

# TAVI chez le patient à bas risque: Risque coronaire à 10 ans

*Xve CARDIORUN, 27 Septembre 2023*

Gilles Rioufol MD, PhD

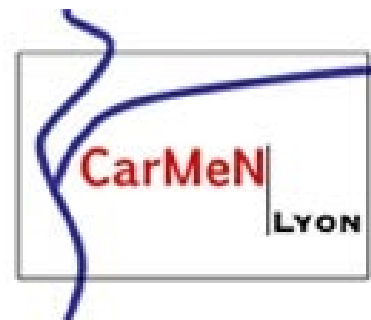
Interventional cardiology dpt  
Cardiovascular Hospital - Lyon - France

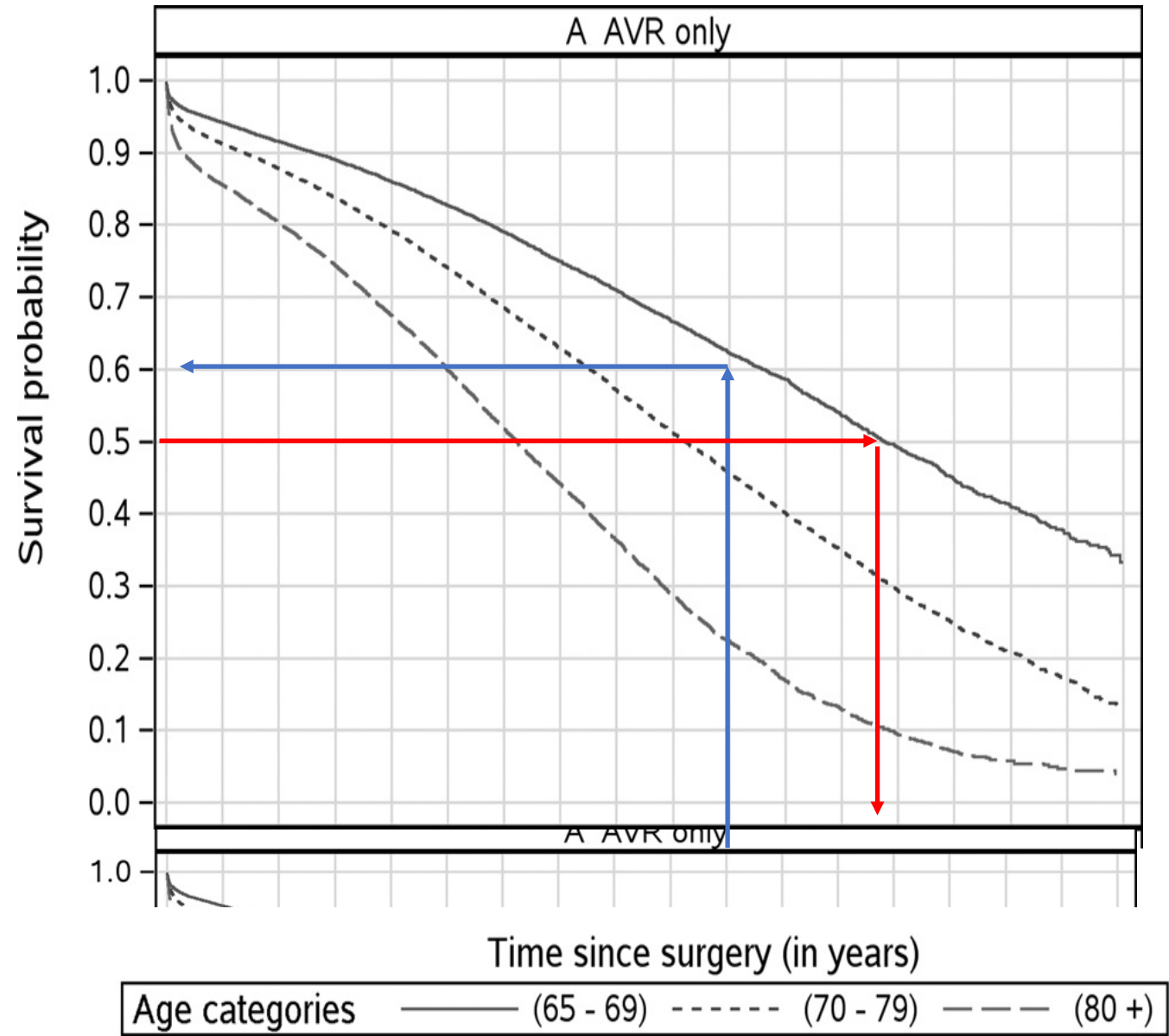


**Inserm**

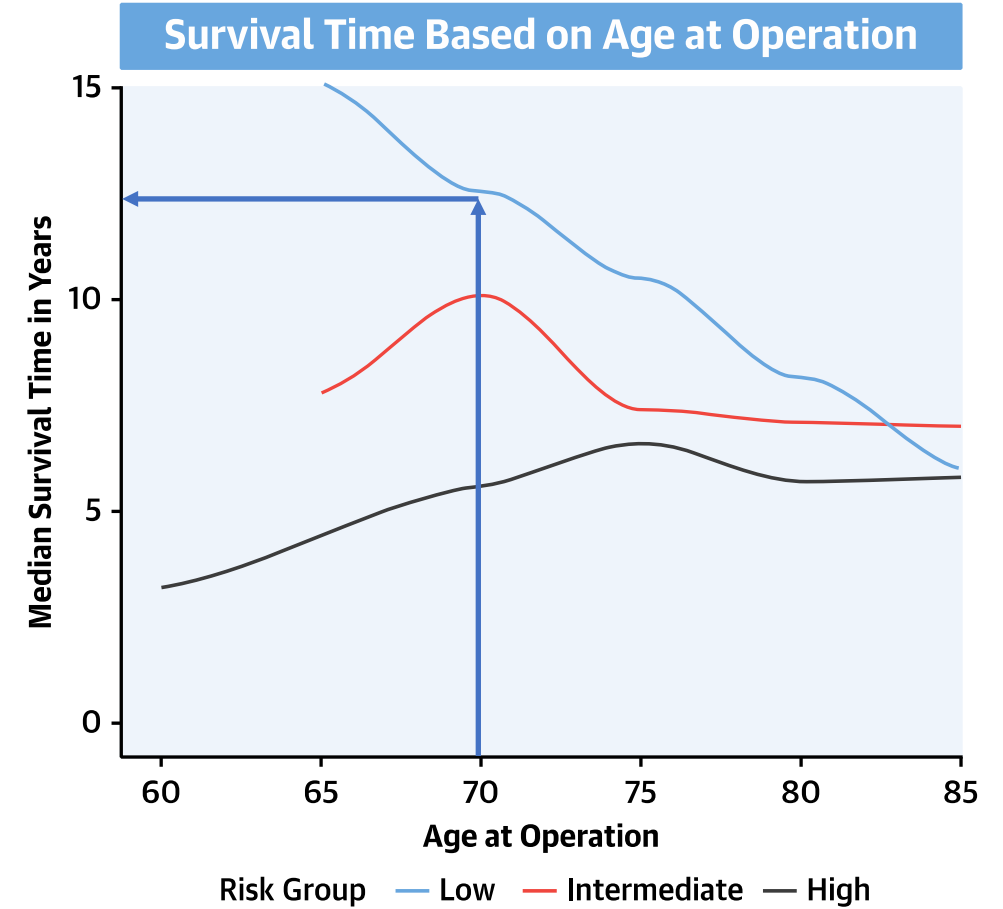
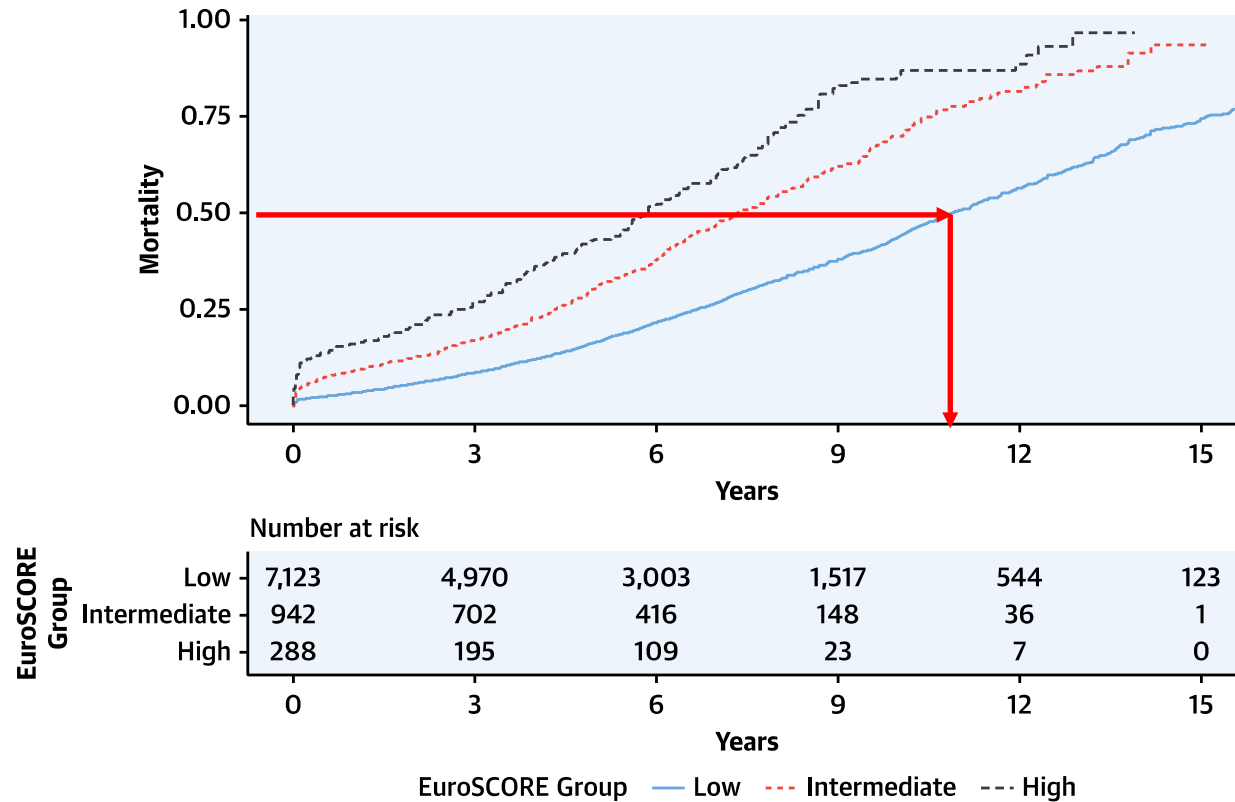
Institut national  
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INSERM U1060

