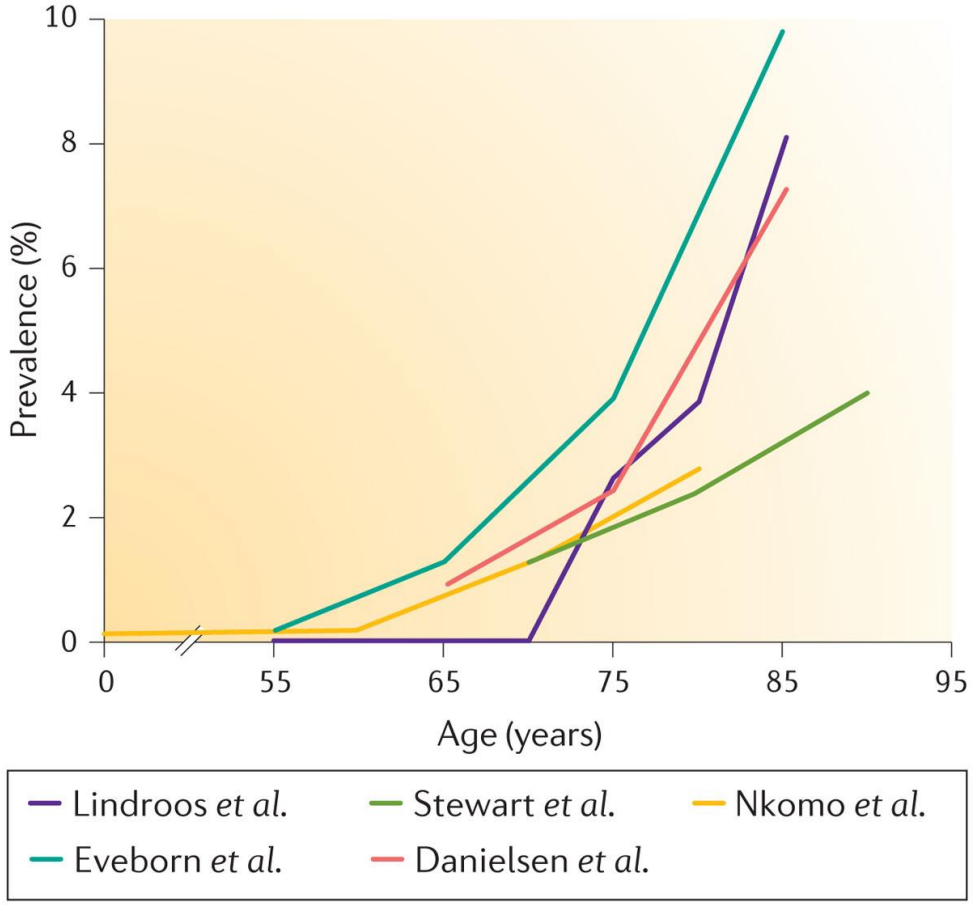
Sans traitement…



Braunwald E. J Am Coll Cardiol. 2023 Nov 28;82(22):2110-2112.
Ross J Jr, Braunwald E. Circulation. 1968;38(1s5):V61–V67.

Prévalence du RAC

Calcific aortic stenosis



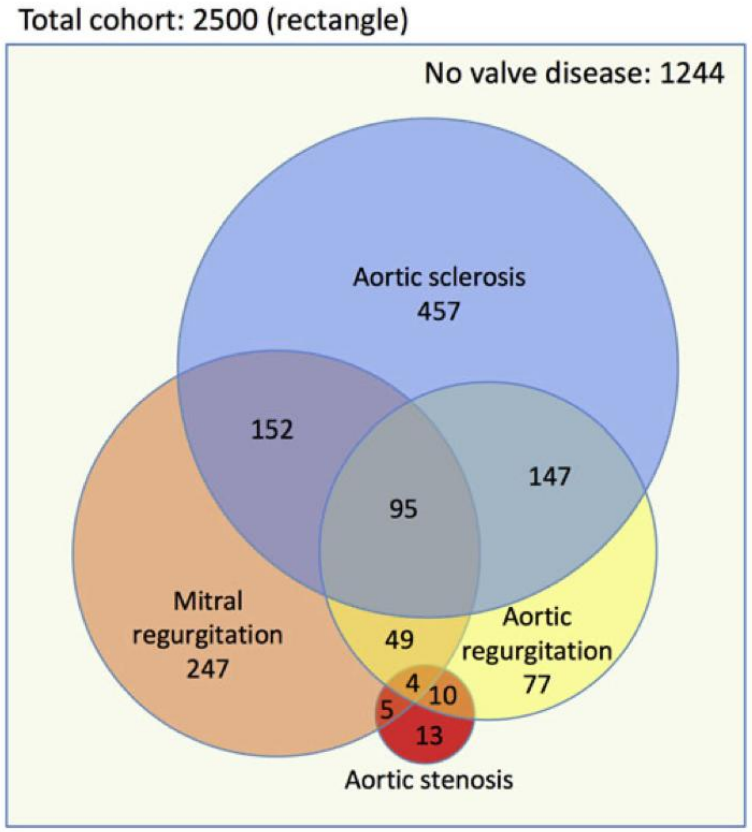
Lindman BR et al. Nat Rev Dis Primers. 2016 Mar 3:2:16006.

RAC: beaucoup de patients sous diagnostiqués

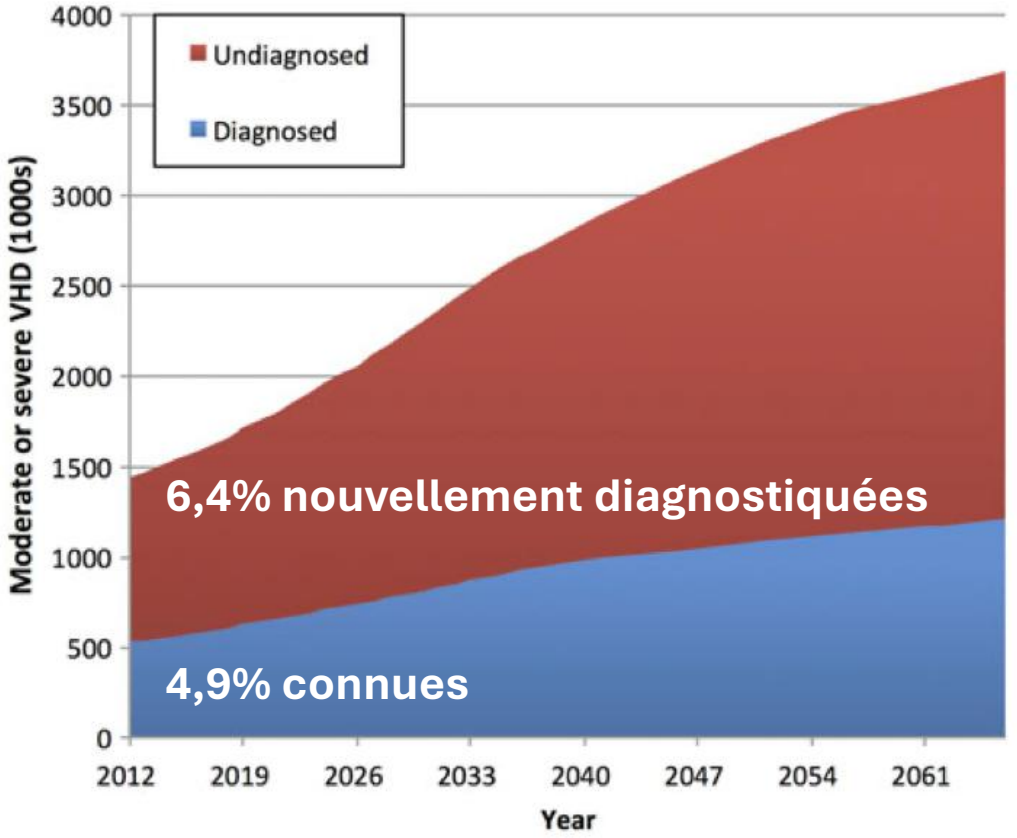
OXValve Population Cohort Study

Dépistage échocardiographique prospectif chez 2500 habitants
> 65 ans en pratique de médecine générale

34% Sclérose aortique; 1,3% RAC



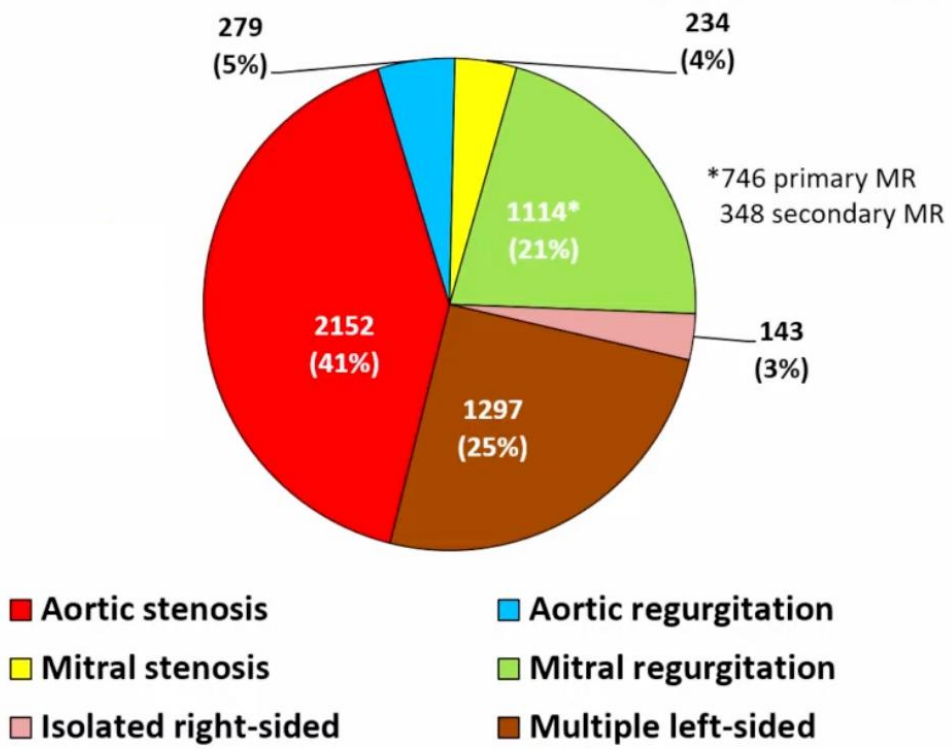
Beaucoup de patients non diagnostiqués
Et une prévalence qui va doubler



D'Arcy JL et al. European Heart Journal (2016) 37, 3515–3522

Le RAC: valvulopathie la plus fréquente

EORP Valvular Heart Disease Survey II
Severe native VHD enrolled prospectively
(28 countries, 3-month, 2017)



Patient characteristics

	AS	AR	MS	MR	Multiple left	Isolated right	Previous Interv.
Age (years)	76 [67-83]	58 [48-69]	59 [45-68]	68 [60-77]	75 [65-82]	74 [65-81]	70 [59-78]
≥ 80 yrs (%)	38	6	6	17	33	26	36
Female (%)	43	19	75	44	54	59	21
HF < 1 yr. (%)	16	11	17	27	24	25	17
NYHA III-IV (%)	37	19	45	47	50	52	26
A. Fib (%)	14	6	46	35	30	57	32
Charlson index	4 [3-6]	2 [1-3]	2 [1-3]	3 [2-5]	4 [3-6]	4 [3-6]	3 [2-5]
Euroscore II	1.9 [1.1-3.4]	1.0 [0.6-1.9]	1.2 [0.8-2.2]	2.0 [1.0-4.0]	2.3 [1.3-4.7]	2.3 [1.4-4.3]	3.0 [1.6- 6.0]

Iung B et al. Circulation. 2019;140:1156–1169

RAC: Quel traitement ?

Traitement Médical:

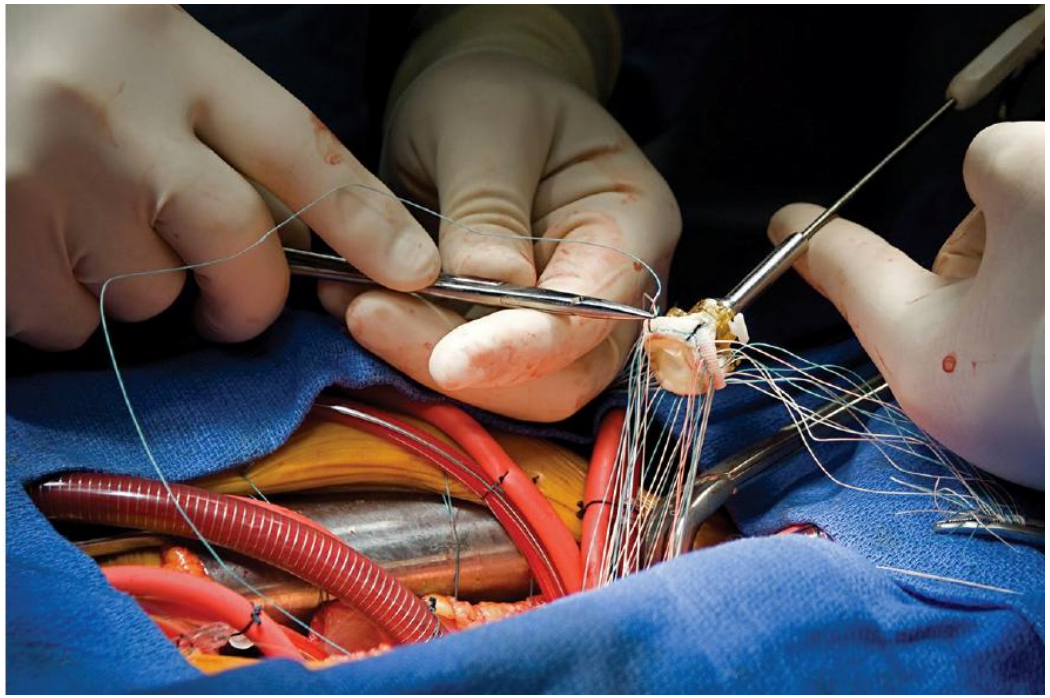
Aucun traitement pharmacologique n’a démontré son efficacité dans la prévention ou le ralentissement du RAC.

Lindman BR et al. J Am Coll Cardiol 2021;78:2354–2376.
Desai MY, Braunwald E. JACC. 2025;86:659–672.

RAC: Quel traitement ?

