TCT 2025: *Transcaval Transcatheter Aortic Valve Replacement: Safety and Feasibility in Routine Practice "The Vigo Experience"*

Real-World Outcomes of Transcaval TAVR: A Single-Center Study from Spain

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Disclosure of Relevant Financial Relationships

I, Alfonso R. Mitre DO NOT have any financial relationships to disclose.

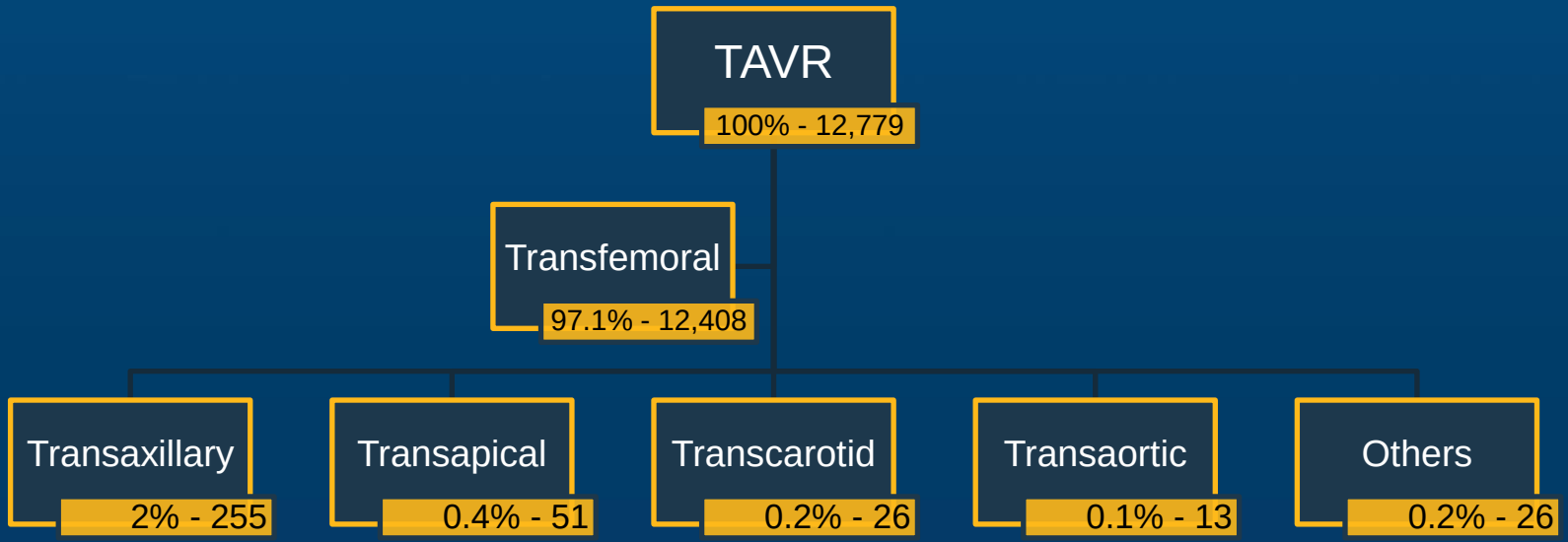
Why this study?

- Despite the preference for transfemoral access in TAVR, it is unsuitable for up to 10% of patients due to anatomical contraindications.
- Transcaval access offers a viable alternative for patients unsuitable for conventional transfemoral TAVR.
- Precise preprocedural planning with computed tomography enhances the procedure's safety and effectiveness.