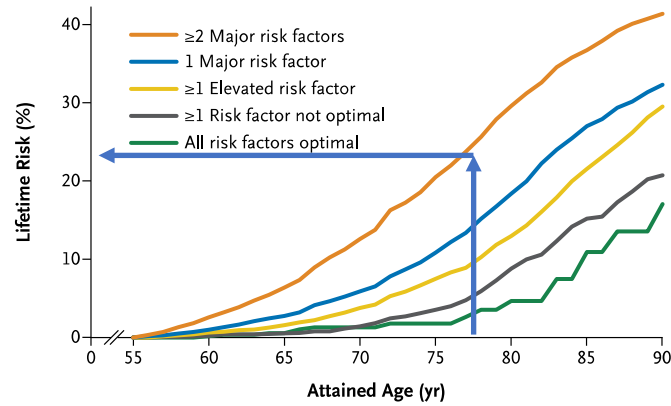




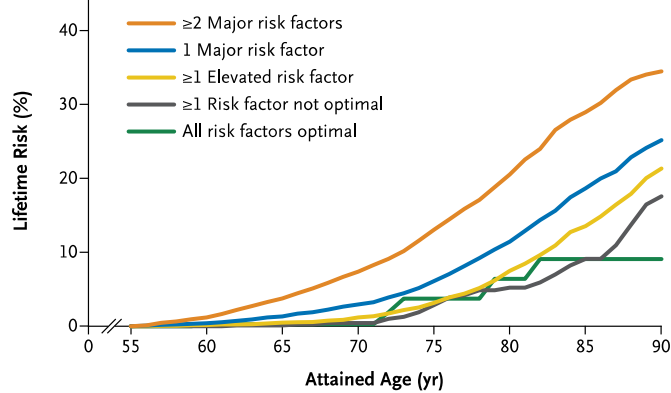
**CENTRAL ILLUSTRATION** Cumulative Mortality After Surgical Aortic Valve Replacement With a Bioprosthesis for Aortic Stenosis



# Coronary disease expectancy

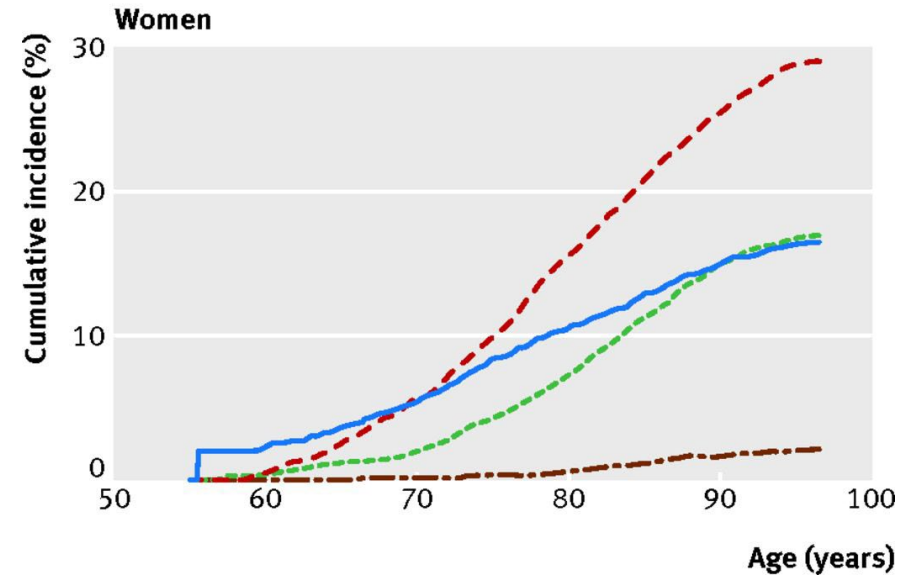
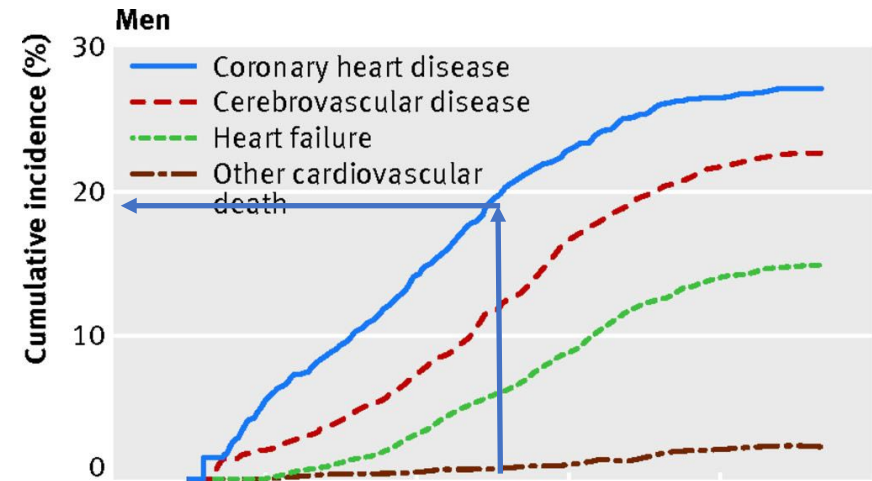


**Figure 1.** Lifetime Risk of Death from Cardiovascular Disease among Black Men and White Men at 55 Years of Age, According to the Aggregate Burden of Risk Factors and Adjusted for Competing Risks of Death.



**Figure 2.** Lifetime Risk of Death from Cardiovascular Disease among Black Women and White Women at 55 Years of Age, According to the Aggregate Burden of Risk Factors and Adjusted for Competing Risks of Death.

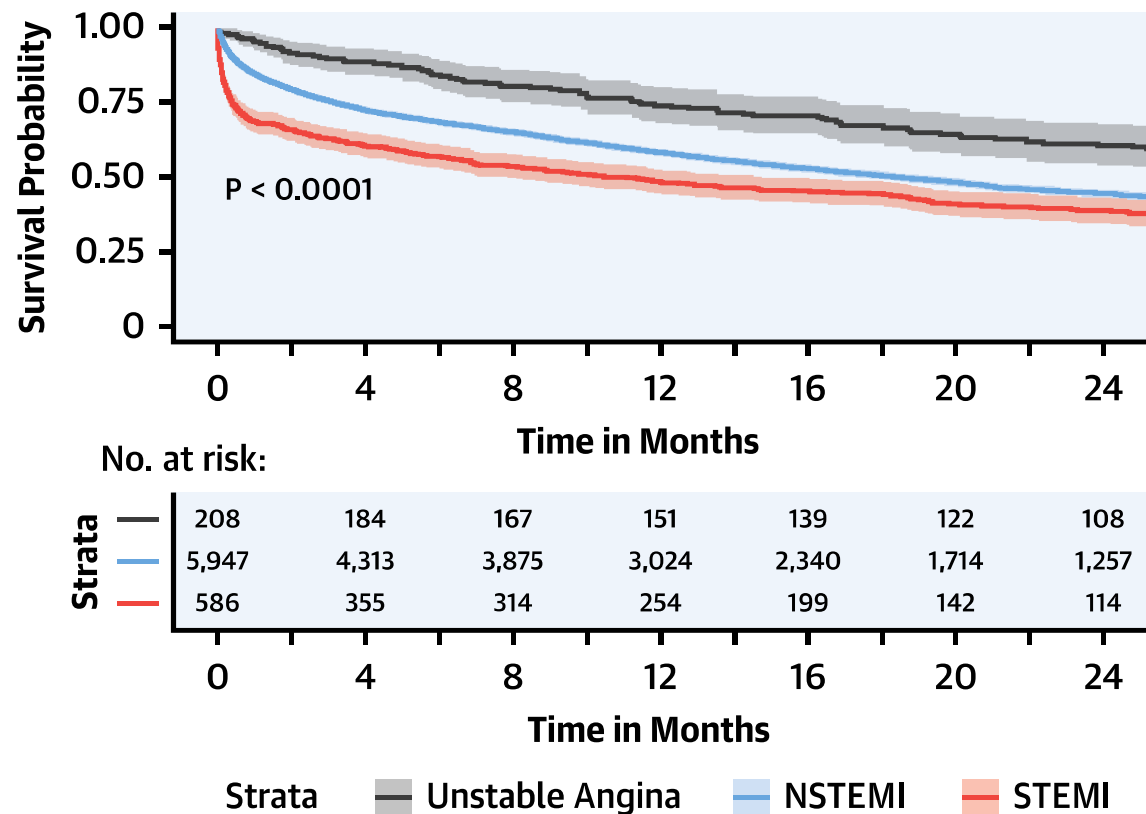
*Berry NEJM 2012*

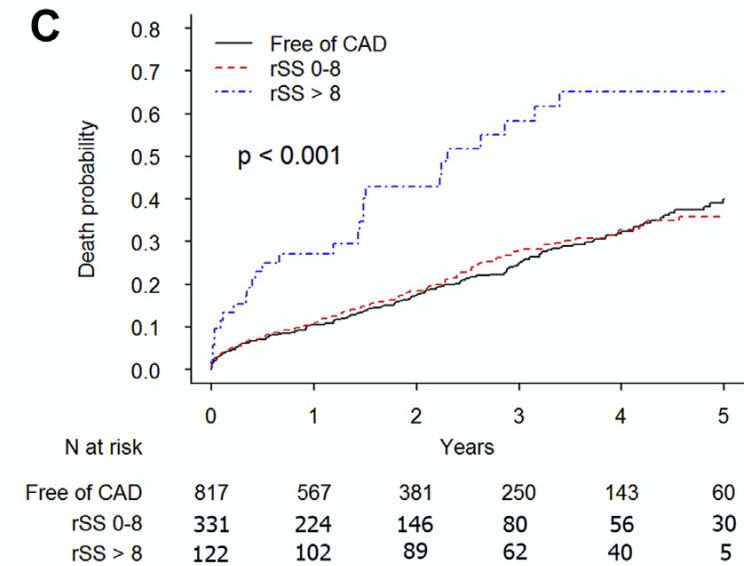
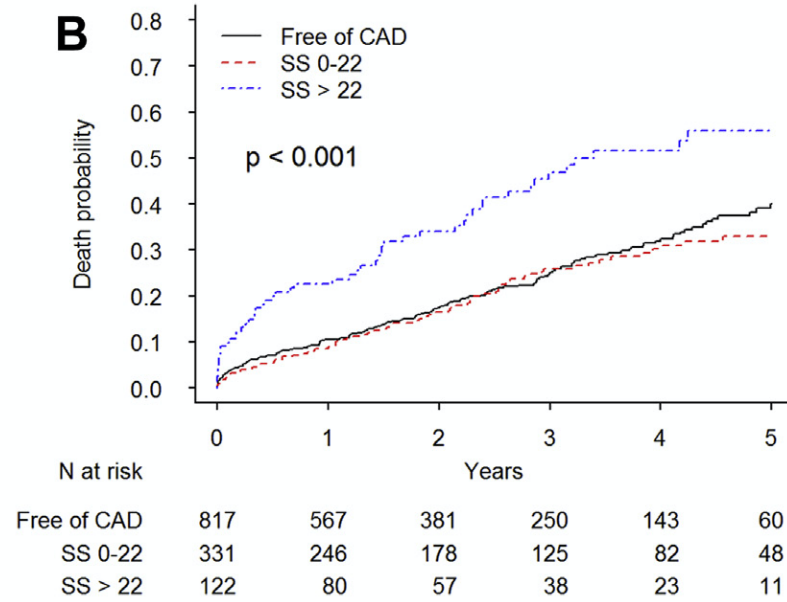