Le remplacement valvulaire aortique

Chirurgie (SAVR)

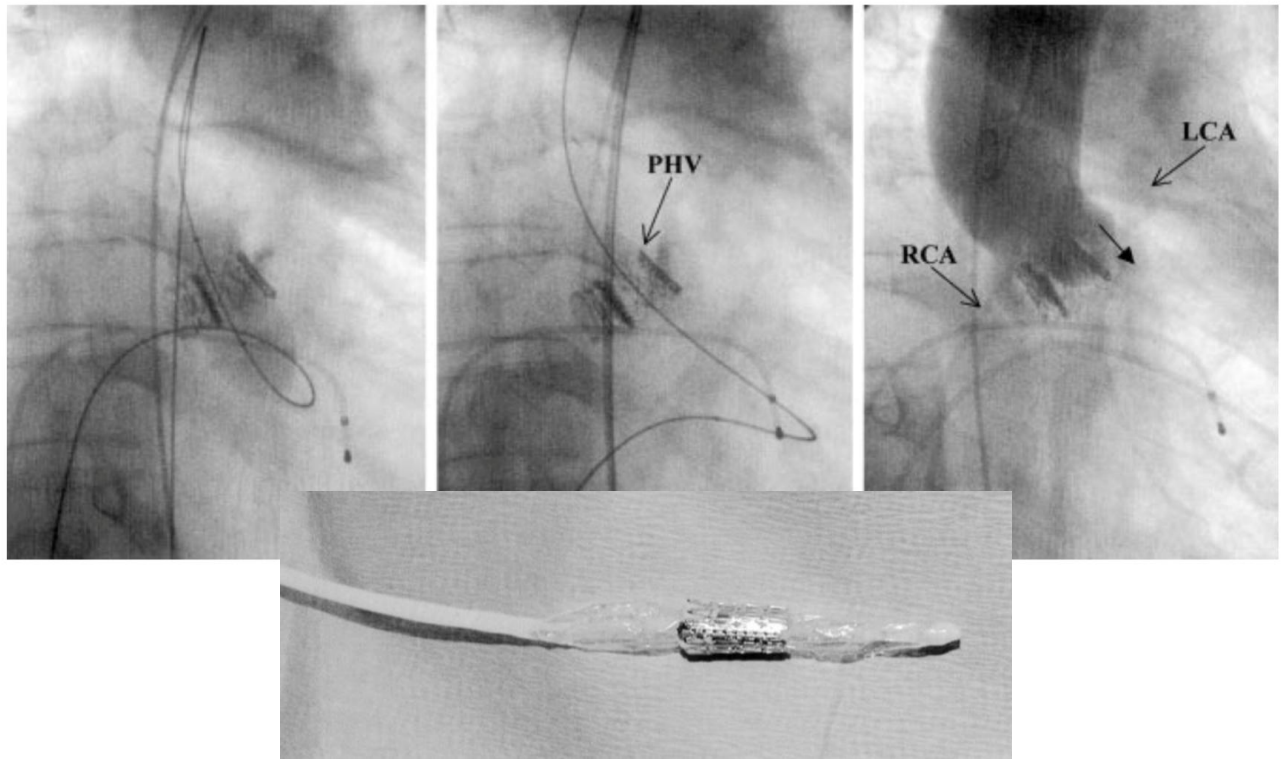


TAVI / TAVR

Percutaneous Transcatheter Implantation of an Aortic Valve Prosthesis for Calcific Aortic Stenosis

First Human Case Description

Alain Cribier, MD; Helene Eltchaninoff, MD; Assaf Bash, PhD; Nicolas Borenstein, MD; Christophe Tron, MD; Fabrice Bauer, MD; Genevieve Derumeaux, MD; Frederic Anselme, MD; François Laborde, MD; Martin B. Leon, MD



Circulation 2002; 106:3006-3008

1ère RCT sur le TAVI: Quel pronostic sans intervention ?

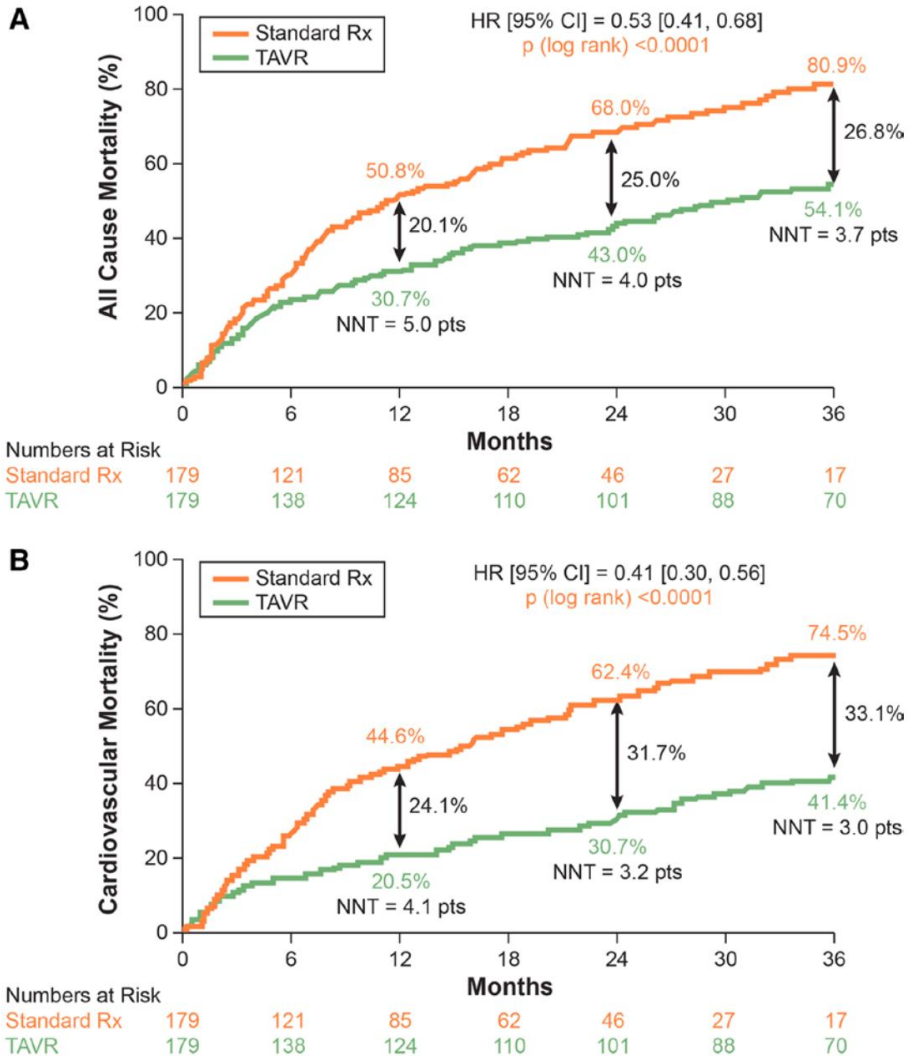
Without intervention AS is a lethal disease AND intervention is effective.

PARTNER 1B RCT:

Medical TT vs TAVI in inoperable patients

Long-Term Outcomes of Inoperable Patients With Aortic Stenosis Randomly Assigned to Transcatheter Aortic Valve Replacement or Standard Therapy

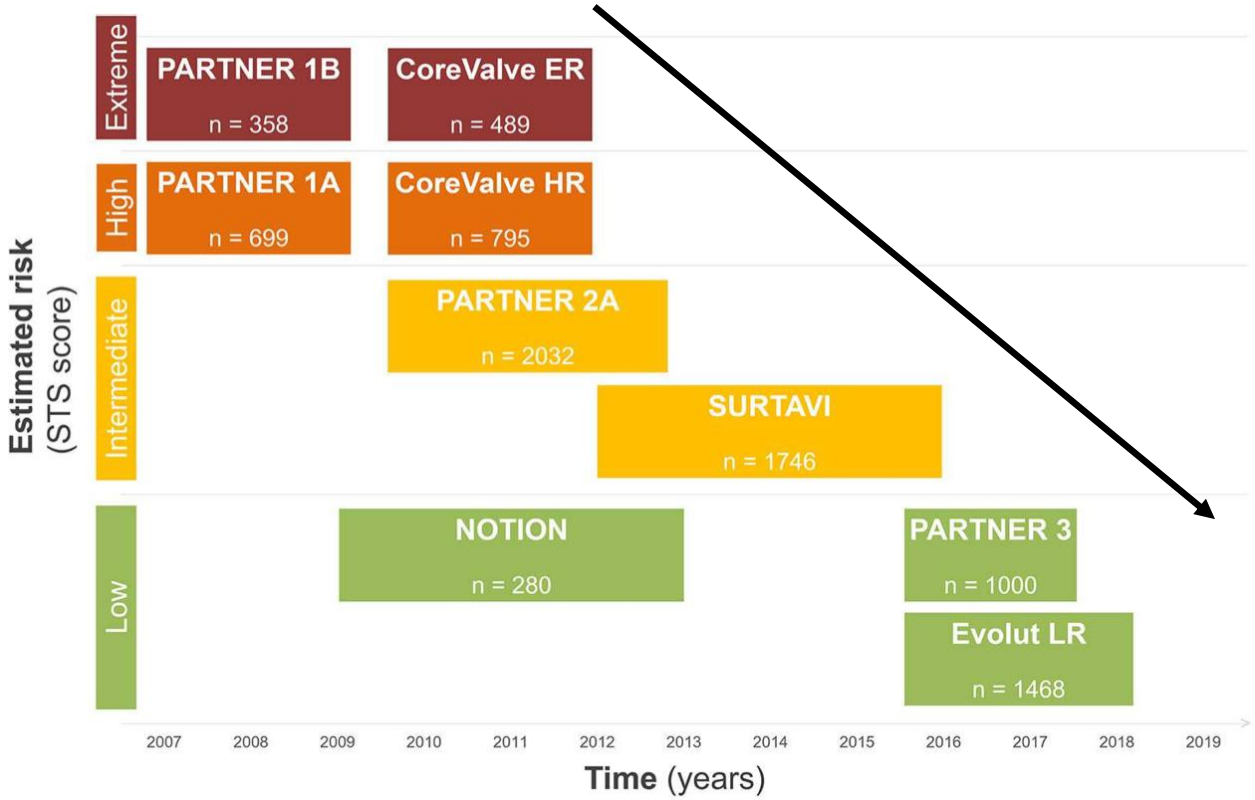
Samir R. Kapadia, MD, E. Murat Tuzcu, MD, Raj R. Makkar, MD, Lars G. Svensson, MD, PhD, Shikhar Agarwal, MD, MPH, Susheel Kodali, MD, Gregory P. Fontana, MD, ... SHOW ALL ... , and Martin B. Leon, MD | AUTHOR INFO & AFFILIATIONS



Kapadia SR et al. Circulation. 2014;130:1483-1492.

RCT of TAVI Trials

Du patient inopérable au patient à faible risque opératoire



	STS Score	Age
Inoperable Population		
PARTNER IB Trial (*2010*)	11.6	83
High Risk Population (>8)		
PARTNER IA Trial (*2011*)	11.8	84
CoreValve US Pivotal Trial (*2014*)	7.4	83
Intermediate Risk Population (4-8)		
PARTNER II Trial (*2016*)	5.8	82
SURTAVI (*2017*)	4.5	80
Low Risk Population (<4)		
NOTION Trial (*2015*)	3.0	79
PARTNER III (*2019*)	1.9	73
Evolut Low Risk Trial (*2019*)	1.9	74
DEDICATE trial (2024)	1.8	74

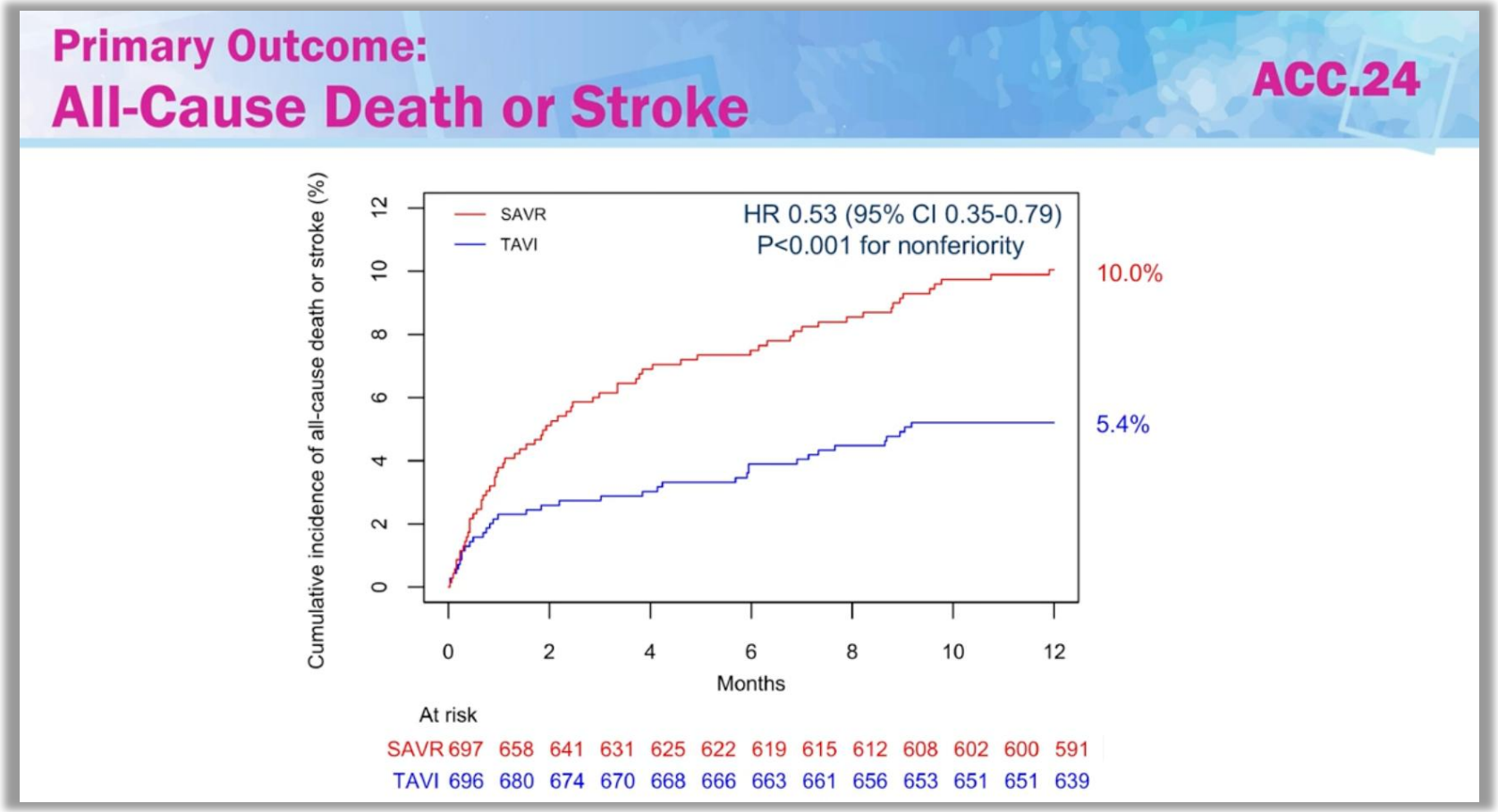
TAVI non inférieur ou supérieur à la chirurgie

Winkel MG et al. Front Cardiovasc Med 2019.

Park, Seoul Valves 2025.

All comers Low risk patients at 1 year
DEDICATE Trial (n=1414)

Mean age 74±4 years, STS: 1.8%,
Balloon expandable HV: 61.4%, Self Expandable HV: 35.1%



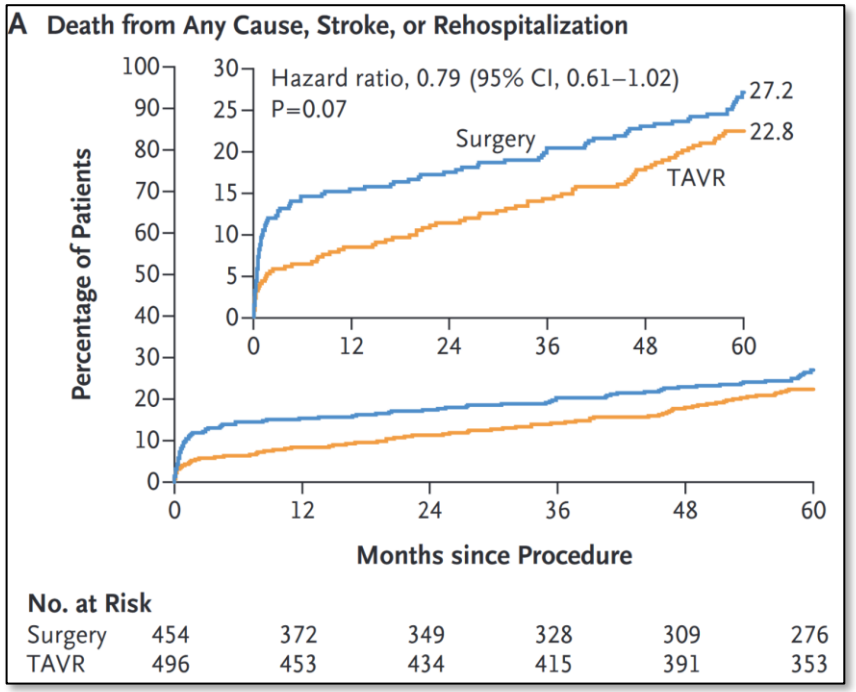
Blankenberg S et al. N Engl J Med 2024;390:1572-83.