Palmerini, T, Saia, F, Kim, W. et al. Vascular Access in Patients With Peripheral Arterial Disease Undergoing TAVR: The Hostile Registry. *J Am Coll Cardiol Intv.* 2023 Feb, 16 (4) 396–411

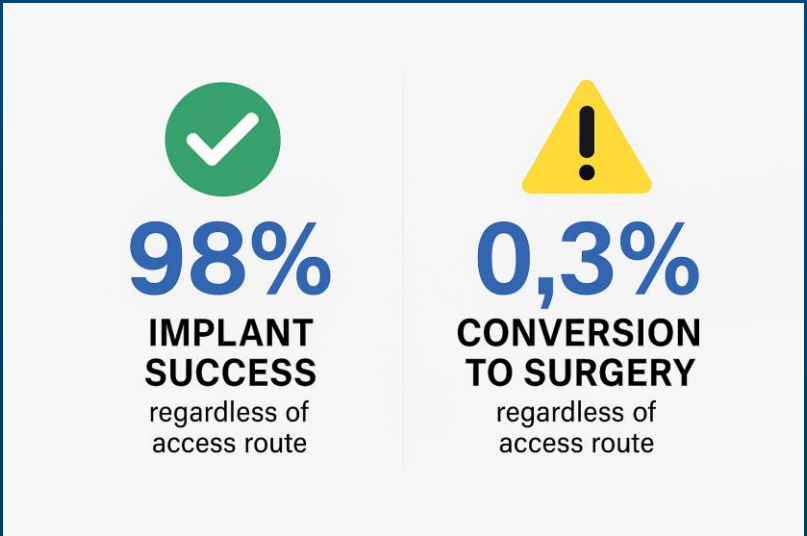
The Spanish TAVR Landscape

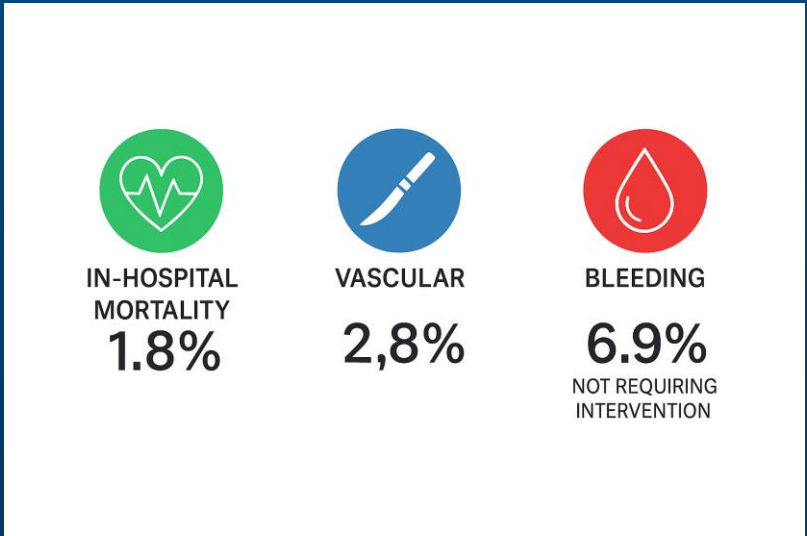
- According to the most recent Spanish TAVR registry covering the 2021–2025 period, the following data were reported.



Jiménez Q P. Spanish TAVI registry [oral presentation]. In: 36th Congress of the Spanish Interventional Cardiology Association (ACI-SEC); June 4–6, 2025; Santiago de Compostela, Spain.

Outcomes





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What did we study?

- This study aims to assess the feasibility, safety, and clinical outcomes of transcaval TAVR in a single Spanish-center registry, according to VARC-3 criteria.

- This prospective registry included all consecutive patients with severe symptomatic native aortic stenosis or degenerated bioprosthetic valves undergoing transcaval TAVR.