*Leening BMJ 2014*

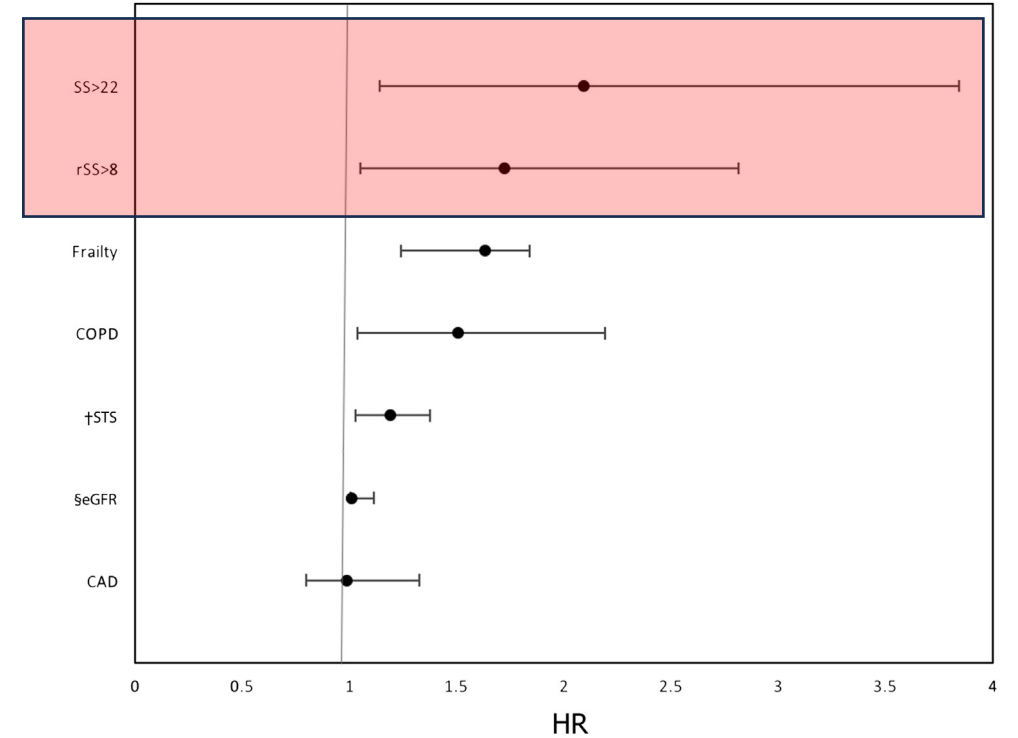
## 5% ACS median 1y post TAVI

**B** Survival by Type of Acute Coronary Syndrome



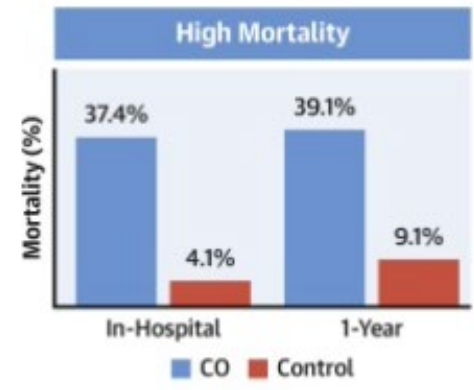
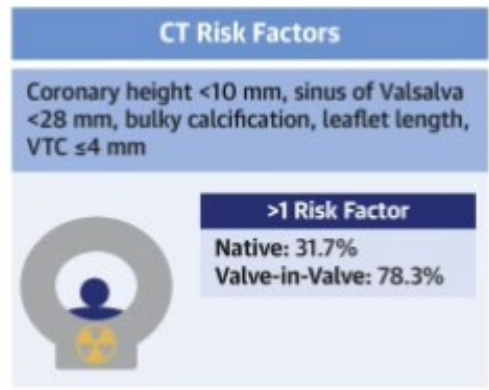
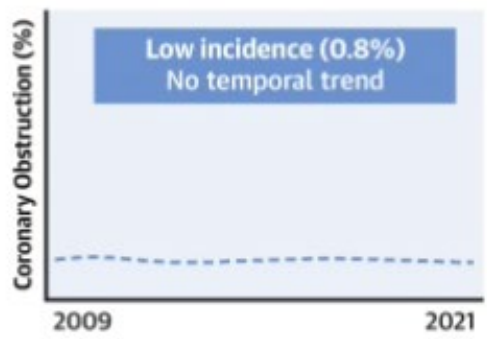
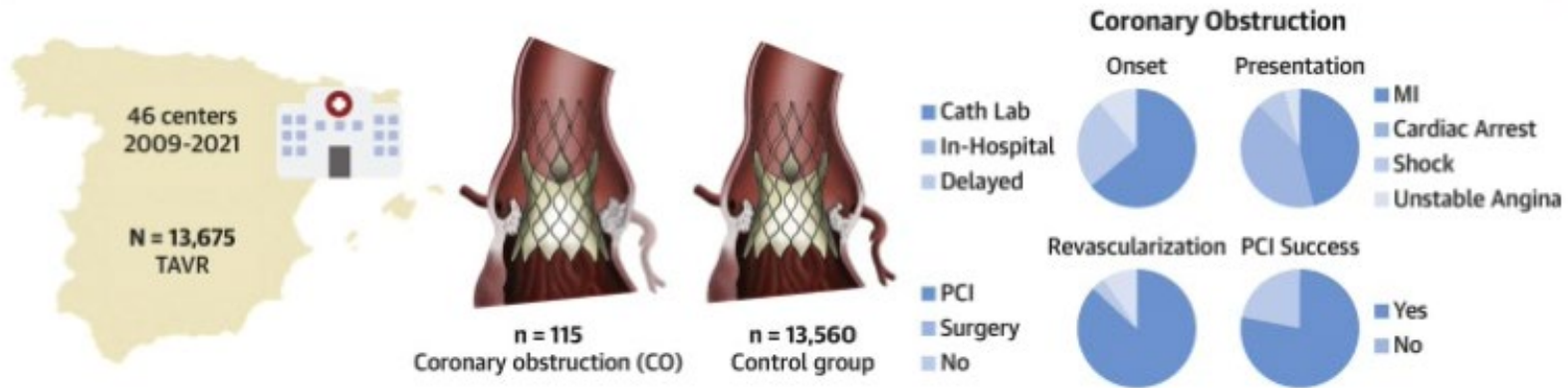