Low-risk patients at 5 years

ORIGINAL ARTICLE

Transcatheter Aortic-Valve Replacement in Low-Risk Patients at Five Years

PARTNER 3

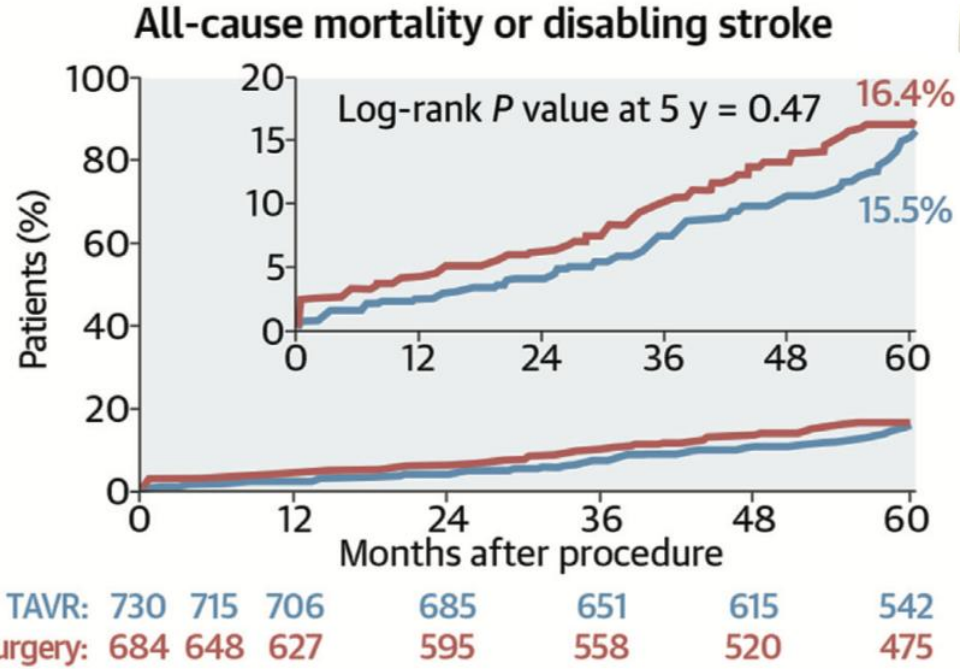


Aortic valve reintervention:
2.6% TAVR vs 3.0% SAVR

Mack MJ et al. NEJM 2023;389:1949-1960

5-Year Outcomes After Transcatheter or Surgical Aortic Valve Replacement in Low-Risk Patients With Aortic Stenosis

Evolut Low Risk

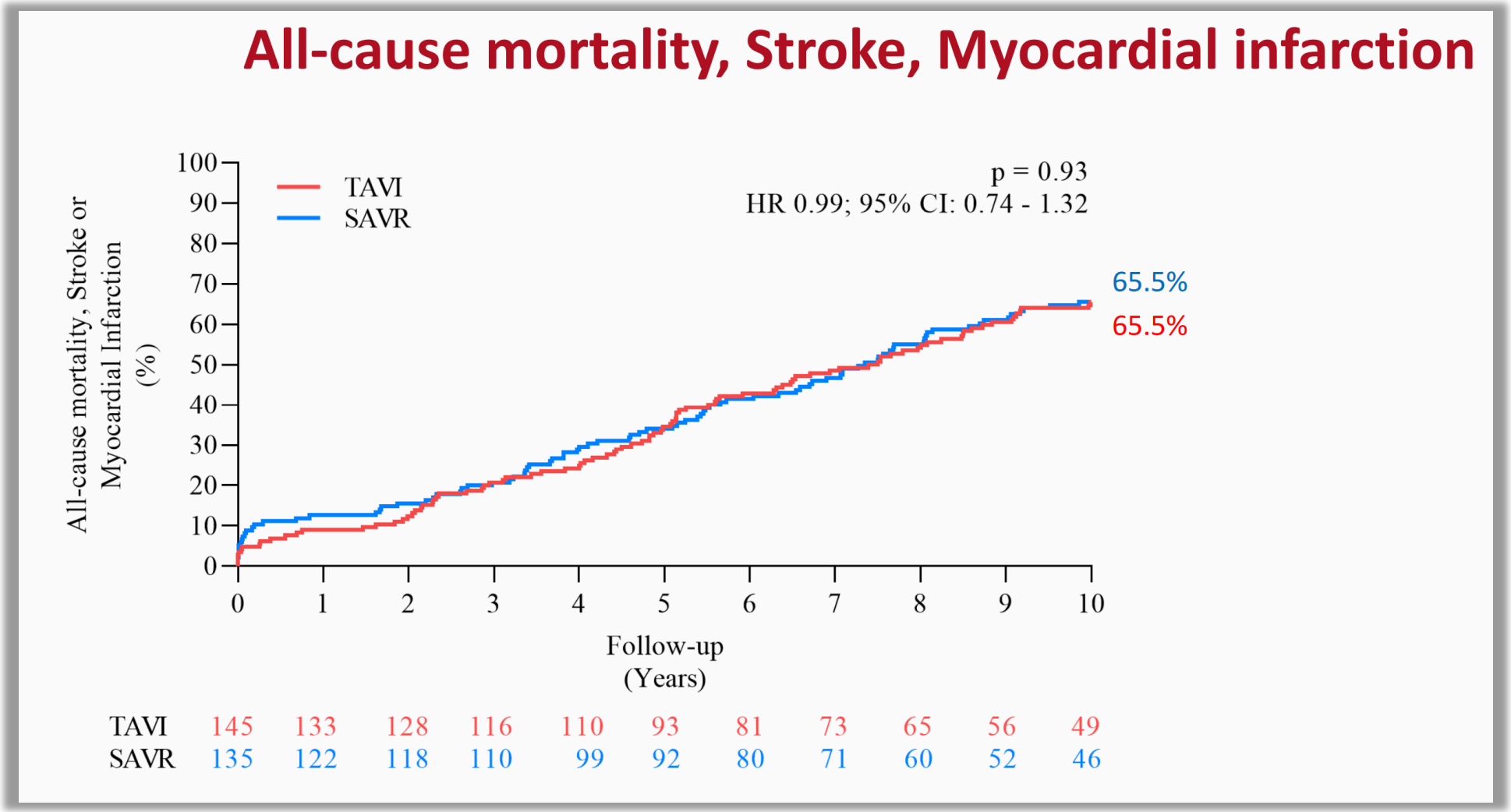


Aortic valve reintervention:
3.3% TAVR vs 2.5% SAVR

Forrest JK et al. JACC 2025;85:1523-1532

NOTION Trial - 10 years

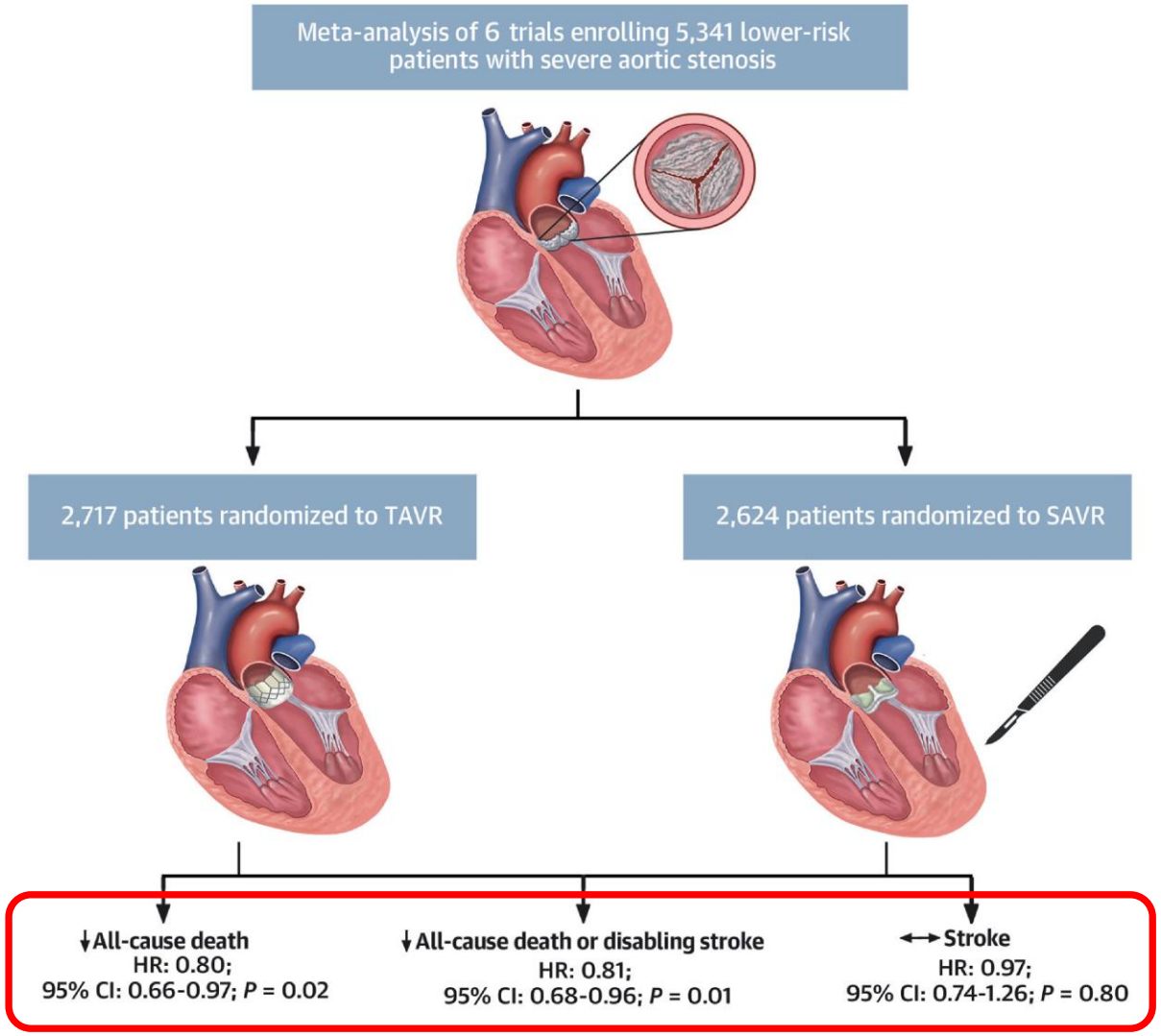
RCT TAVR (corevalve) vs. SAVR in lower risk patients ≥ 70ans



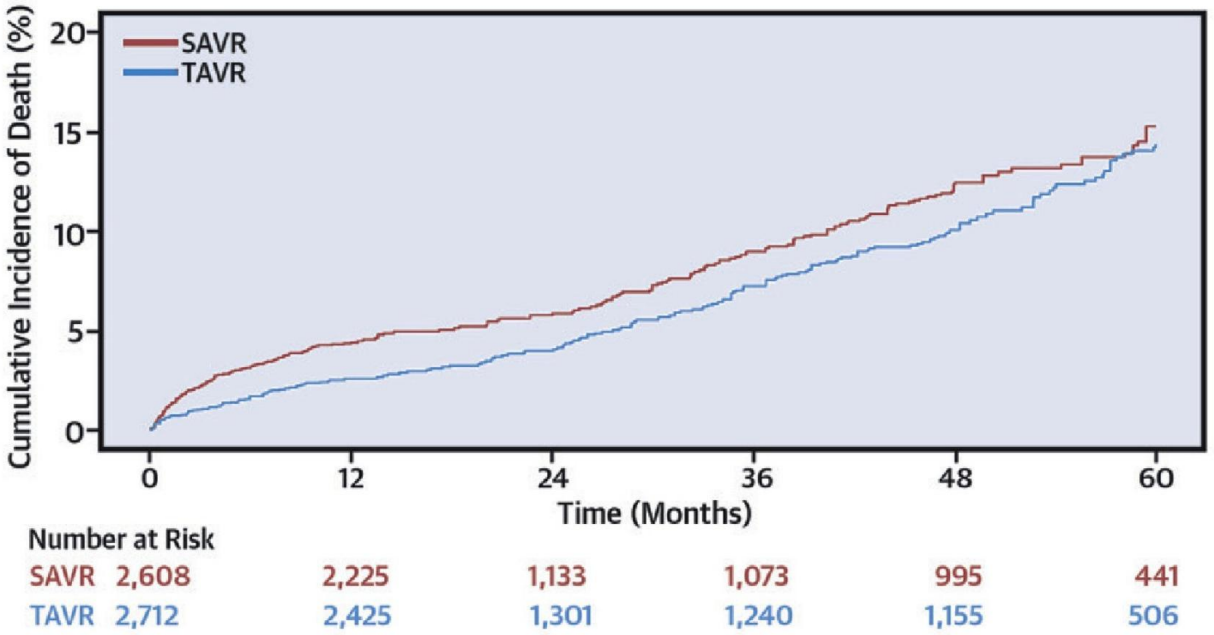
Thyregod et al. EHJ 2024

TAVR vs. SAVR in Lower-Risk Patients

Meta-analysis of RCTs: TAVR vs. SAVR



All-Cause Death in lower-risk Trials



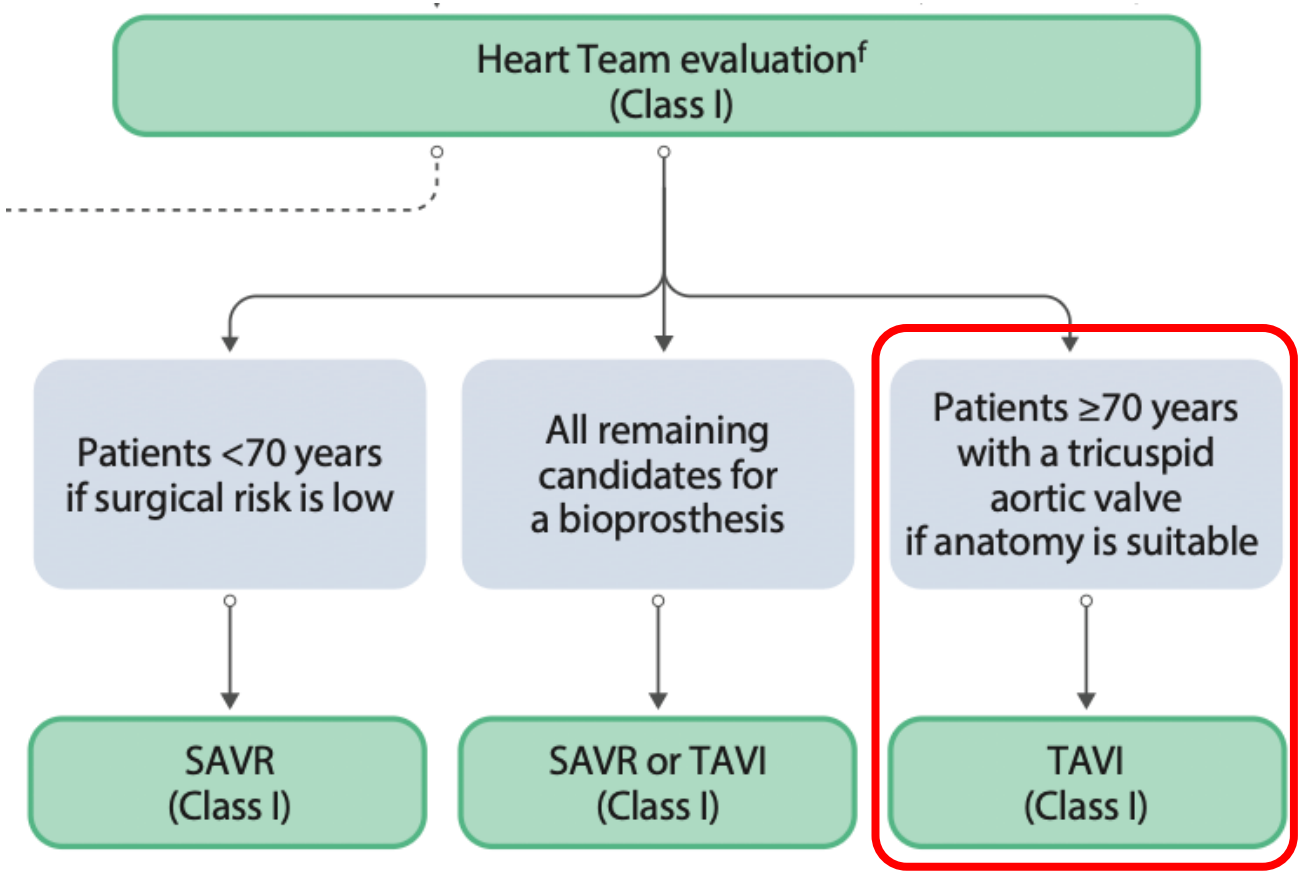
Number at Risk						
SAVR	2,608	2,225	1,133	1,073	995	441
TAVR	2,712	2,425	1,301	1,240	1,155	506

Most patients have not yet undergone 5-year follow-up…

Rohin K. Reddy et al. JACC 2025; 85:926-940.