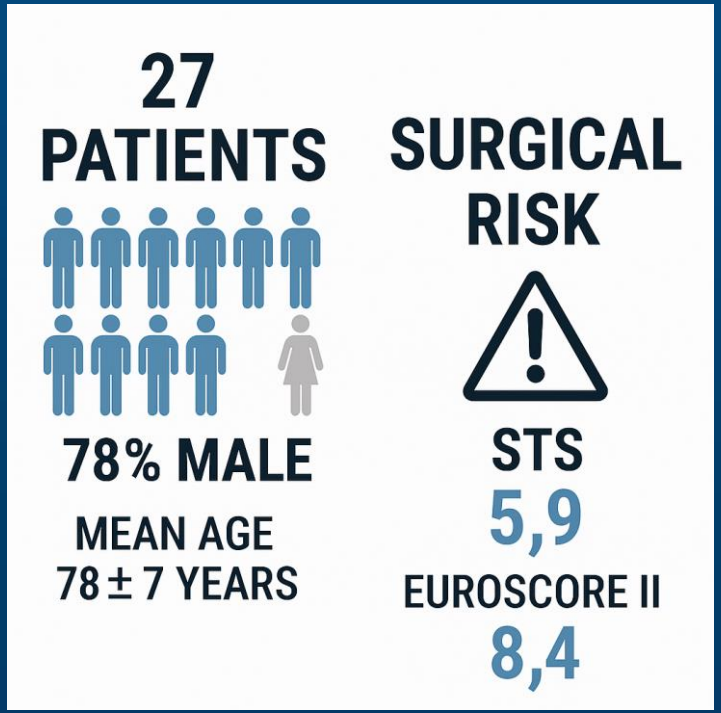
How was the study executed?

- All procedural and clinical data, as well as cumulative survival, were collected.

- Follow-up with contrast-enhanced CT or invasive angiography was performed to confirm aorto-caval fistula closure, only in cases of clinical instability before discharge or during follow-up in patients with a persistent fistula tipo 2 at discharge.

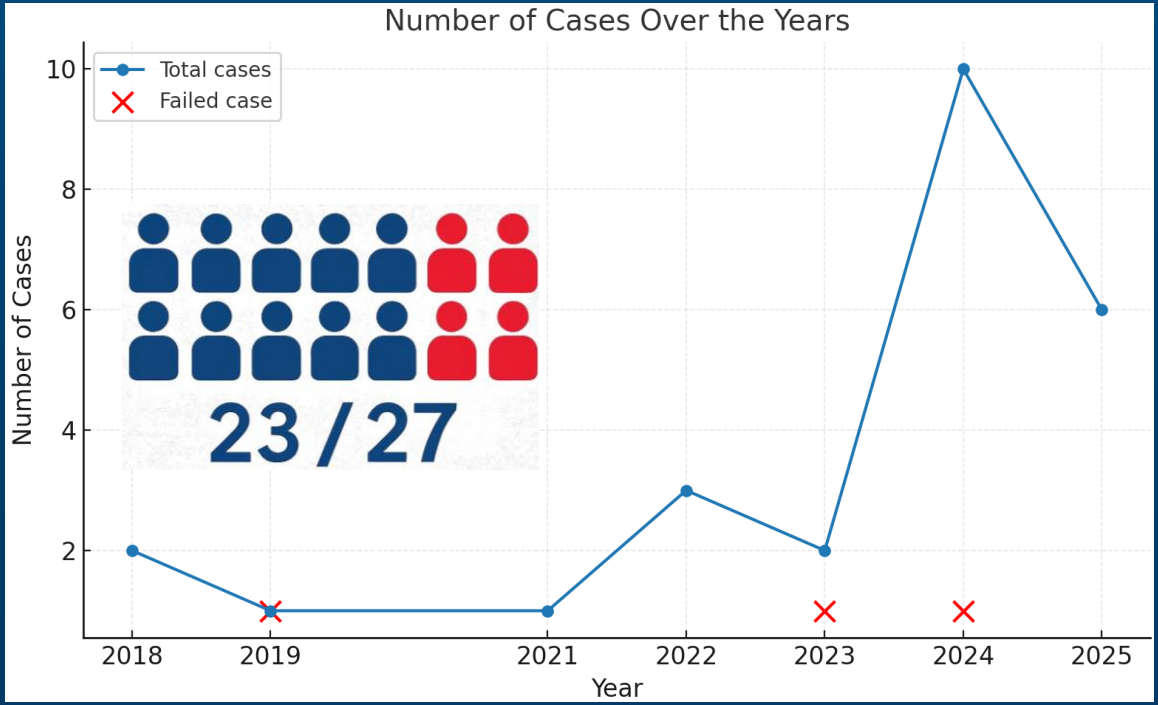
- Early and late safety outcomes were assessed based on the VARC-3 composite criteria.