**FIGURE 3** Independent Predictors of Post-TAVR Mortality\*

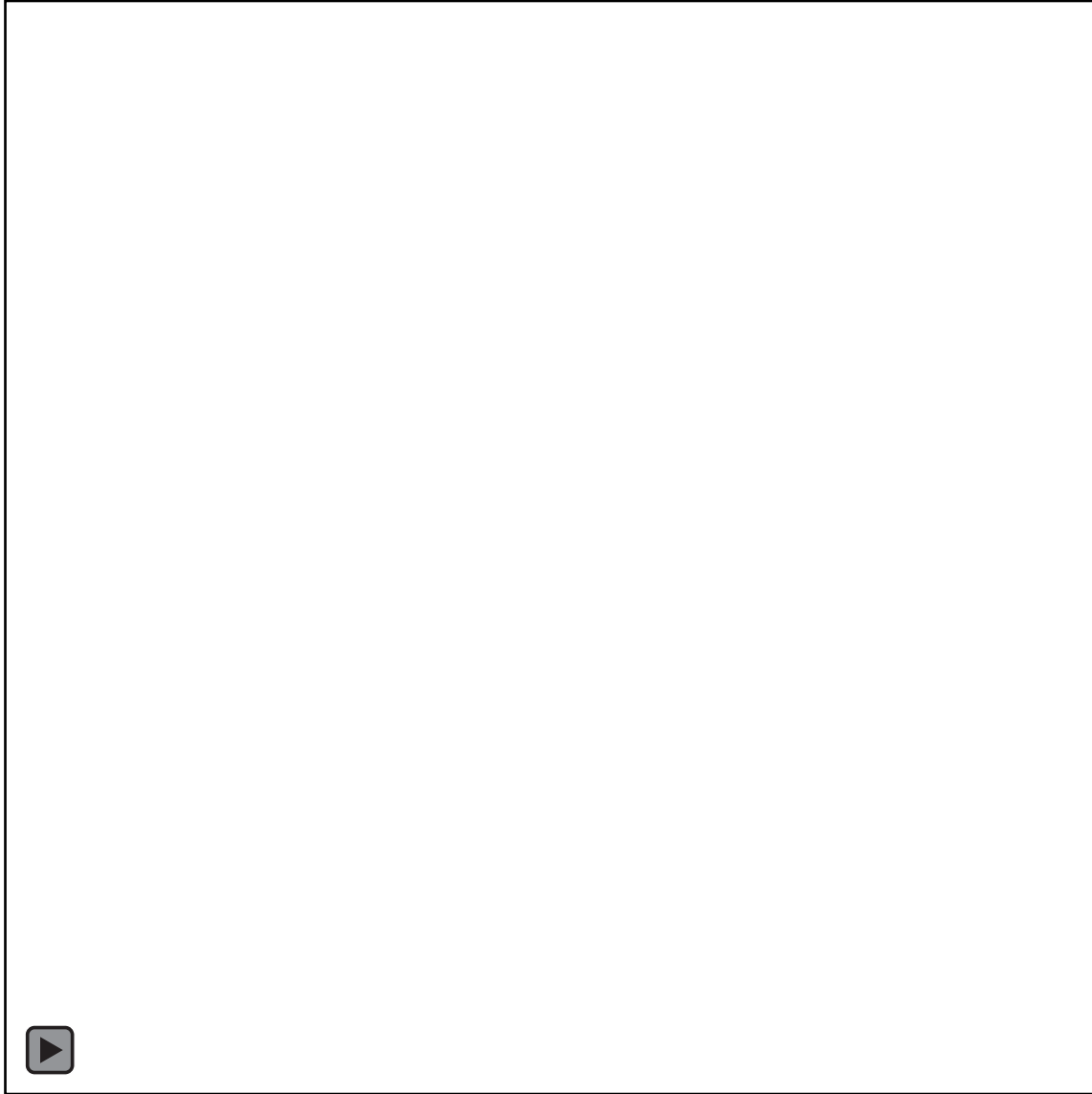


## CENTRAL ILLUSTRATION: Coronary Obstruction in a Large Cohort of Patients Undergoing TAVR

### Coronary Obstruction Following TAVR: Spanish TAVI Registry

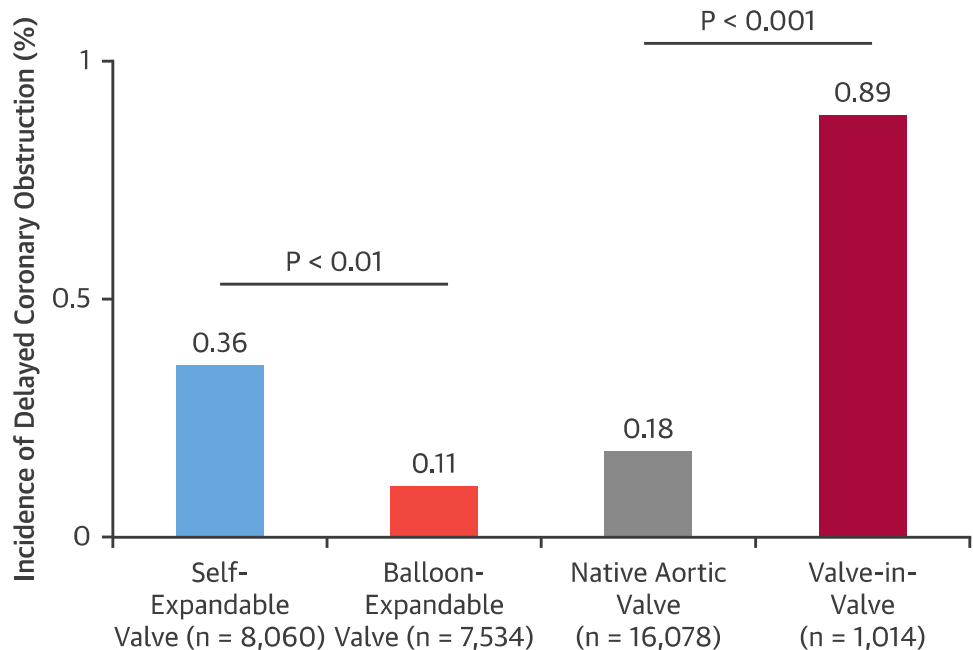


Ojeda S, et al. J Am Coll Cardiol Interv. 2023;16(10):1208-1217.