2025 ESC/EACTS Guidelines for the management of valvular heart disease

Management of patients with severe aortic stenosis.



Praz F et al. European Heart Journal (2025) 00, 1–7.

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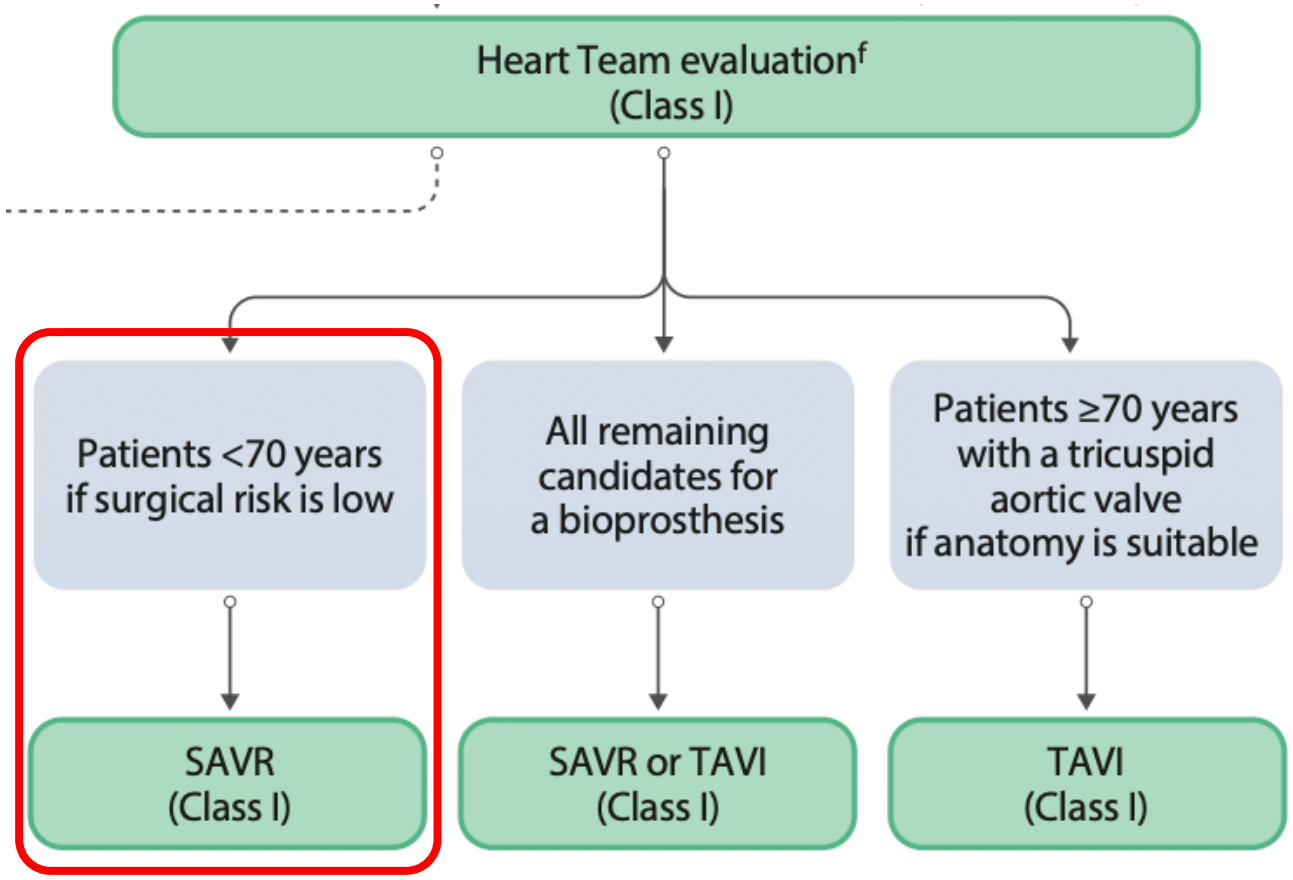

Praz F et al. European Heart Journal (2025) 00, 1–7.

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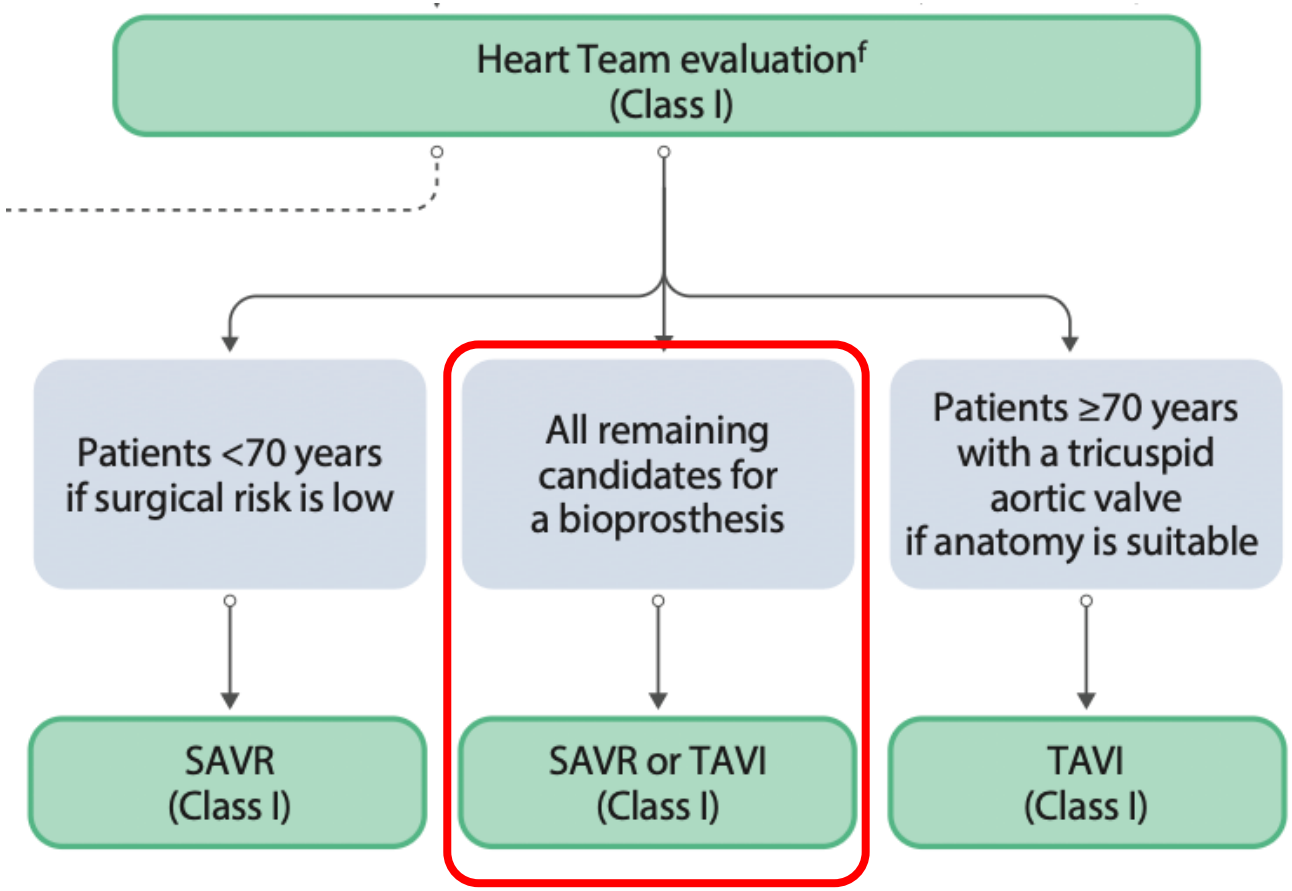
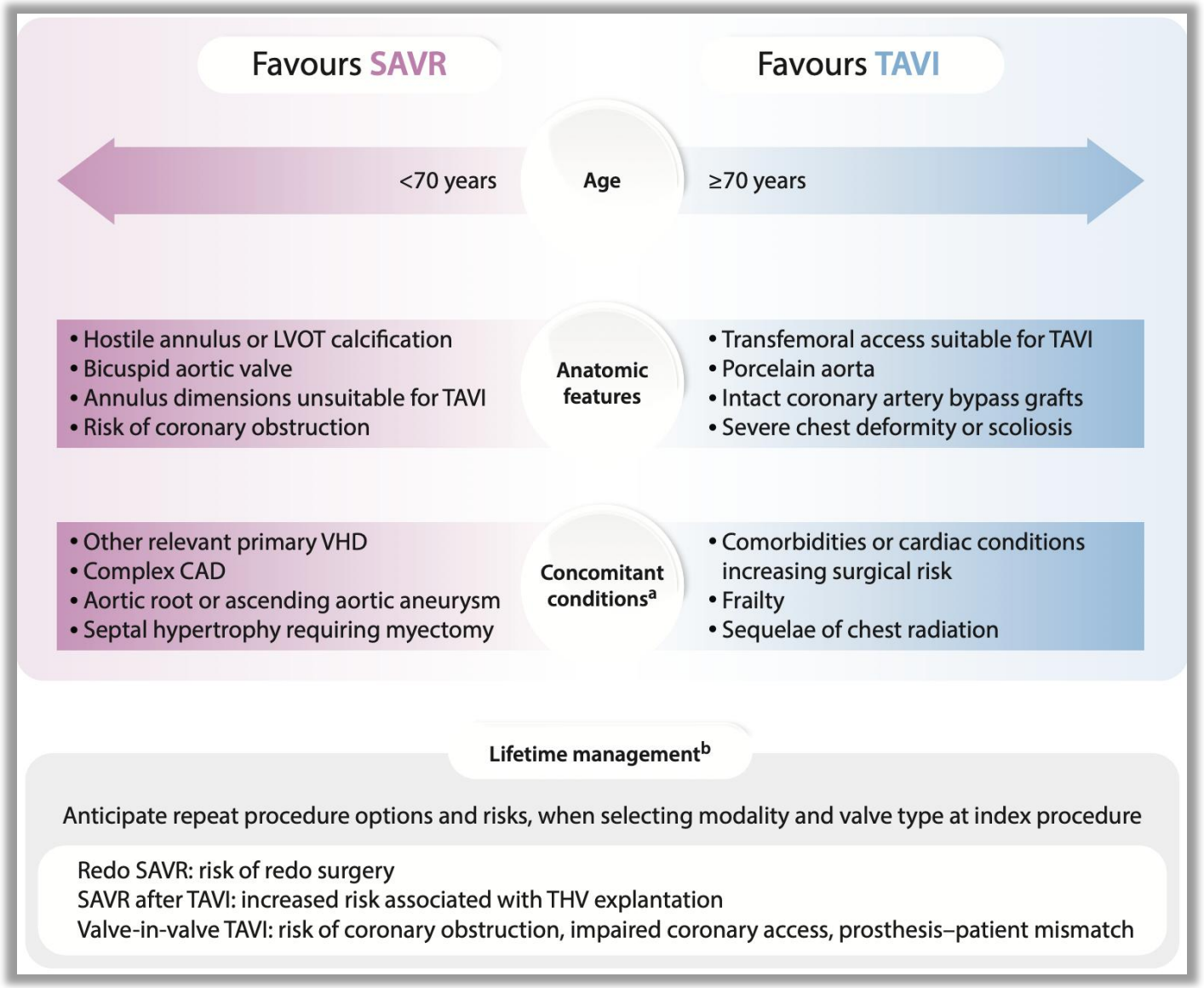
Management of patients with severe aortic stenosis.



Praz F et al. European Heart Journal (2025) 00, 1–7.

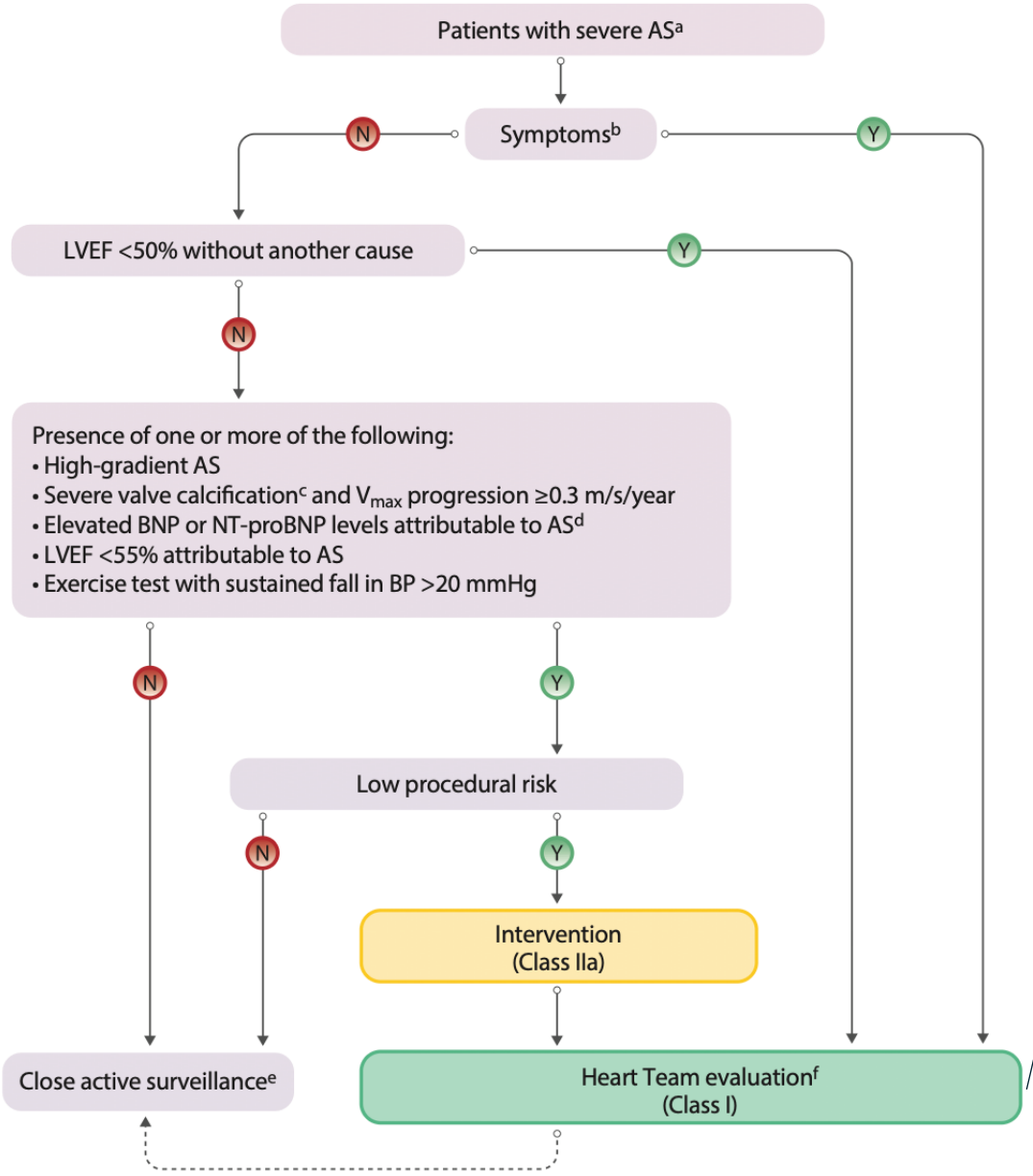
Facteurs à considérer pour décider du mode d'intervention

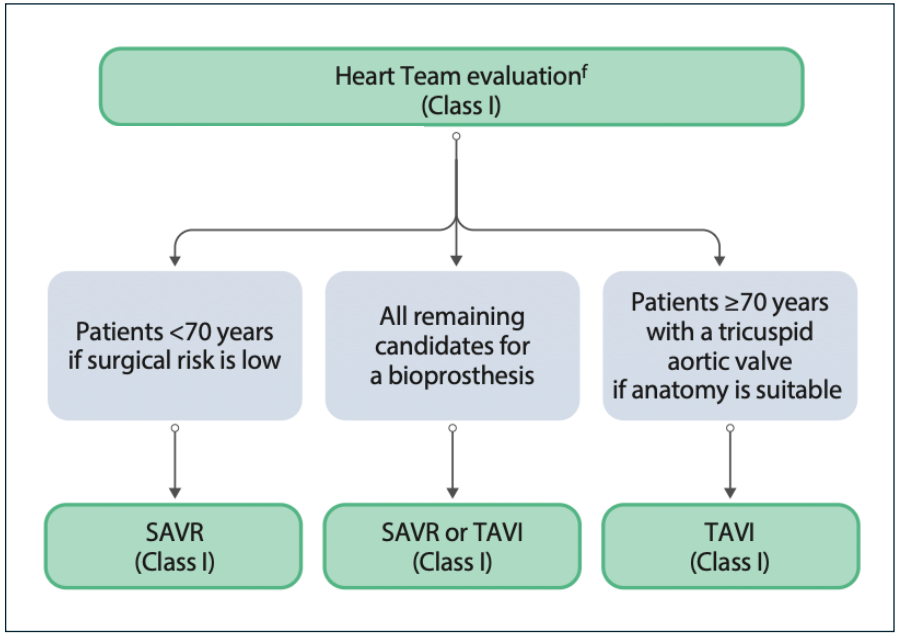


Praz F et al. European Heart Journal (2025) 00, 1–7.