Baseline Clinical Characteristics



Hypertension	96 %
Dyslipidemia	96 %
Coronary artery disease	59 %
Peripheral artery disease	100 %
Aortic valve mean gradient	37 ± 11mmHg
Aortic valve area	0.8 ± 0.2 cm^2
LVEF	49 ± 11 %

What are the essential results?



TECHNICAL SUCCESS

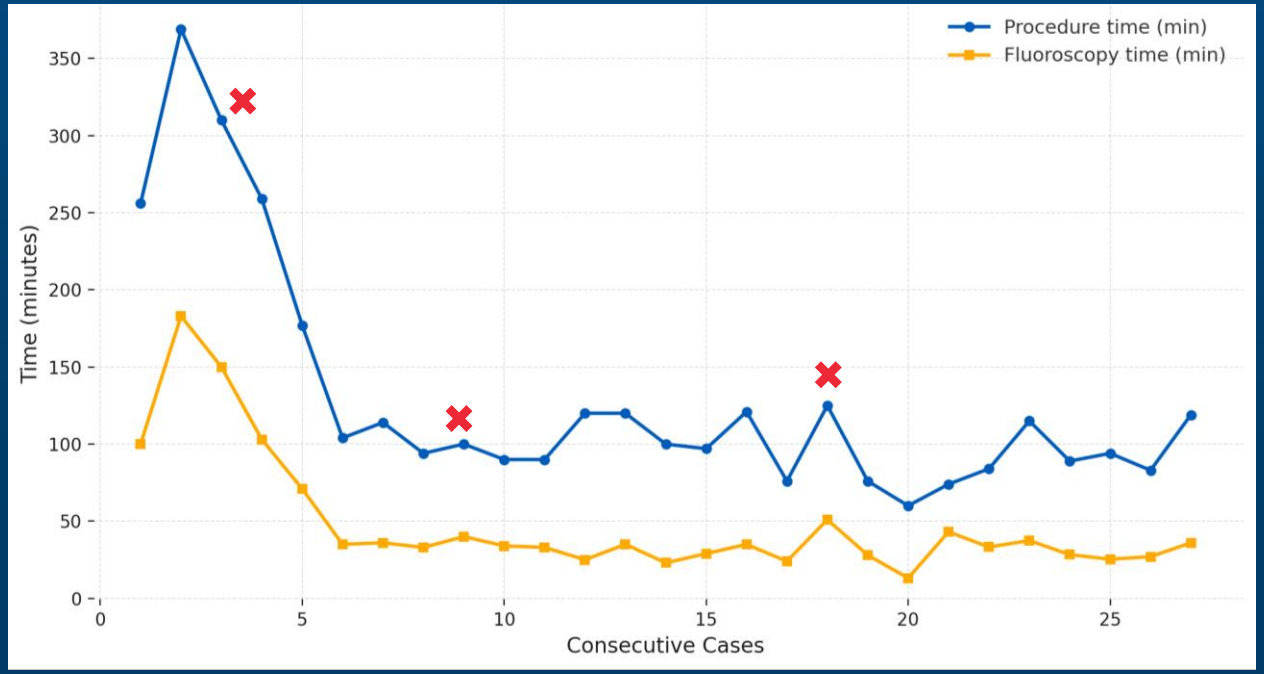
85%

ACHIEVING TRANSCAVAL ACCESS AND CLOSURE WITH A CARDIAC OCLUDER WITHOUT DEATH OR SURGERY CONVERSION

Procedural Characteristics

Procedural duration time, min	126 [60-369]
Fluoroscopy duration time, min	45 [13.1-183]
Volume of contrast, mL	202 [13-660]
General anesthesia	17 (63%)
Valve-in-Valve (2), TAVR in TAVR (1)	3 (12%)
Prosthesis type	
Self-expandable valve	22 (92%)
CoreValve Evolut R, Pro + or FX	15
Portico or Navitor	7
Ballon-expandable valve	2 (8%)
Sapiens 3 Ultra	2 (100%)
Predilatation, %	18 (75%)
Postdilatation, %	5 (21%)
TAVR success	23 (85%)
Closure device type	
Amplatzer Duct Occluder	23 (96%)
Days of hospitalization	10 [3-38]

Progressive Reduction in Procedural and Fluoroscopy Times

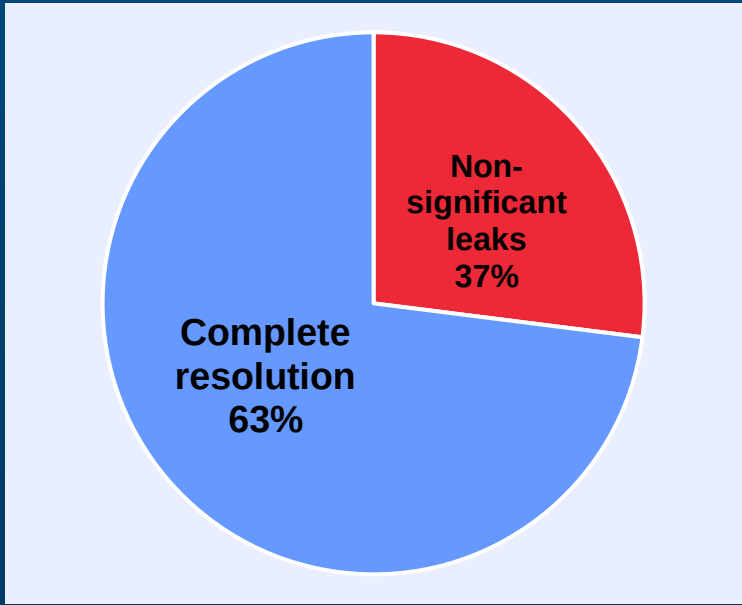


Experience – Drive Efficiency

Angiography at the end of the procedure

Aorto-caval fistulae	Baseline (n=24)
Complete closure	6 (25%)
Type 1 (funnel-shaped)	12 (50%)
Type 2 (cruciform-shaped)	6 (25%)
Type 3 (extravasation)	0

Follow-up with contrast-enhanced CT or angiography was performed in only ***eight*** patients (35dys)