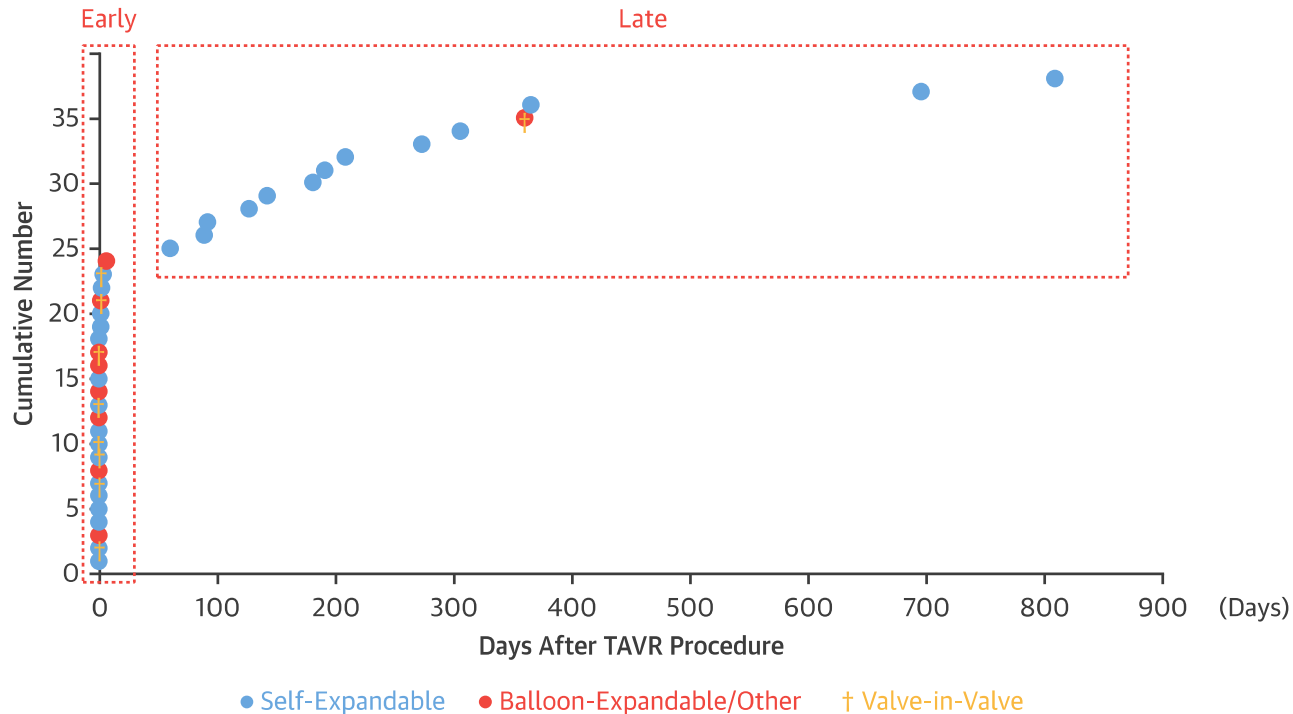


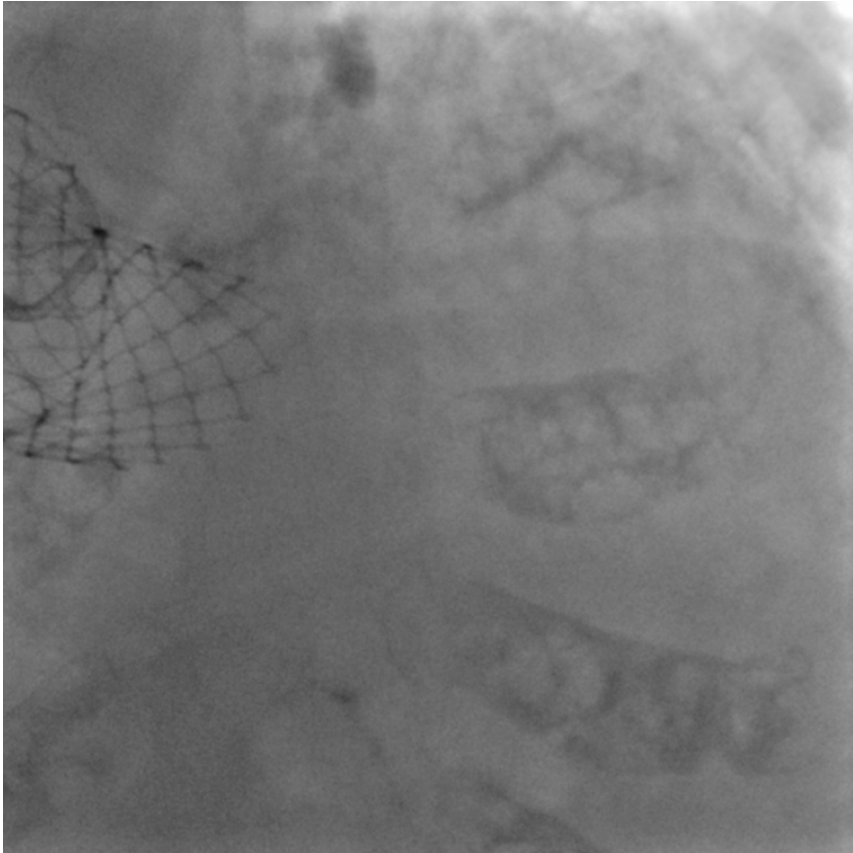


**FIGURE 1** Incidence of Delayed Coronary Obstruction According to Valve Type and TAVR Procedure

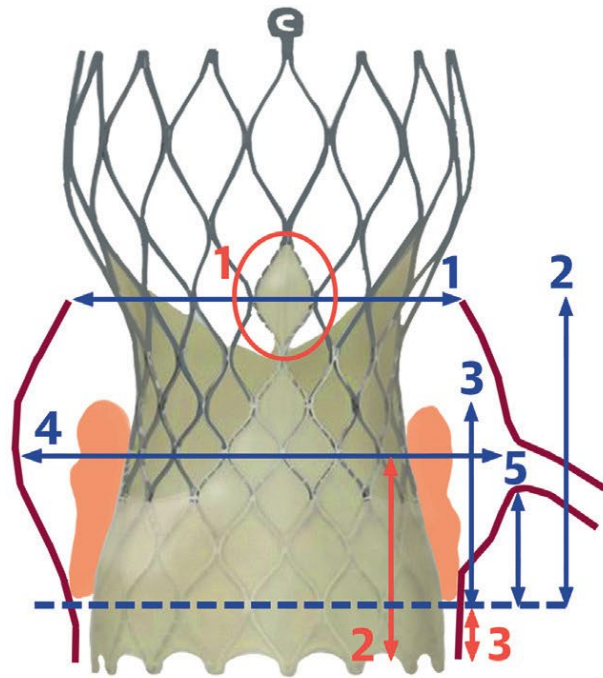


**FIGURE 2** Timing of Delayed Coronary Obstruction Events Following TAVR Procedure



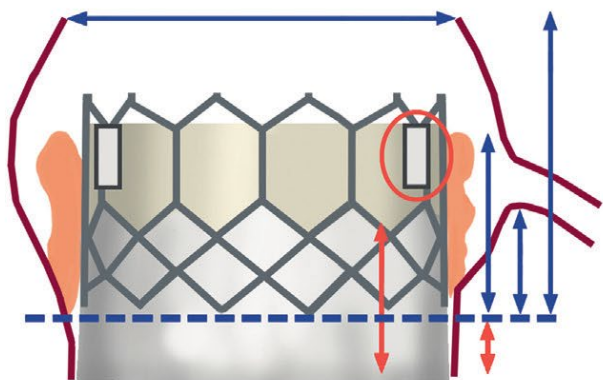


# Factors Impacting Coronary Access



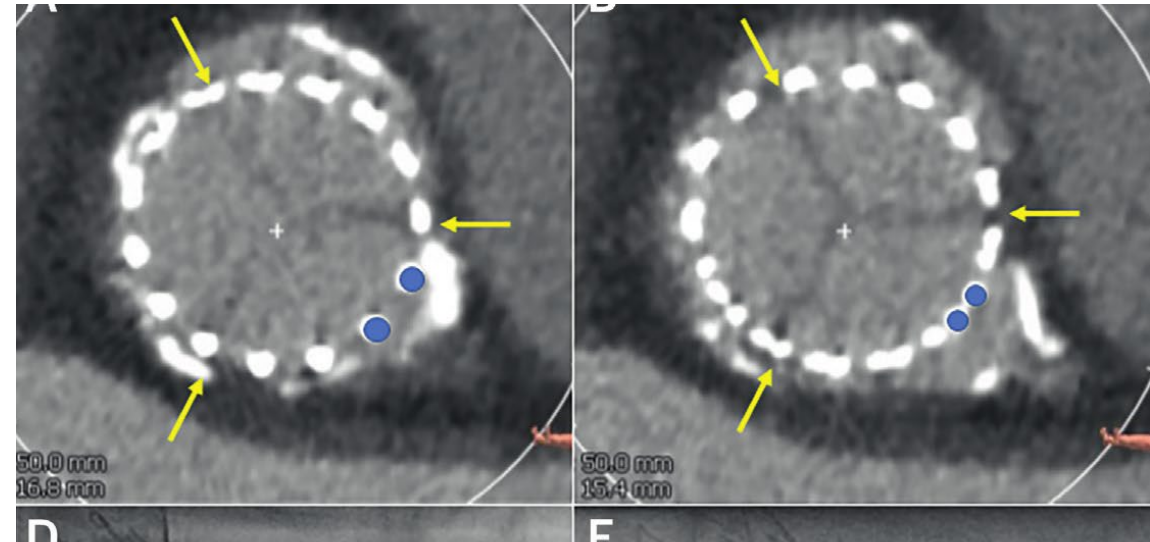
## Anatomical

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



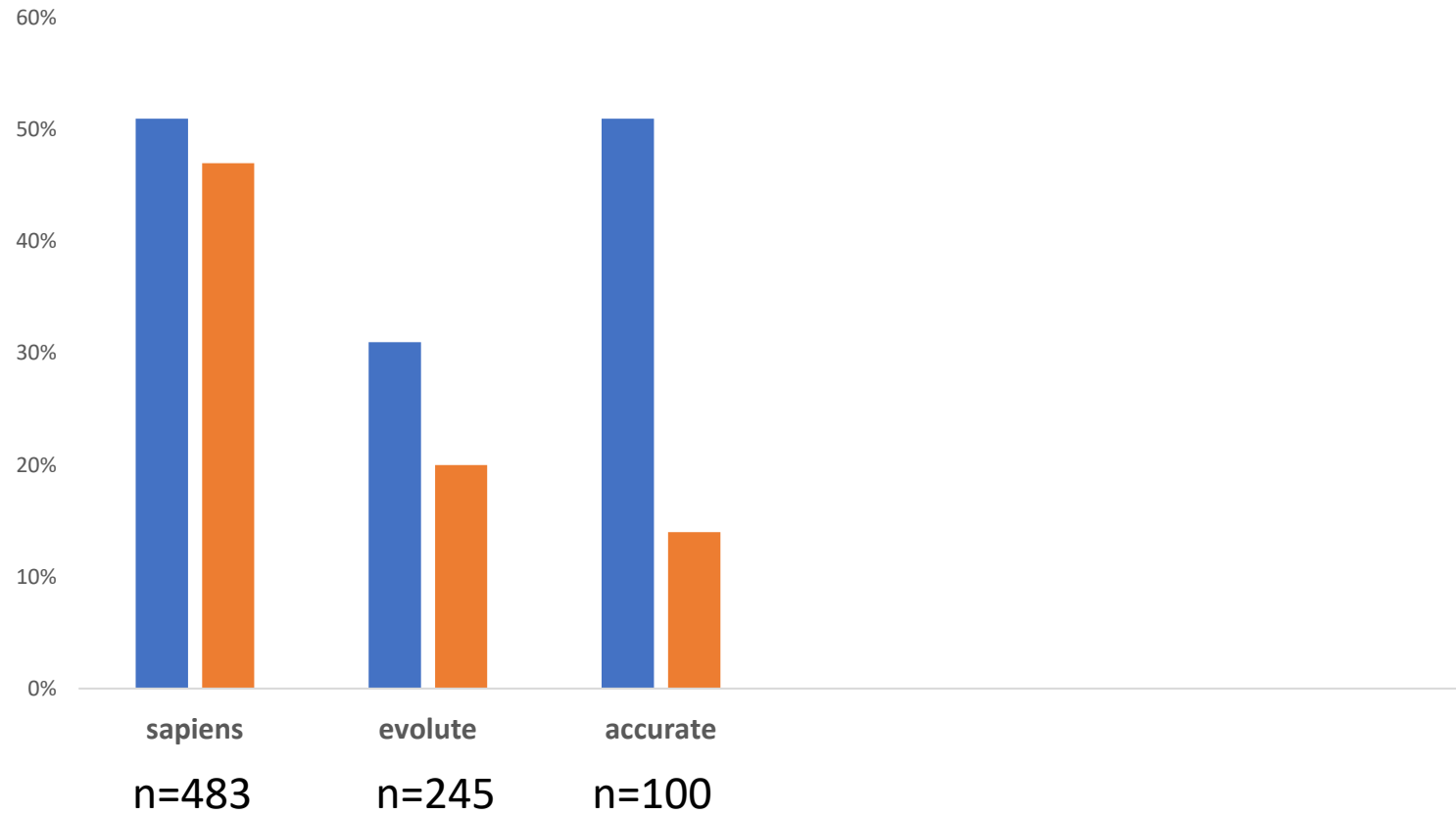
## Device and Procedural

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



*n=828*

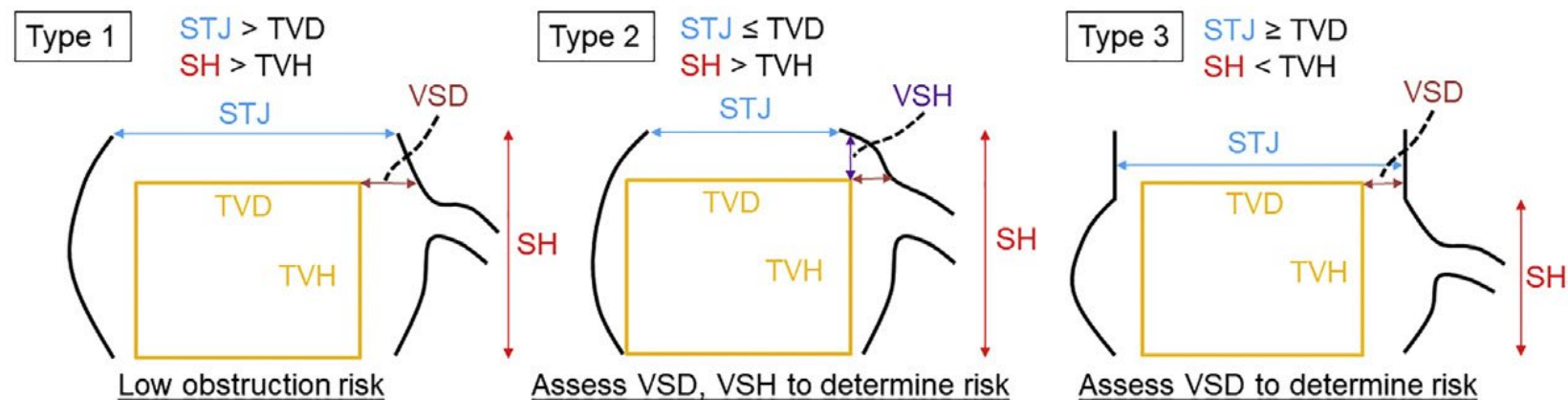
### 1 or both coronary overlap



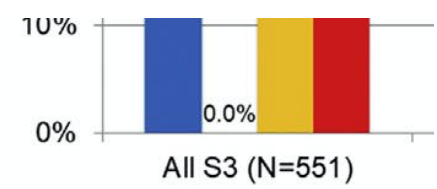
■ overall ■ crimping orientation

# TAVI & coronary risks: what about the next 10 years and TAVI in TAVI

**A**



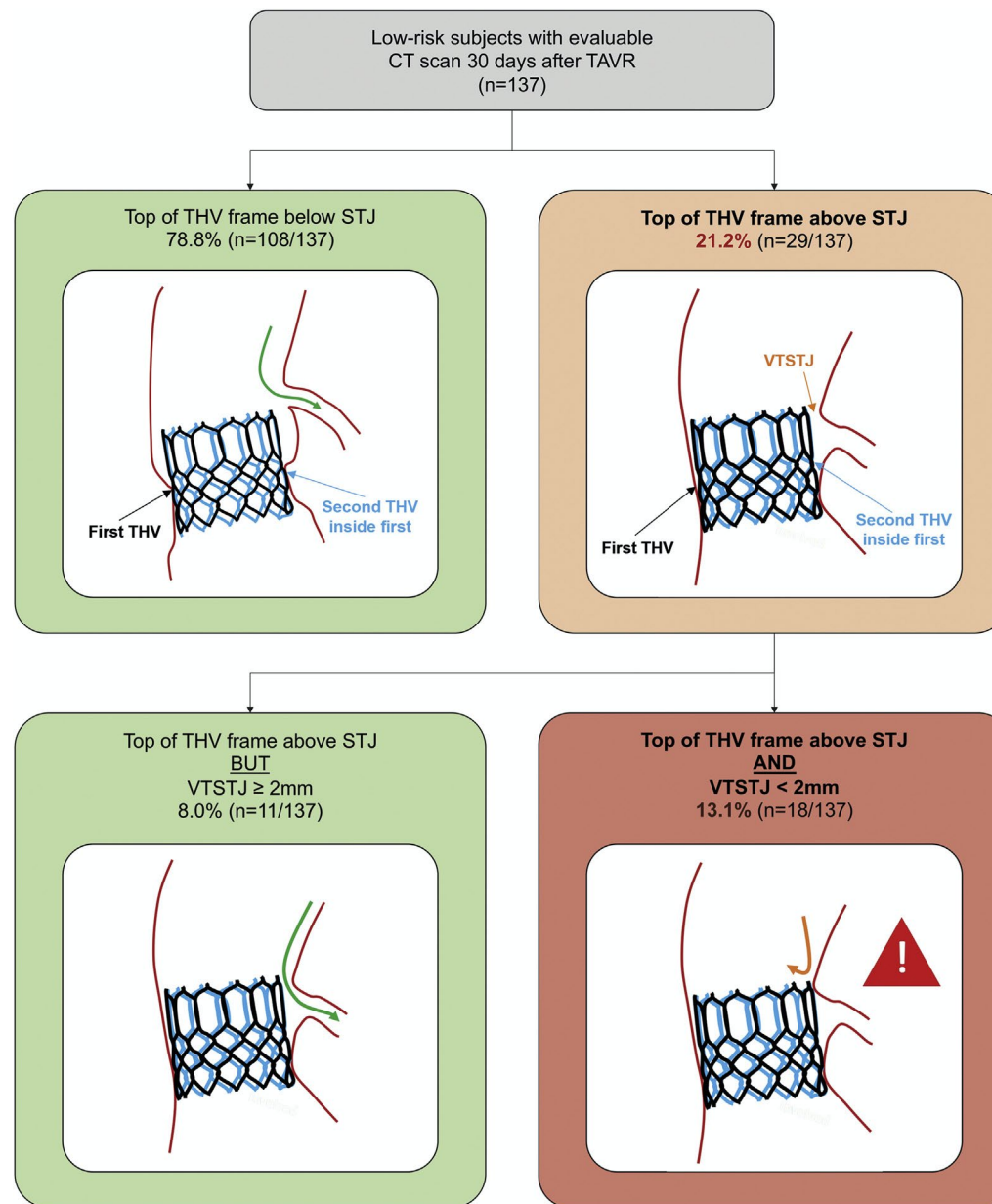
**Feasibility of TAV-in-TAV in terms of left-main obstruction risk**