2025 ESC/EACTS Guidelines for the management of valvular heart disease

RAC serré symptomatique et asymptomatique….

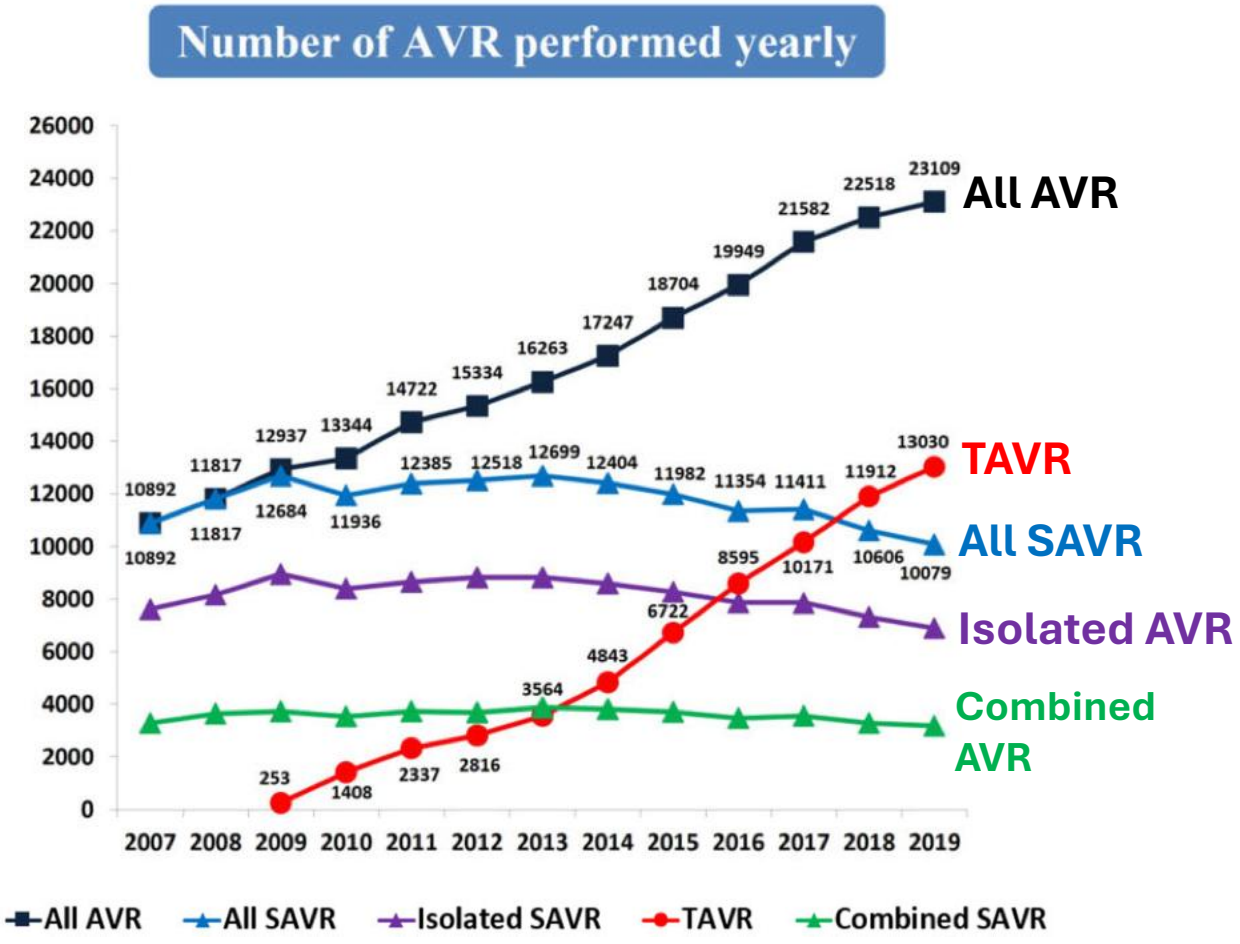




Praz F et al. European Heart Journal (2025) 00, 1–7.

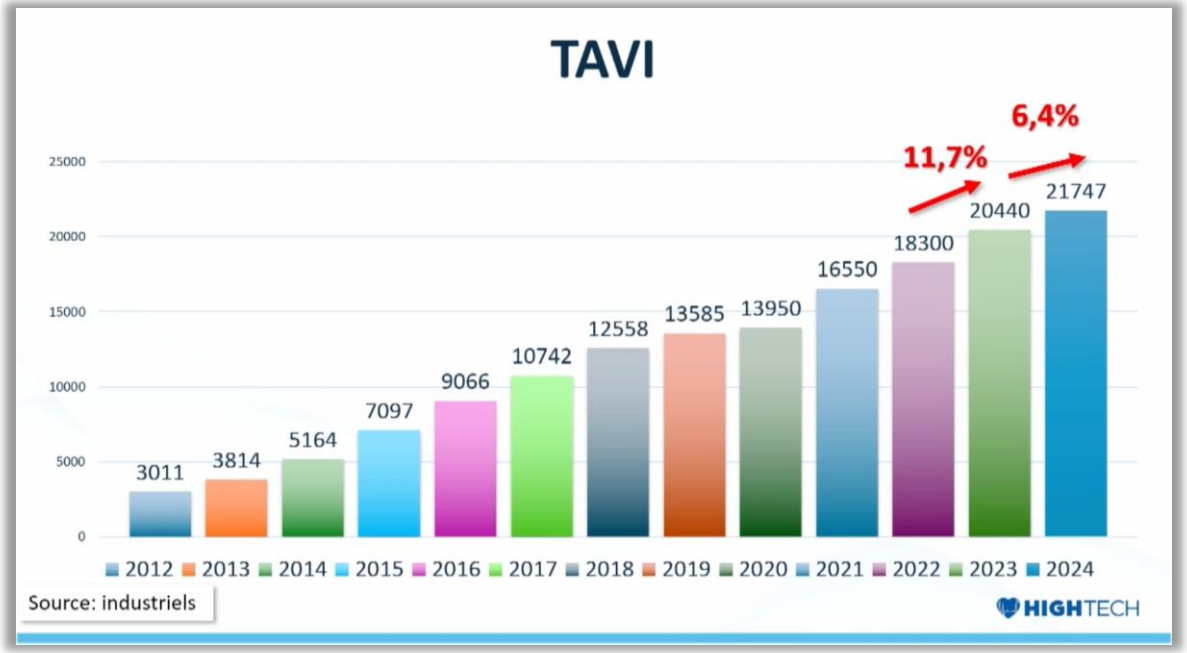
Évolution de l'offre TAVI en France

Trends in aortic valve replacement for aortic stenosis: a French nationwide study



N` Guyen V et al. European Heart Journal (2022) 43, 666–679

Activité TAVI en France

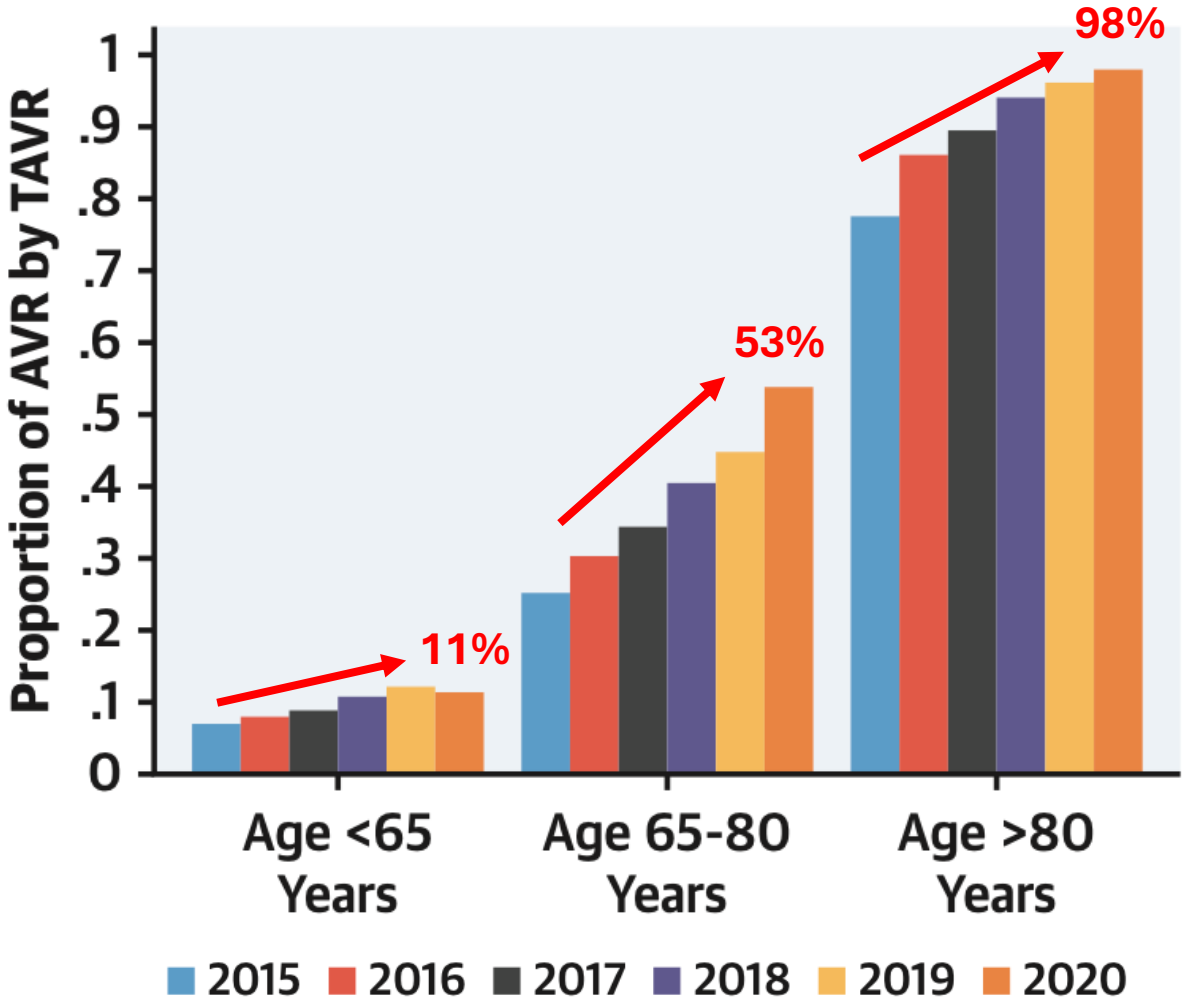


Benameur H. High Tech Marseilles 2025

Prise en charge du RAC en France (selon l'âge)

Nationwide administrative database

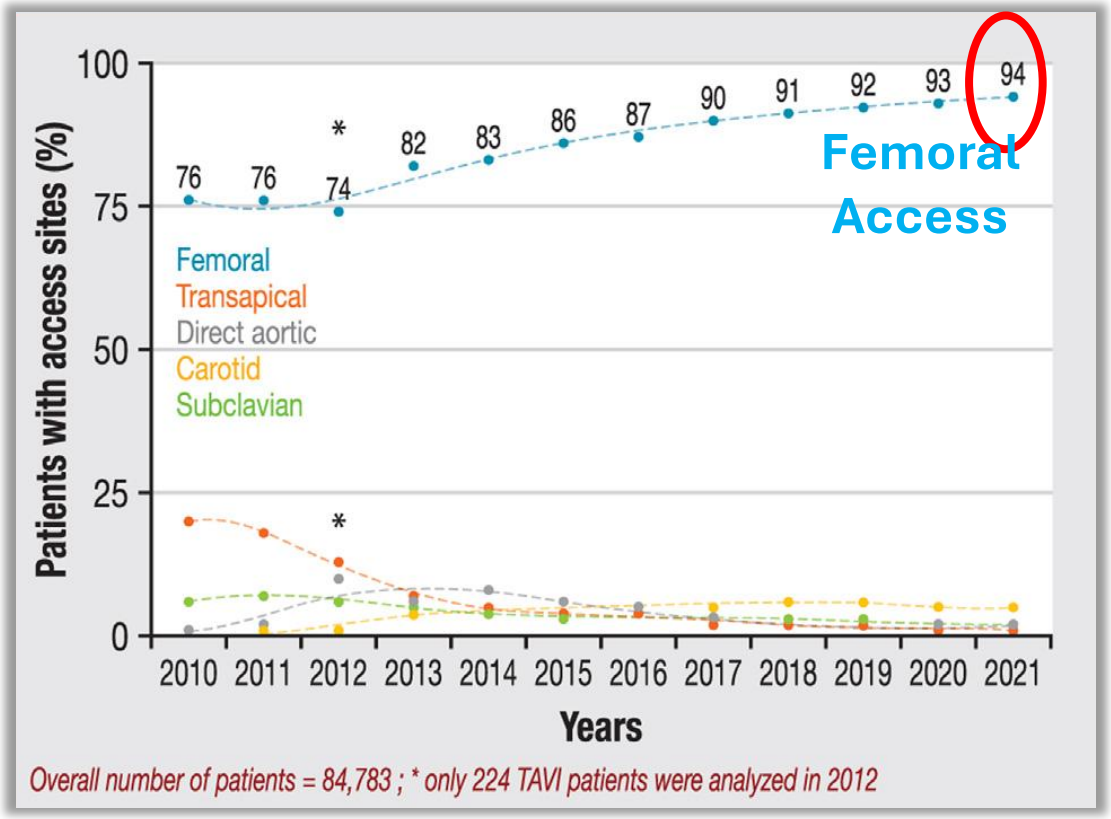
(107 397 pts traited for AVR, 2015 – 2020)