Clinical Outcomes

30-days all-cause mortality (n=24)	**0**
30-days cardiovascular mortality	**0**
Neurologic events	
NeuroARC type Ia	0
Myocardial infarction	0
Acute kidney injury, any AKIN stage	6
Acute kidney injury, AKIN at least stage 2	3
Vascular complications	3
Major	1
Minor	2
Cardiovascular rehospitalization	5
Cardiac structural complication	0
Conversion to open surgery	0
Unplanned use of mechanical circulatory support	0
Paravalvular regurgitation, at least moderate grade	2

Median clinical follow-up was 310 [30 – 644] days.

Long term follow-up (n=15)	
1-year all-cause mortality	0
1-year CV mortality	0

Limitations

- The limited sample size reflects the highly selective nature of this access strategy
- All procedures were performed by a single operator; therefore, the outcomes may have been influenced by the operator's individual learning curve.
- Not all patients underwent angiographic or CT evaluation, as their clinical stability during follow-up often precluded further imaging

Take-home Message

- Transcaval TAVR is a feasible and effective alternative in patients with unsuitable transfemoral anatomy.

- Appropriate patient selection, careful preprocedural planning, and operator experience, transcaval access represents a valuable addition to the spectrum of alternative routes for TAVR.

- Transcaval access is a safe secondary option when adopted in experienced centers