**D**

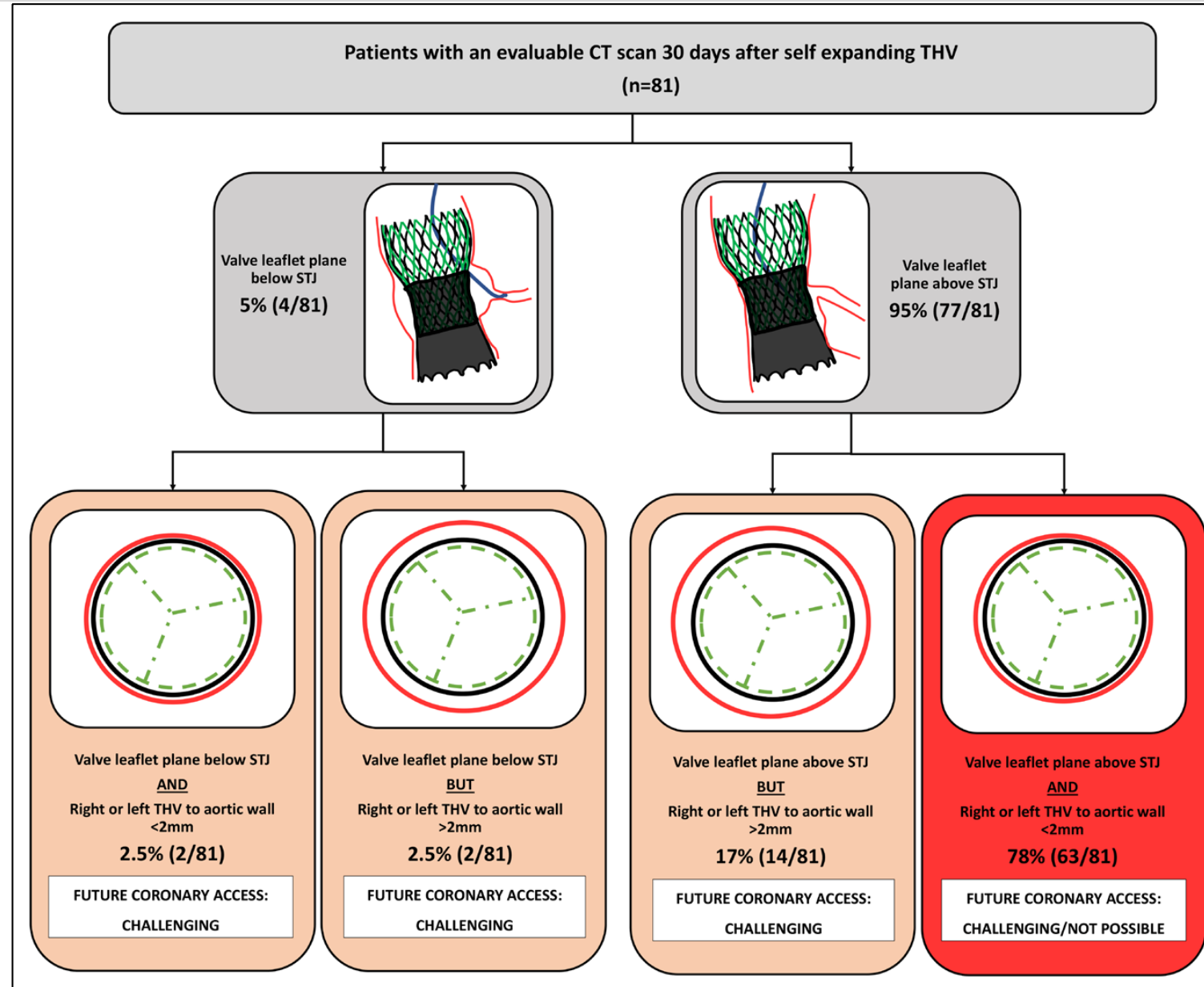
Sinus Height	
Type 2 Root	Overall
	23 S3
	26 S3
	29 S3
Type 3 Root	Overall
	23 S3
	26 S3
	29 S3
STJ (Minimum)	
Type 2 Root	Overall
	23 S3
	26 S3
	29 S3

**FIGURE 2** Feasibility of Future TAVR-in-TAVR

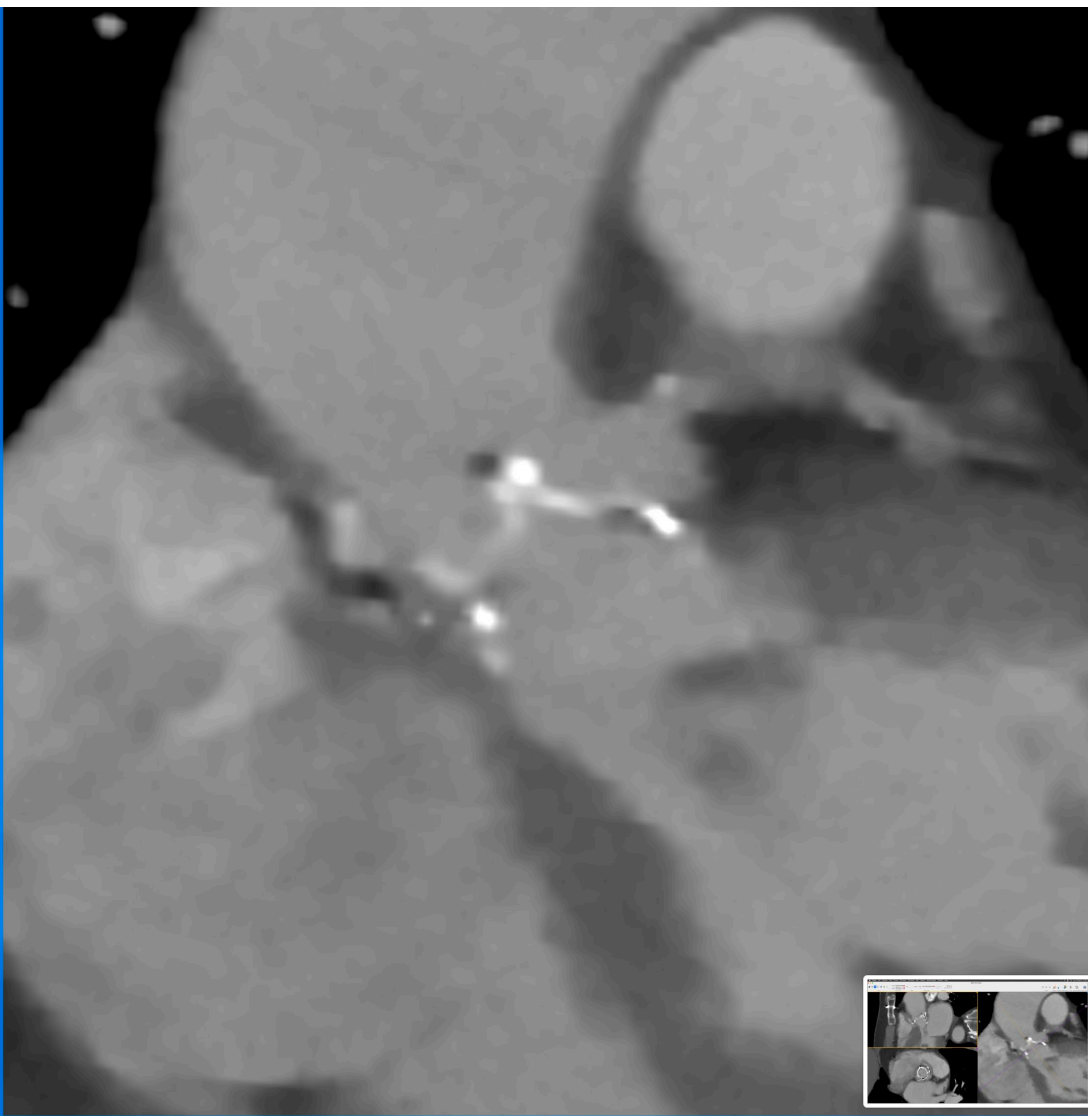
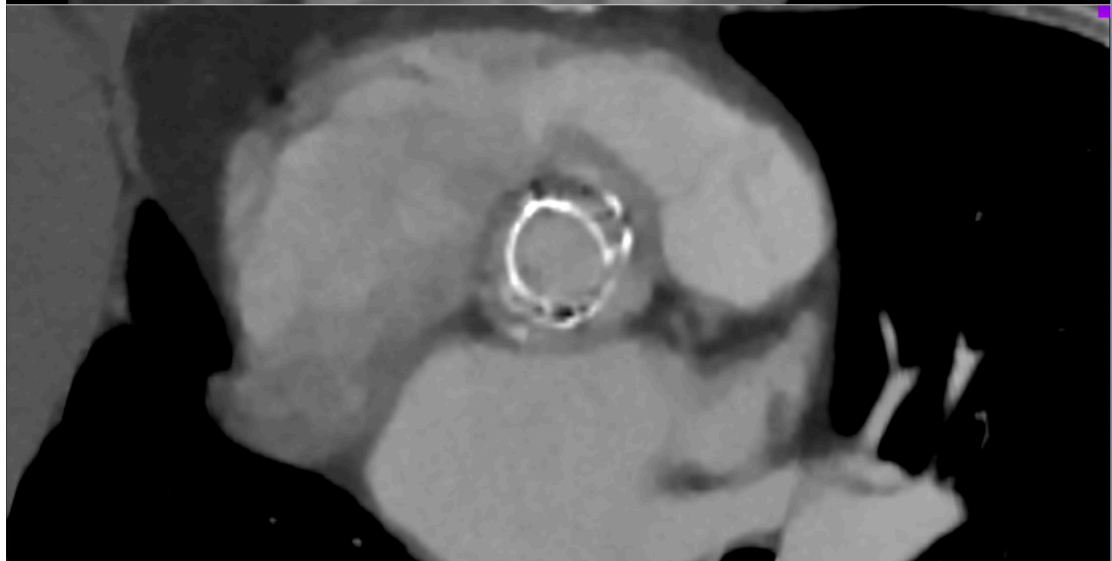
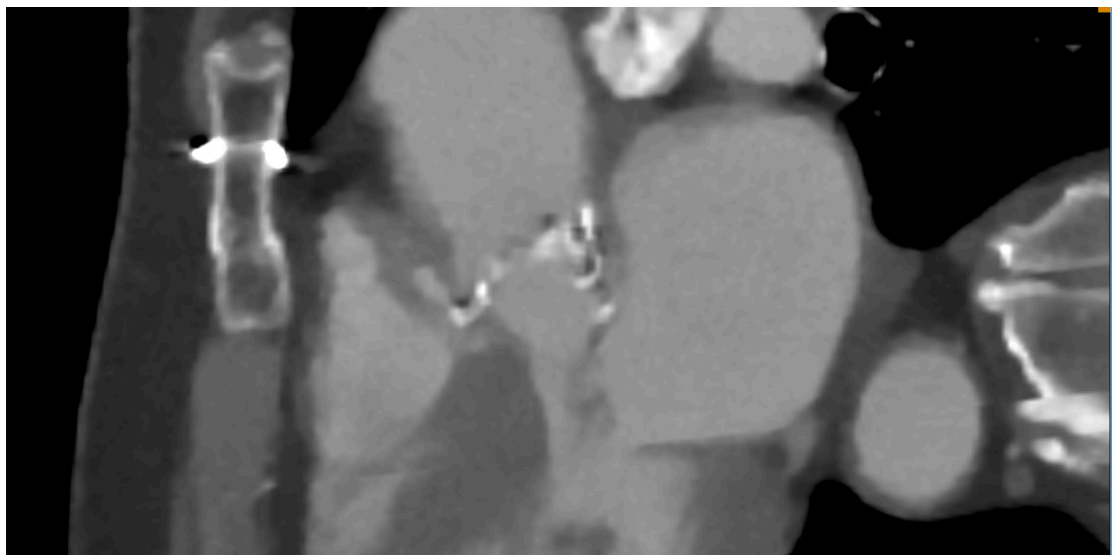