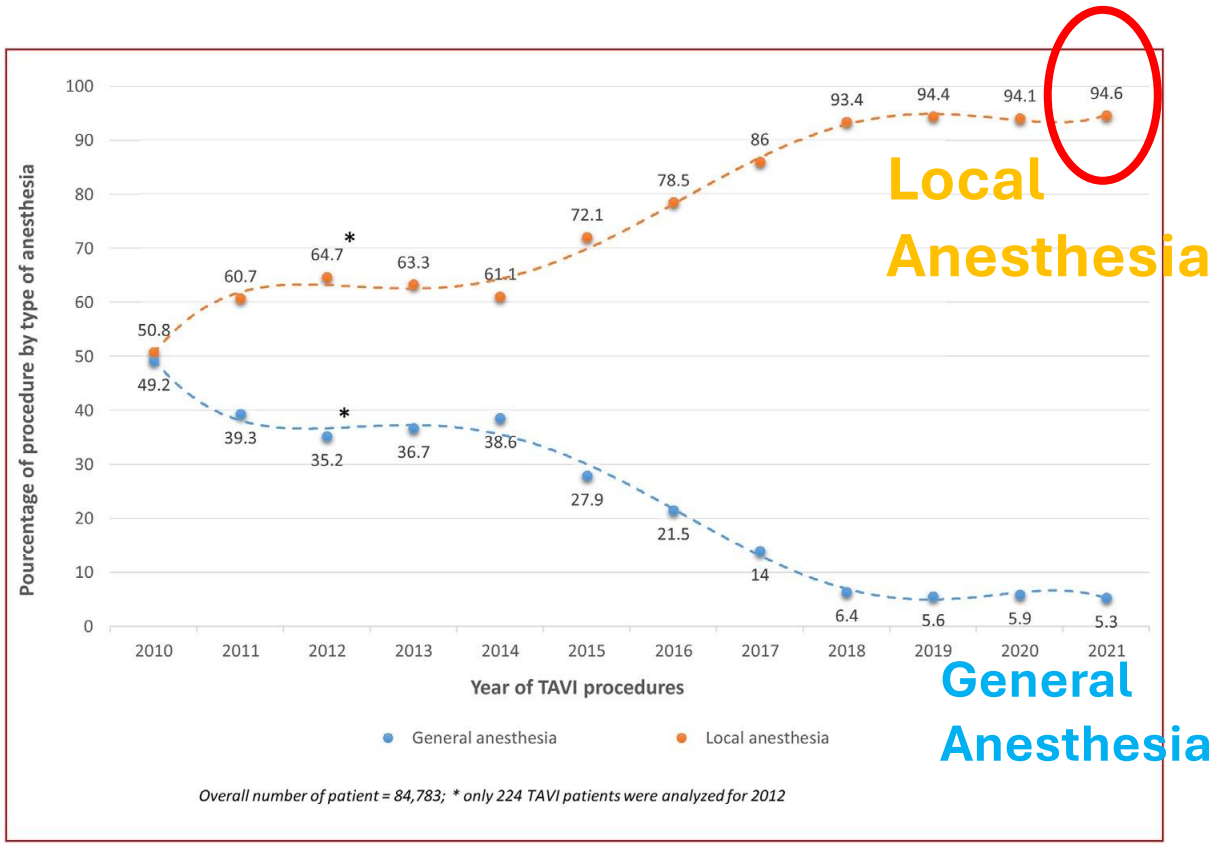


Prosperi-Porta G et al. J Am Coll Cardiol 2023;82:1889–1902

TAVI: la technique

Evolution of TAVI patients and techniques over the past decade: The French TAVI registries



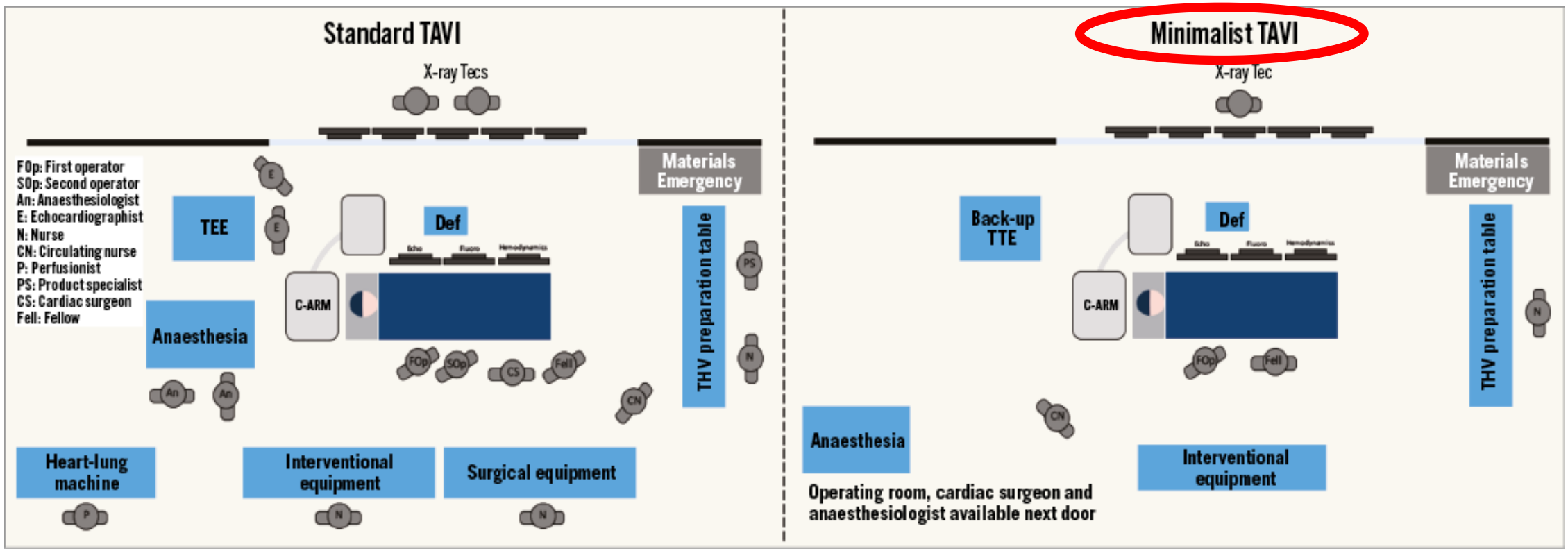


Didier R et al. Archives of Cardiovascular Disease 115 (2022) 206—213

Simplification de la procédure

Hier

Aujourd'hui



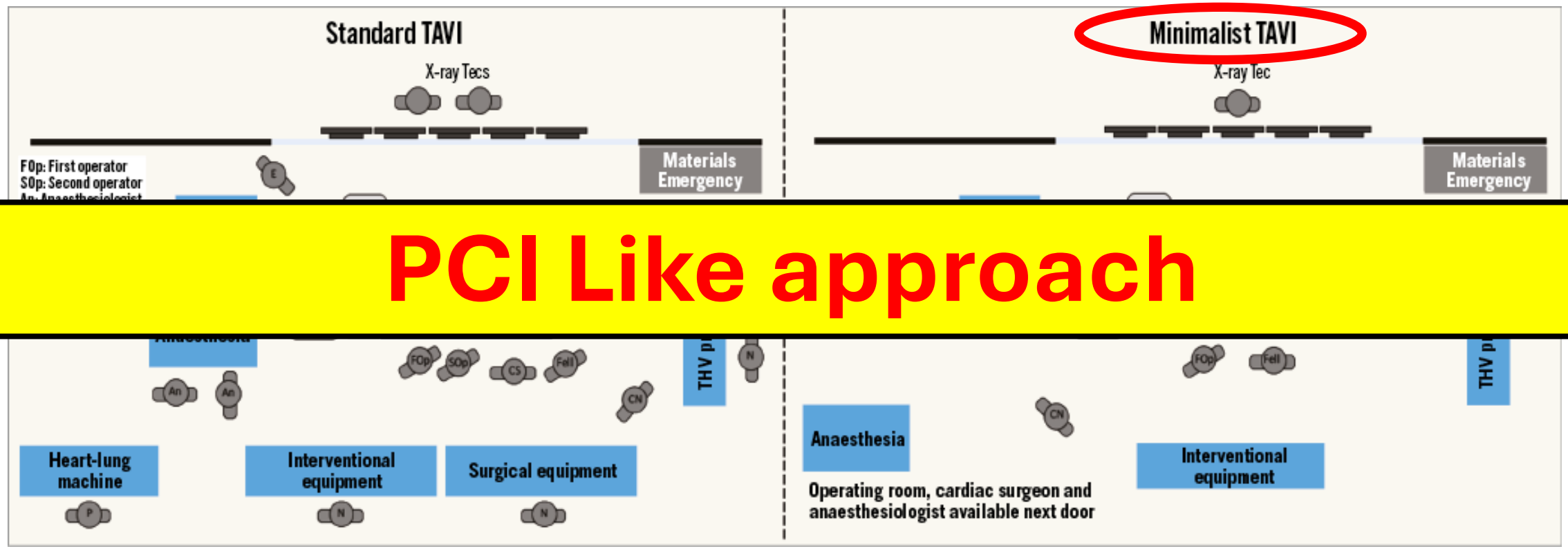
AG
Accès chirugical
Voie secondaire fémorale
Sonde d'entrainement VD

Anesthésie locale
Accès percutanée (pre-closing)
Voie secondaire radiale
Stimulation sur Guide VG

Barbanti M et al. EuroIntervention 2017;13:AA11-AA21

Simplification de la procédure

Hier → Aujourd'hui



PCI Like approach

AG
Accès chirugical
Voie secondaire fémorale
Sonde d'entrainement VD

→

Anesthésie locale
Accès percutanée (pre-closing)
Voie secondaire radiale
Stimulation sur Guide VG