# TAVI & coronary risks: what about the next 10 years and TAVI in TAVI

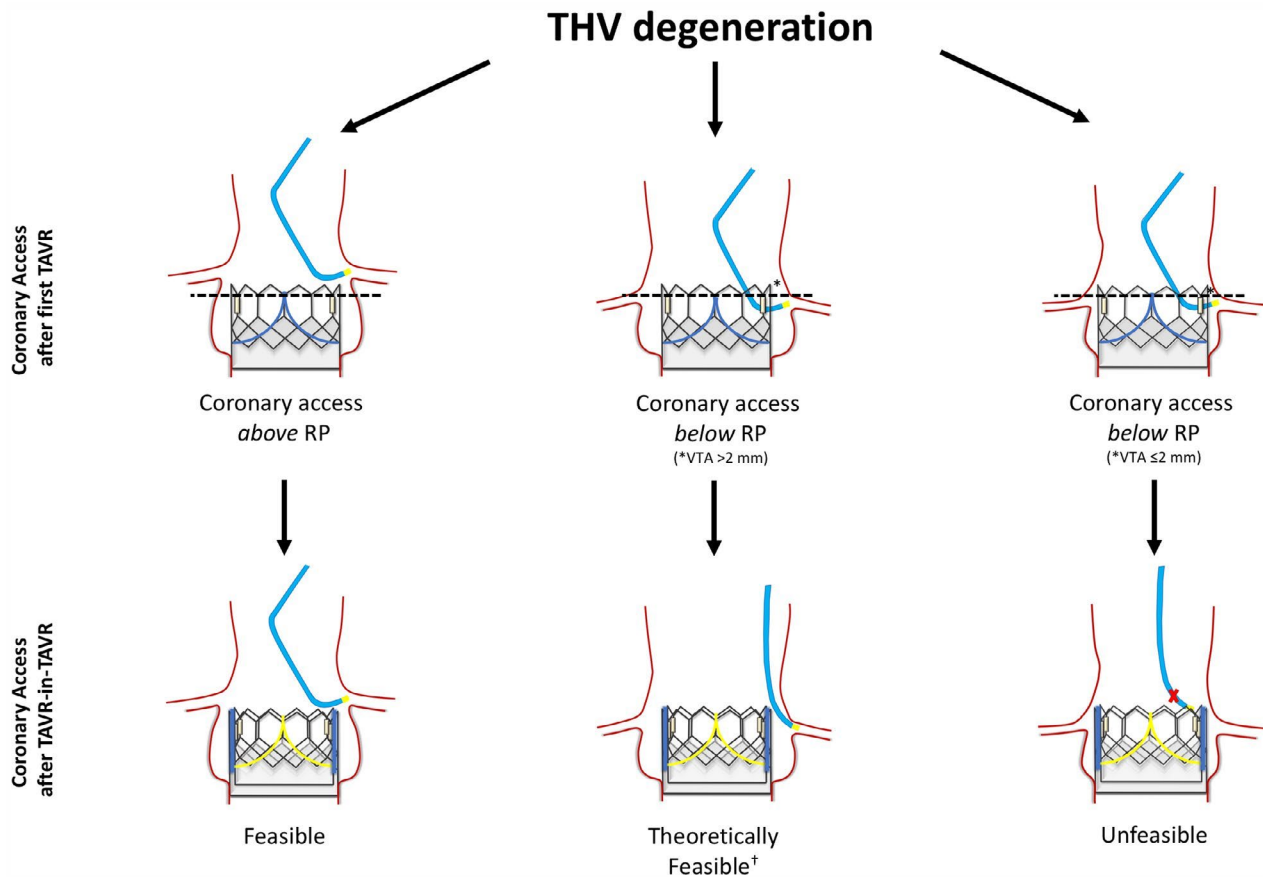
n=81



**Figure 5.** Feasibility of future coronary access after transcatheter aortic valve replacement (TAVR)-in-TAVR with self-expanding transcatheter heart valve (THV) inside self-expanding THV.





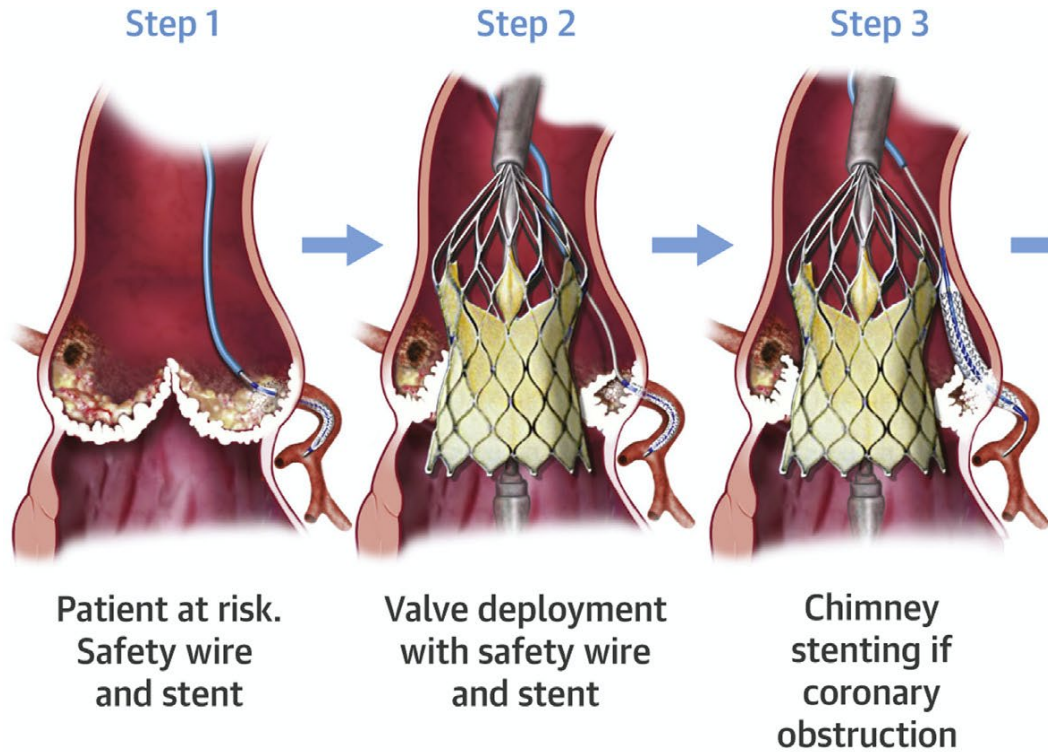


	SAPIEN 3/ULTRA N=72	EVOLUT R/PRO N=26	ACURATE NEO N=39
<b>CA above RP</b>	CA above RP		
<b>TAVR-in-TAVR feasible (40.9%)</b>			
<b>68.1%</b>	<b>19.2%</b>	<b>5.1%</b>	
<b>CA under RP - VTA &gt; 2mm</b>	CA under RP - VTA > 2mm		
<b>TAVR-in-TAVR theoretically feasible (27.7%)</b>			
<b>8.3%</b>	<b>42.3%</b>	<b>53.8%</b>	
<b>CA under RP - VTA ≤ 2mm</b>	CA under RP - VTA ≤ 2mm		
<b>TAVR-in-TAVR unfeasible (31.4%)</b>			
<b>23.6%</b>	<b>38.5%</b>	<b>41.1%</b>	

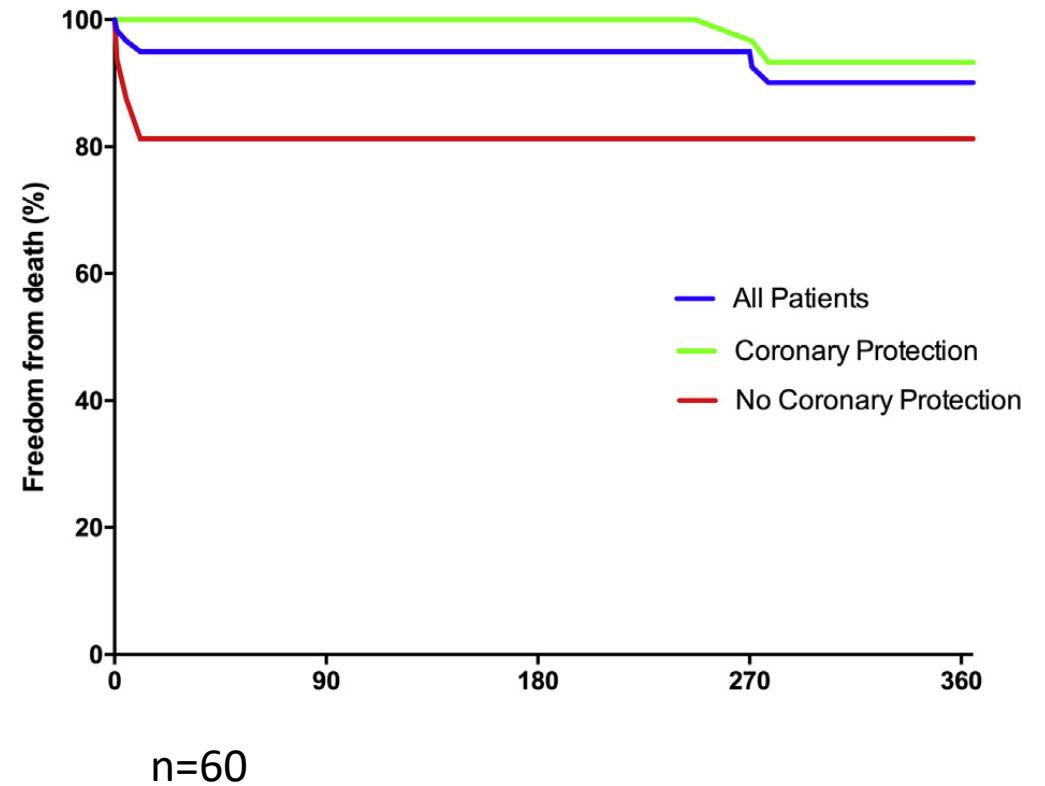
**Table 3. Multivariate Analysis of CA Impairment After TAVR-in-TAVR**

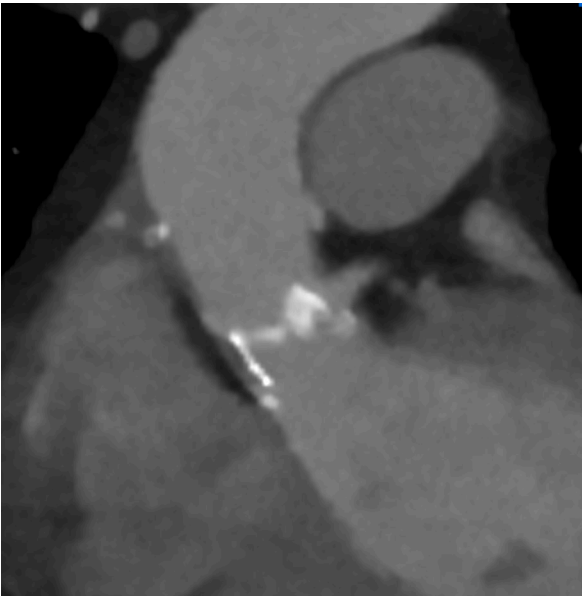
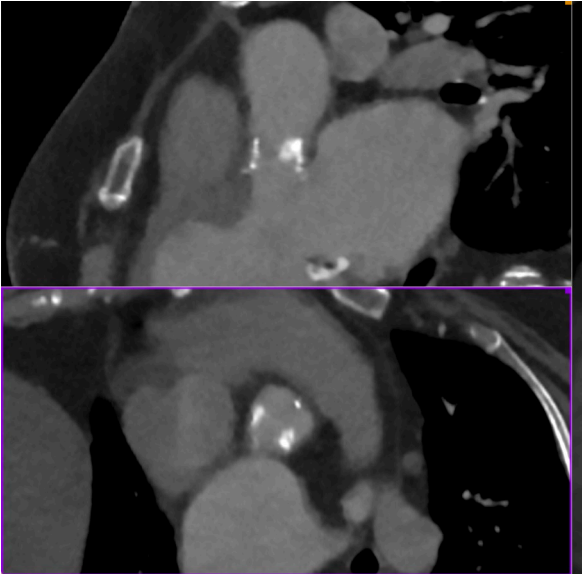
Predictor Variable	Predictor Variable in Unfeasible vs Feasible	OR (95% CI)	P Value
Female sex, %	41 vs 22.5	3.99 (1.07–14.86)	0.040
Supra-annular design, %	41 vs 23	6.61 (1.98–22.03)	0.002
STJ diameter, mean±SD	25.5±2.3 vs 29±3.6	0.62 (0.48–0.80)	<0.001
Left coronary cannulation height, mean±SD	14.8±1.7 vs 16.8±2.6	0.52 (0.37–0.74)	<0.001

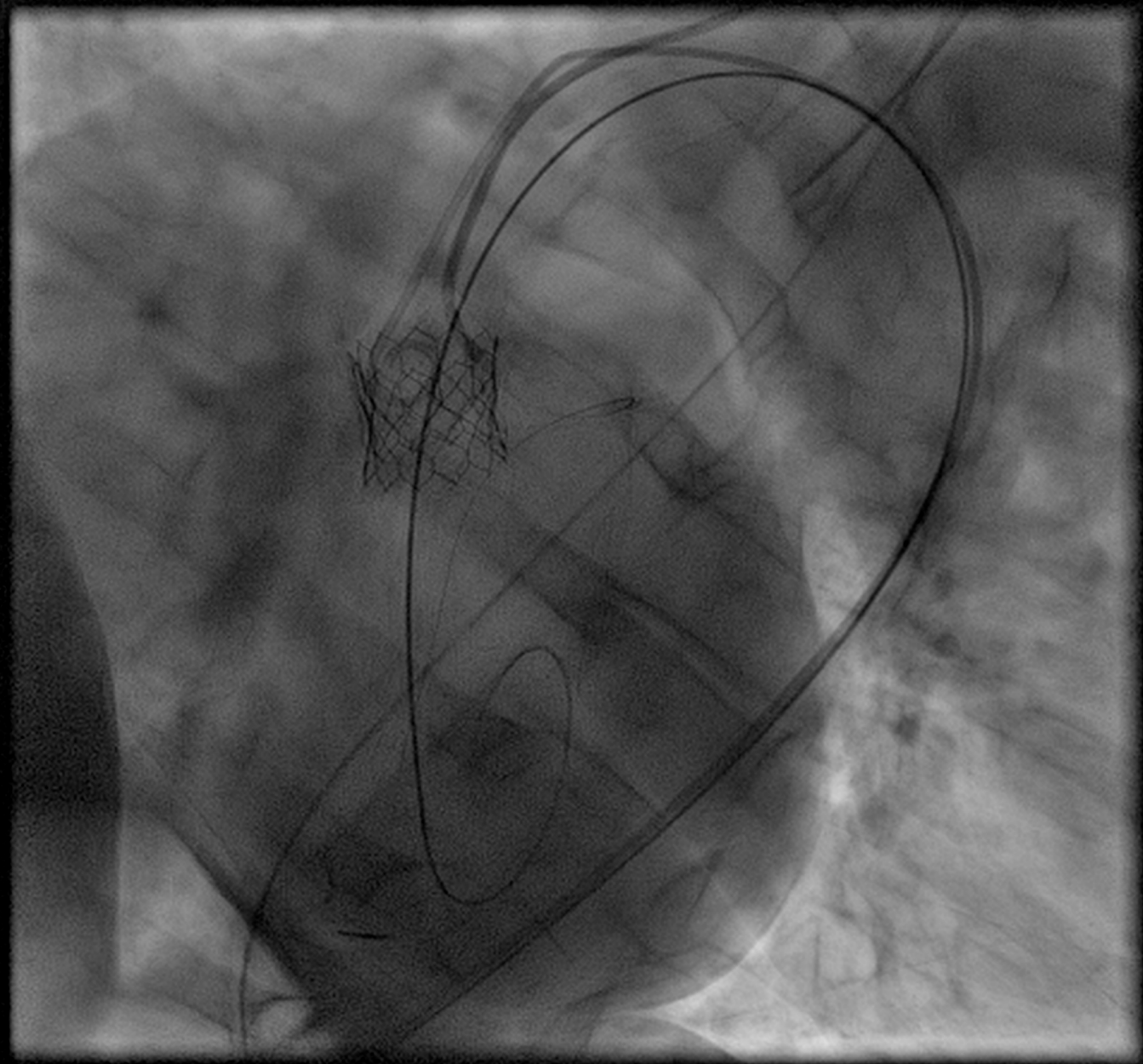
## CENTRAL ILLUSTRATION Chimney Stenting Procedural Steps



## FIGURE 2 One-Year All-Cause Death After TAVR With Chimney Stenting







# Le TAVI et les coronaires

## Avant le TAVI

burden coronarien  
évolution coronaropathie  
anticipation ostia

## Pendant le TAVI

positionnement  
orientation commissure  
protection ostia

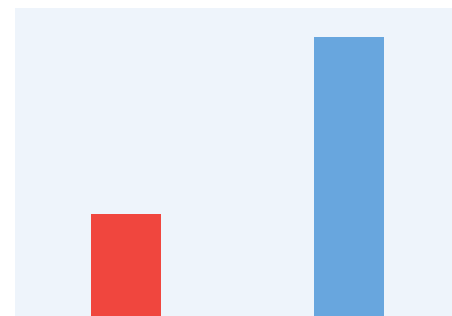
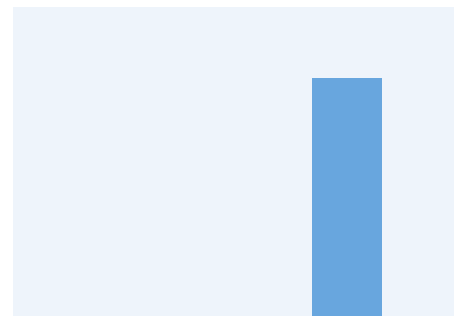
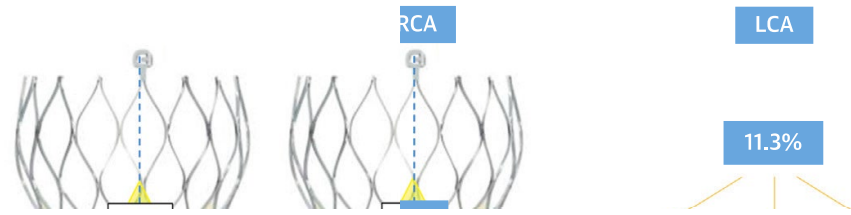
## Après le TAVI

accès ostia  
prévoir TAVI *in* TAVI !!!





Identified Features of Unfavorable Coronary Access  
Low the Skirt or in Front of the THV Commissure





**CENTRAL ILLUSTRATION** Assessment of Coronary Accessibility After Transcatheter Aortic Valve Replacement-in-Transcatheter Aortic Valve Replacement Using an Integrative Approach Studying Coronary Height, Aortic Root Dimensions, and Different Transcatheter Heart Valve Characteristics