Barbanti M et al. EuroIntervention 2017;13:AA11-AA21

LPPR prostheses in sept 2025

Sapien 3 Ultra
Balloon-Expandable

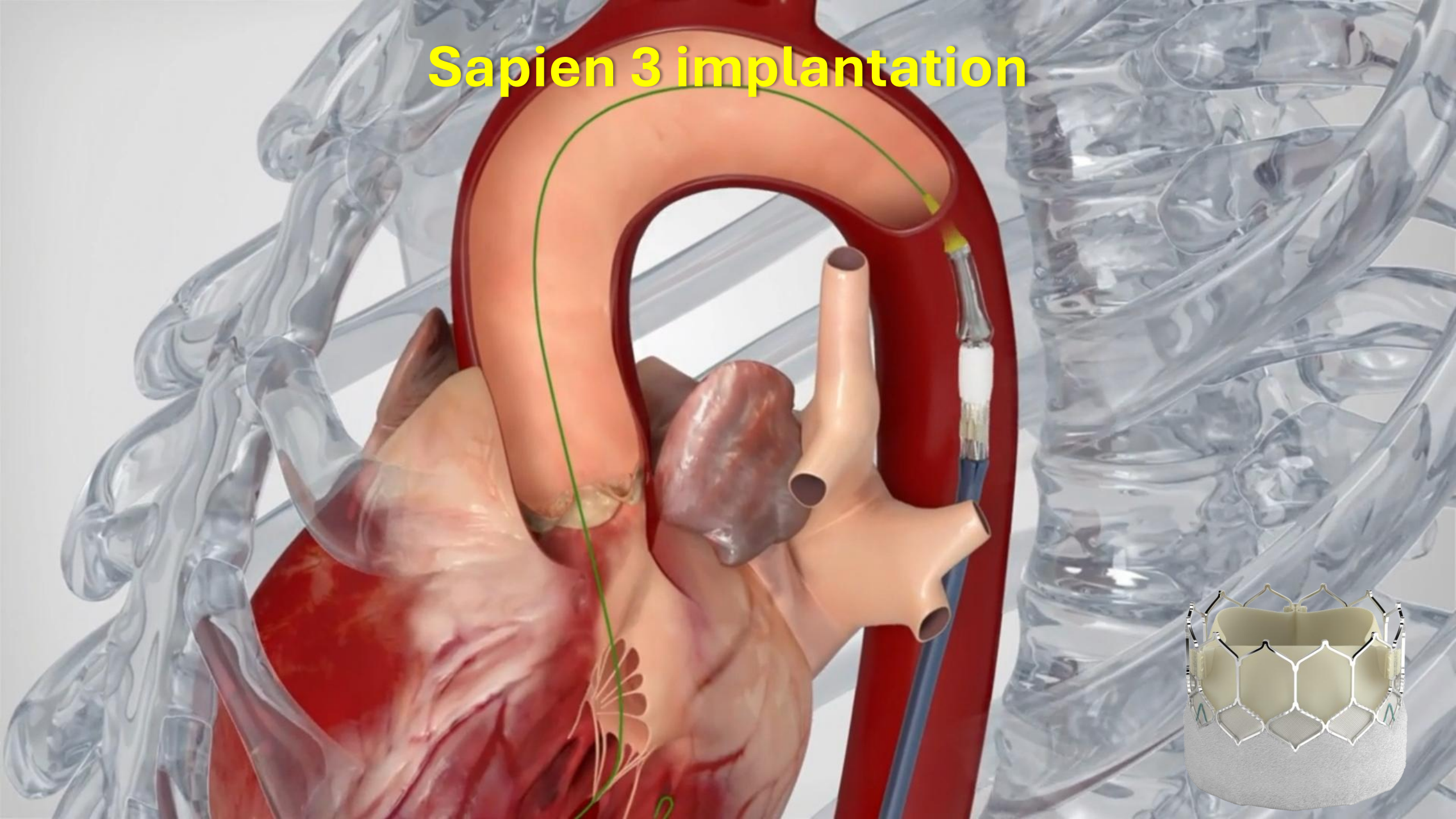
Evolut Fx
Self-Expandable

Navitor
Self-Expandable

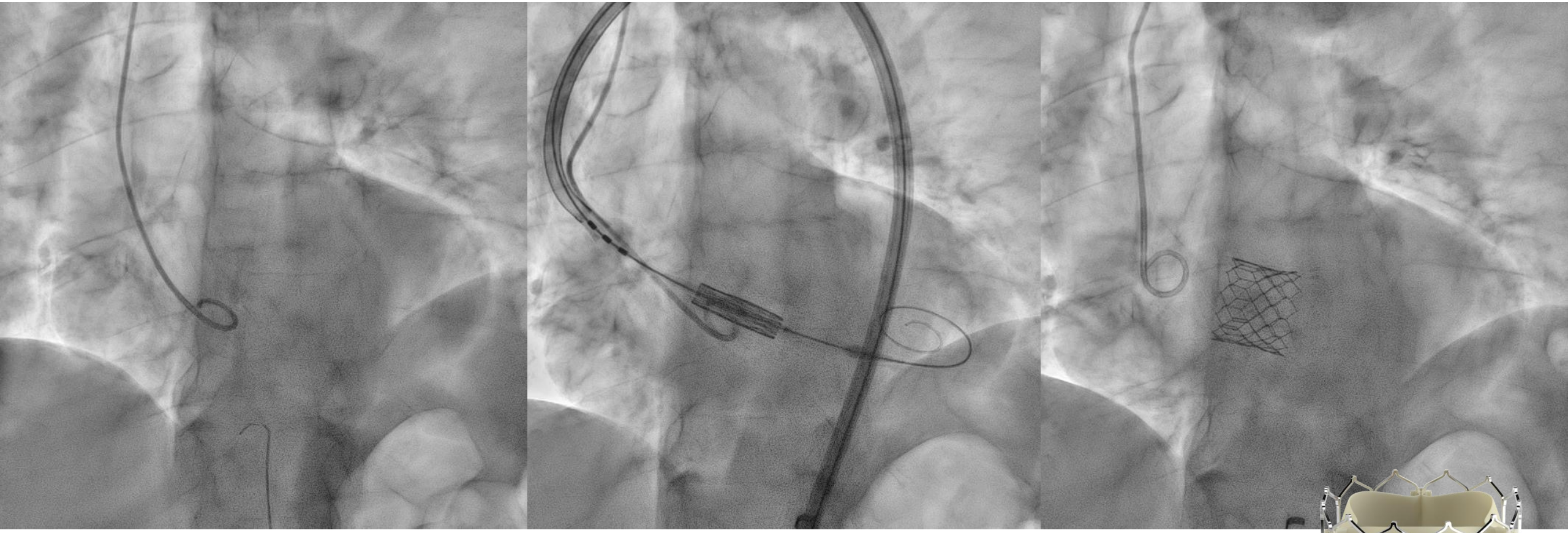
Whatever the operative risk

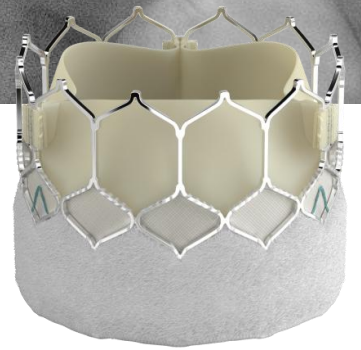
High operative risk

Sapien 3 implantation



Sapien 3 Valve in Practice

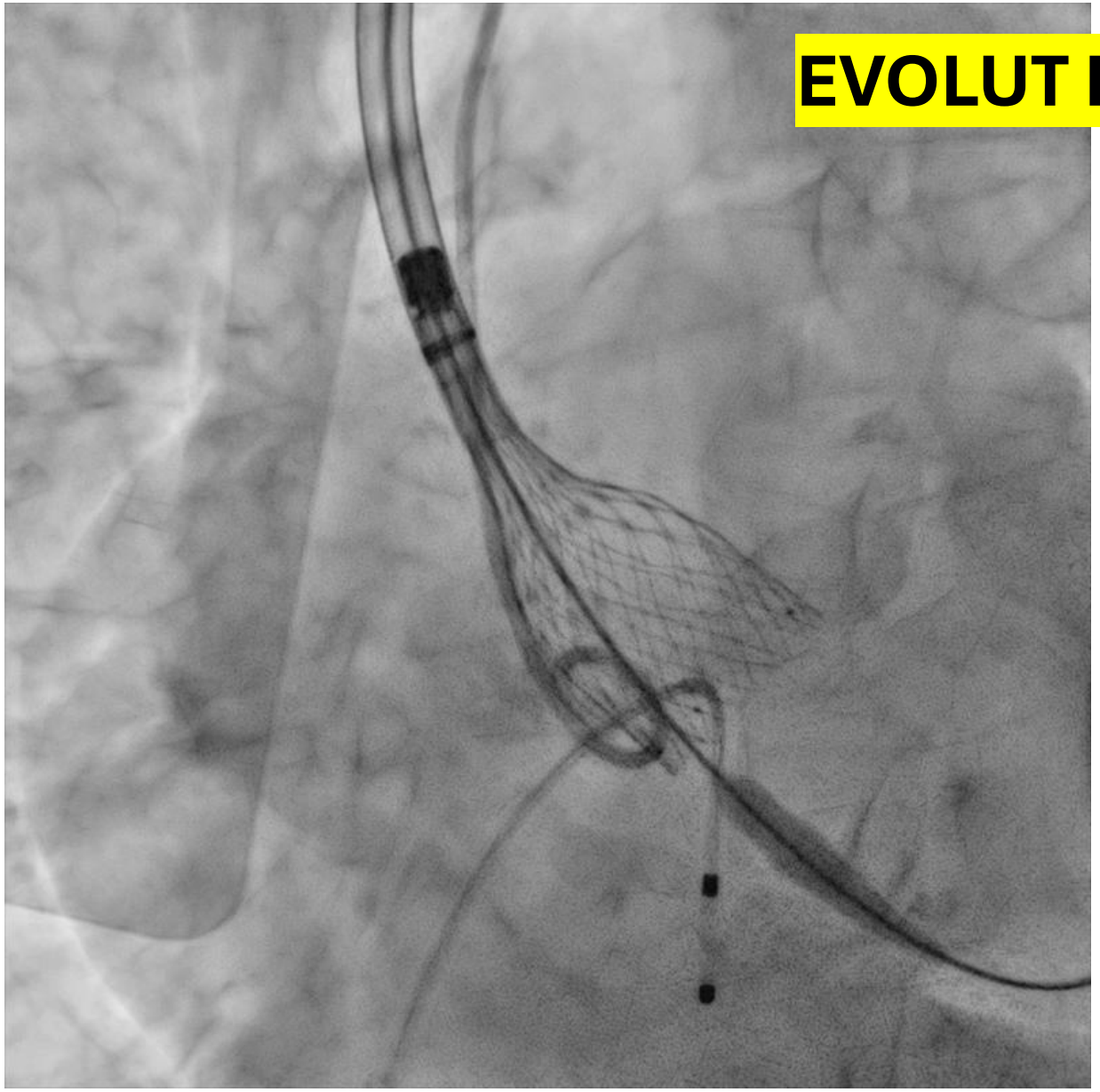


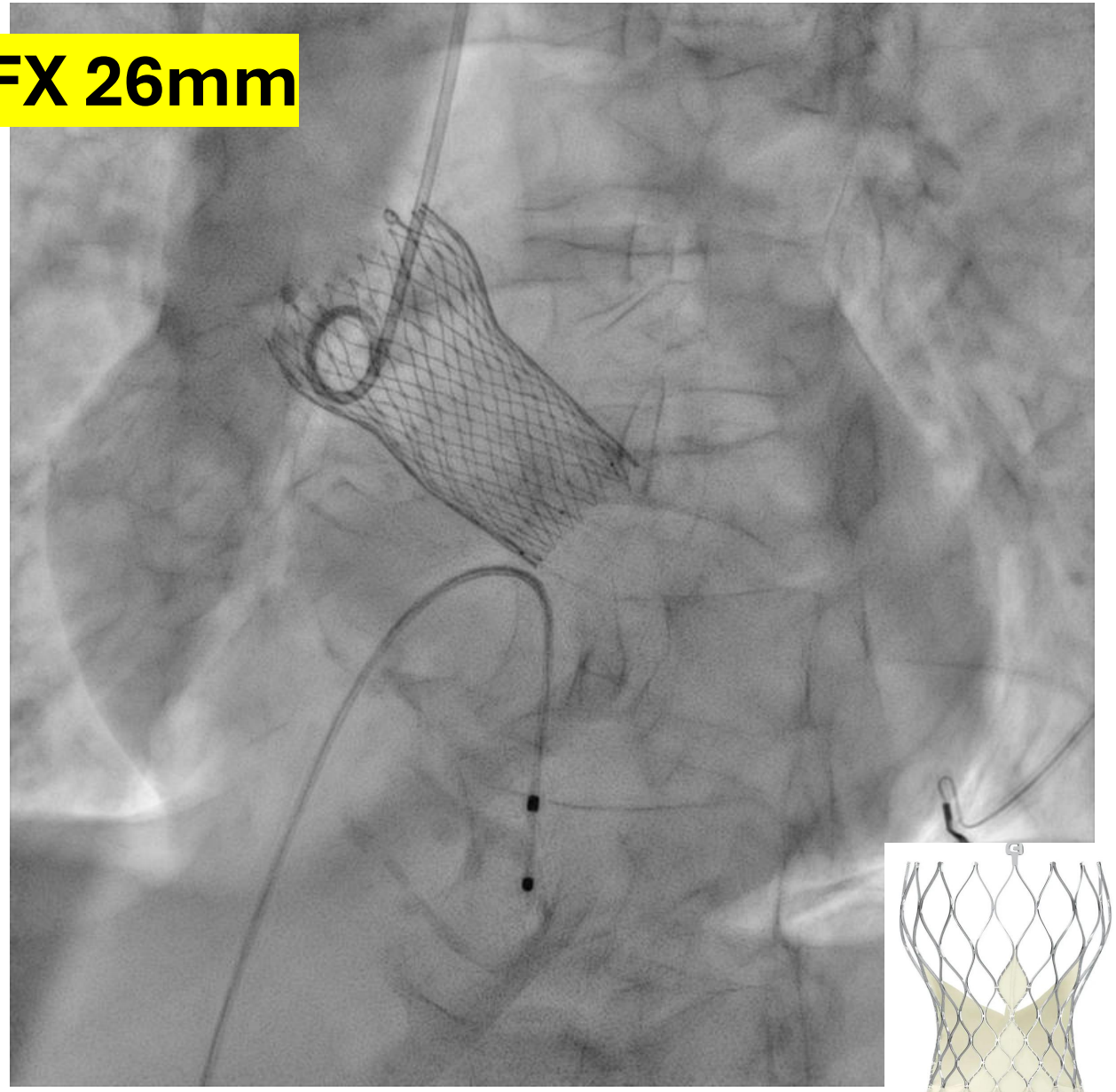


Evolut Fx implantation

Romagnoli E et al. IJC Heart & Vasculature 55 (2024) 101523

EVOLUT FX 26mm





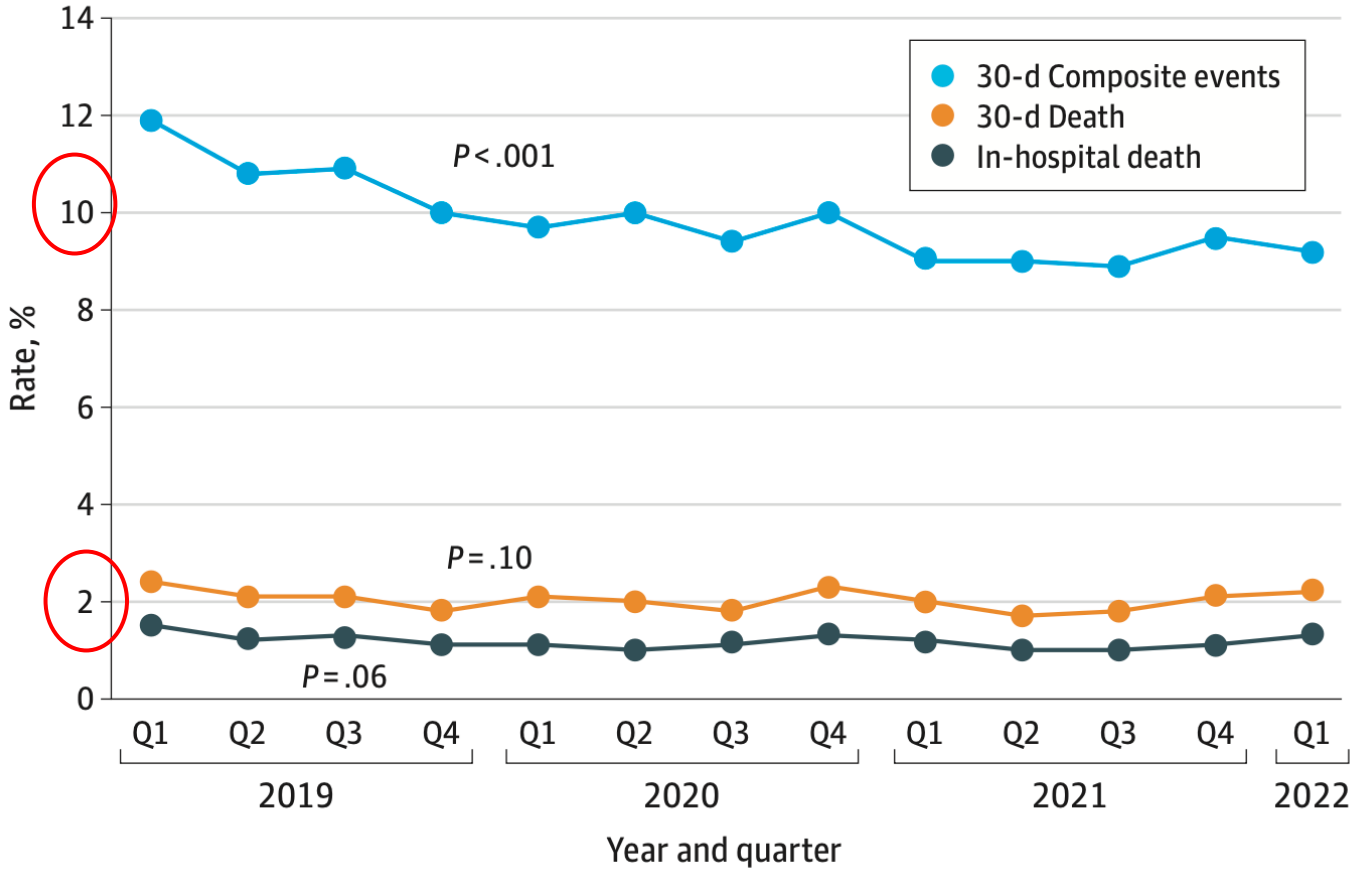
Résultats cliniques

JAMA Cardiology | Original Investigation

Trends in Transcatheter Aortic Valve Replacement Outcomes
Insights From the STS/ACC TVT Registry

210 495 pts; median age 79 (73-85) yrs, 43% were female; STS 3.3%

A In-hospital mortality, 30-d mortality, and 30-d composite events



30-d Composite events

Death; stroke; stage 3 AKI; major, LT, or disabling bleeding; moderate or severe PVL

30-d Death

In-hospital death

Arnold SV et al. JAMACardiol.2024;9(12):1115-1123.

Résultats cliniques

JAMA Cardiology | Original Investigation

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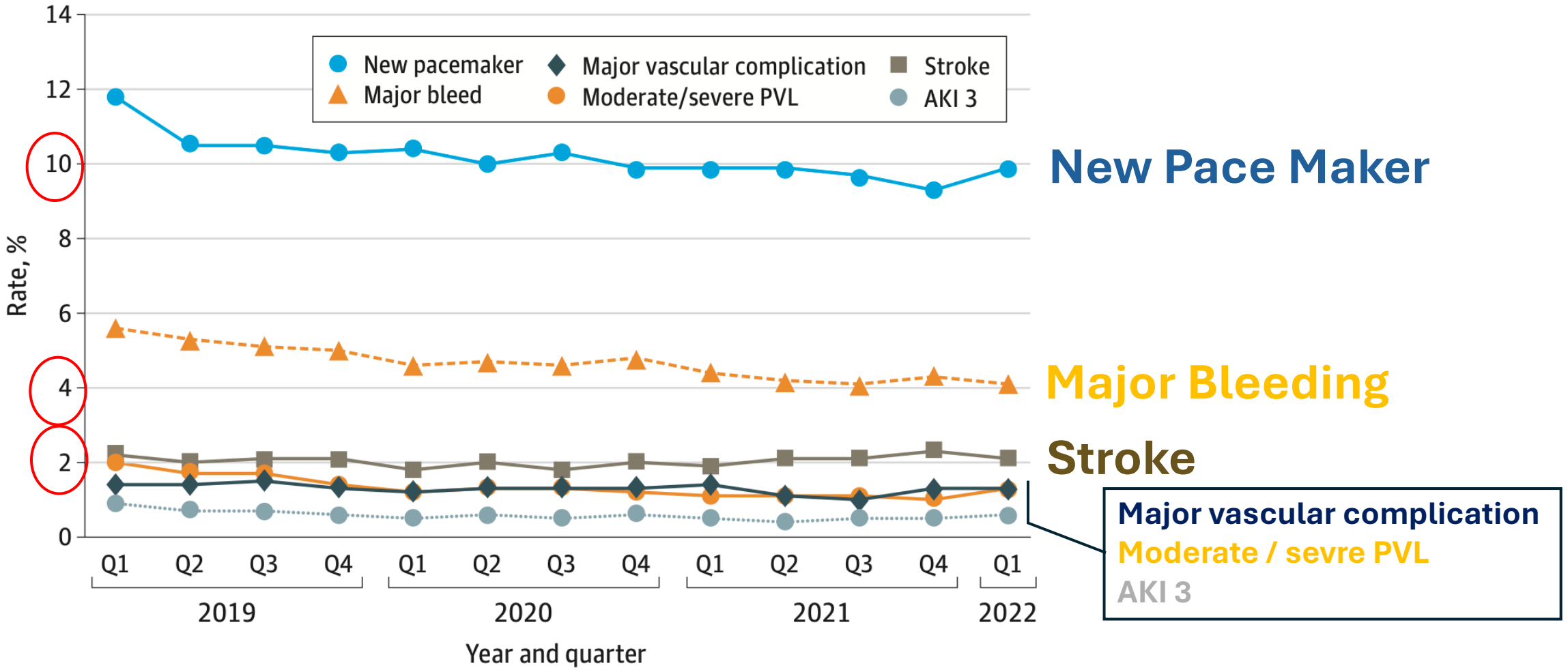
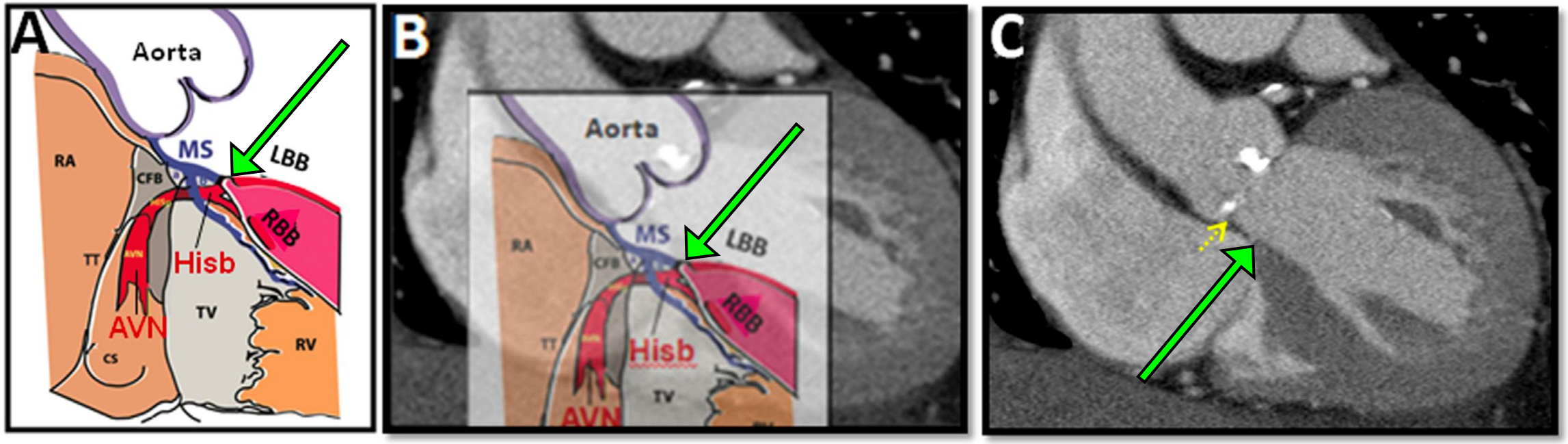


Arnold SV et al. JAMACardiol.2024;9(12):1115-1123.

CENTRAL ILLUSTRATION **Schematic of the Conduction System's Topographic Anatomy and Its Corresponding CT Anatomic Landmarks**

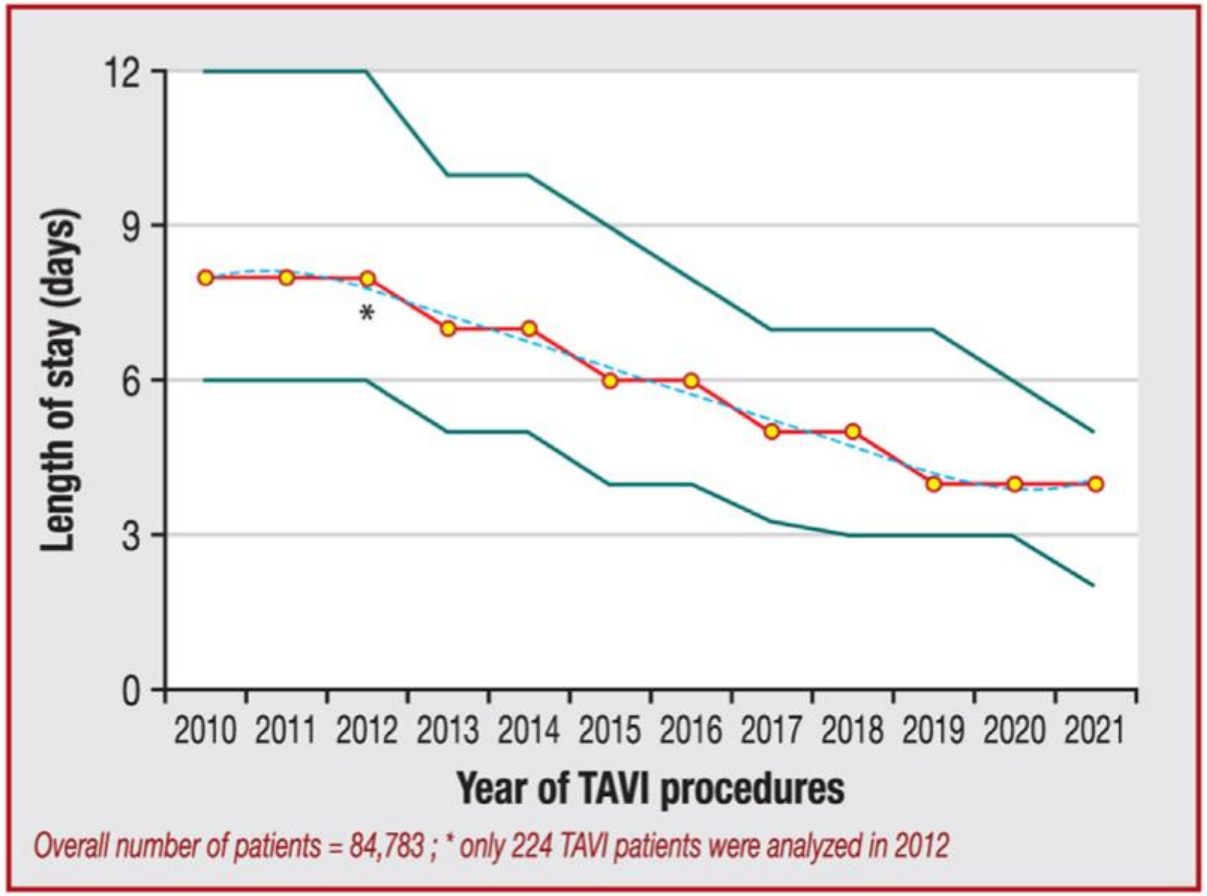


Hamdan, A. et al. J Am Coll Cardiol Intv. 2015; 8(9):1218-28.

(A) Illustration of the conduction system's topographic anatomy. Contrast-enhanced CT coronal view with **(B)** and without **(C)** superimposed illustration of the conduction system. Since the penetrating bundle of His emerges just below the membranous septum at the left ventricular surface, membranous septum (MS) length **(arrows)** serves as an anatomic surrogate of the distance between aortic annulus and the exit point of the bundle of His. AVN = atrioventricular node; CFB = central fibrous body; CS = coronary sinus; CT = computed tomography; His b = penetrating section of the His bundle; LBB = left bundle branch; MS = membranous septum; RA = right atrium; RBB = right bundle branch; RV = right ventricle; TT = tendon of Todazo; TV = tricuspid valve. Adapted from Yen Ho and Ernst (2), used with permission from Cardiotext Publishing.

Résultats cliniques

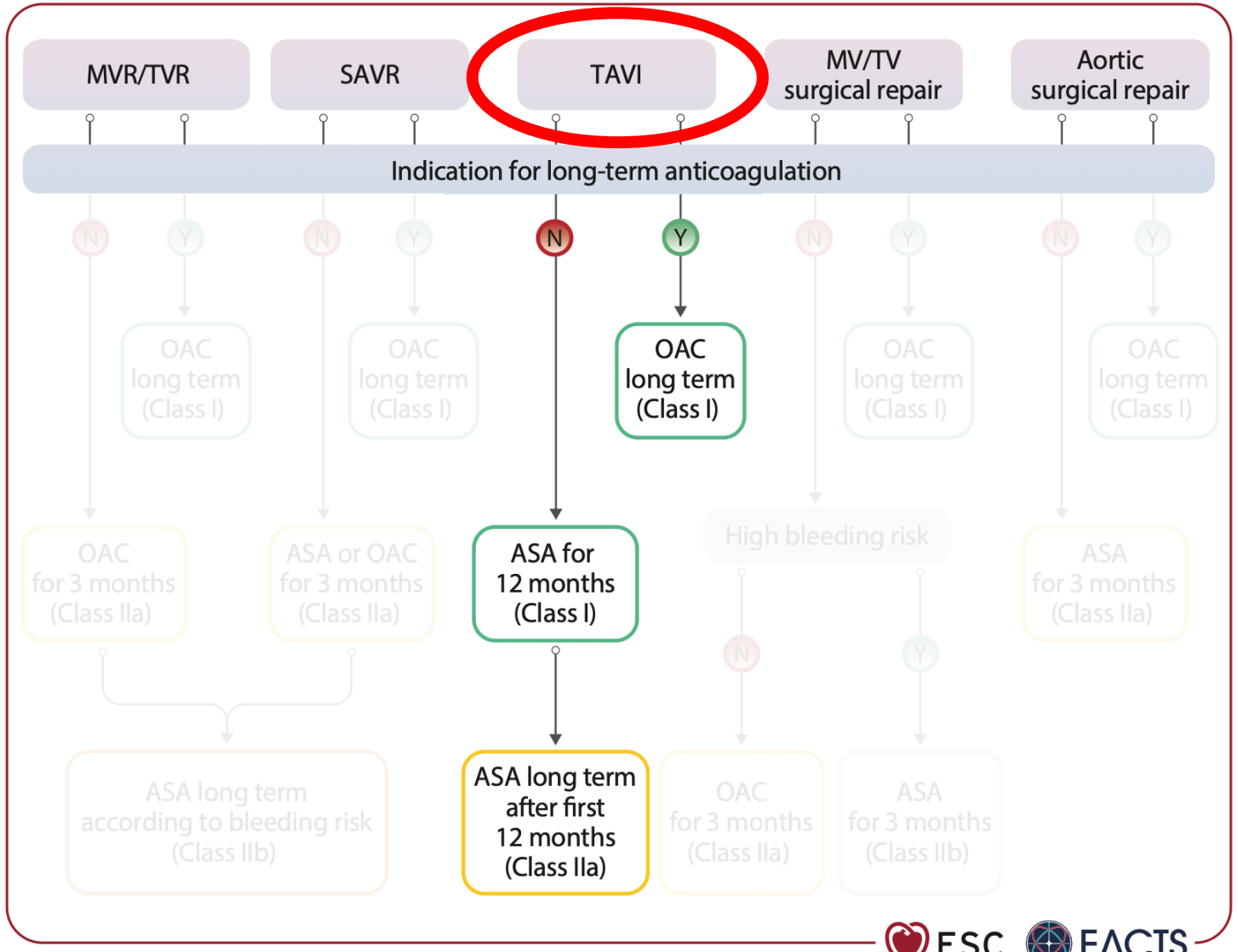
Evolution of TAVI patients and techniques over the past decade: The French TAVI registries



Didier R et al. Archives of Cardiovascular Disease 115 (2022) 206—213.

Suivi post-TAVI

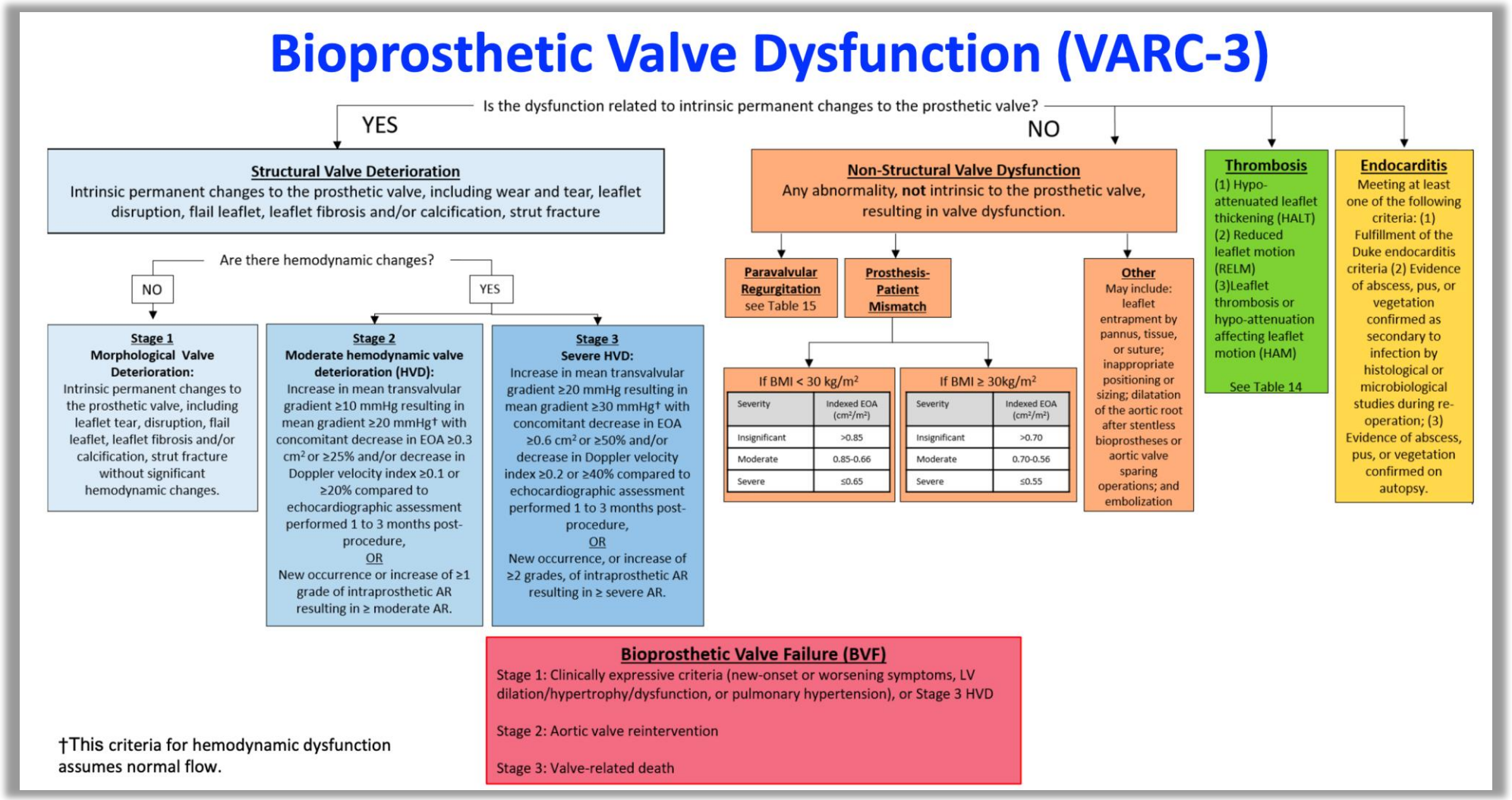
Antithrombotic therapy following biological heart valve implantation or surgical valve repair



Praz F et al. European Heart Journal (2025) 00, 1–7.

Suivi post-TAVI

Suivi clinique et ETT dans les 3 mois post-implantation, à 1 an puis tous les ans



Praz F et al. European Heart Journal (2025) 00, 1–7.

Généreux, P. J Am Coll Cardiol. 2021;77(21):2717-46.

Take Home Message

TAVI

Le rétrécissement aortique continue de croître avec le vieillissement démographique.

Le TAVI a démontré son efficacité par rapport à la chirurgie à la fois chez le patient à haut risque, à risque intermédiaire et à bas risque.

Il est dorénavant recommandé en première intention chez les patients de plus de 70 ans avec valve tricuspide et anatomie favorable.

A la faveur des innovations techniques, la procédure est dorénavant plus simple et plus sure.

Restent en suspens de nombreuses questions: les troubles conductifs, la durabilité, la gestion des dégénérescences ? Etc…

Merci

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