Aortic Stenosis in Women: a different disease?

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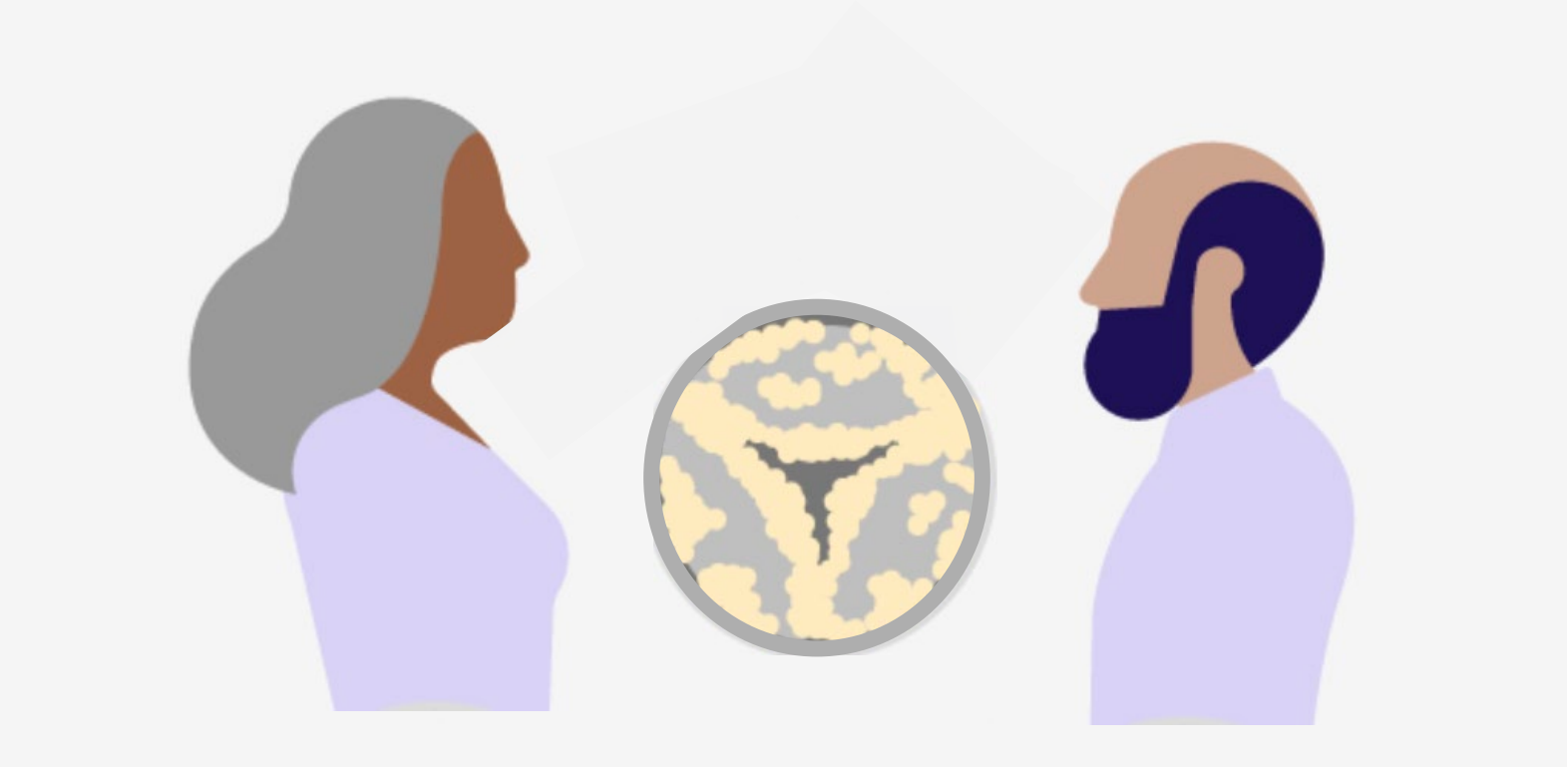
Aortic stenosis in women:

A different disease?



Aortic stenosis in women:
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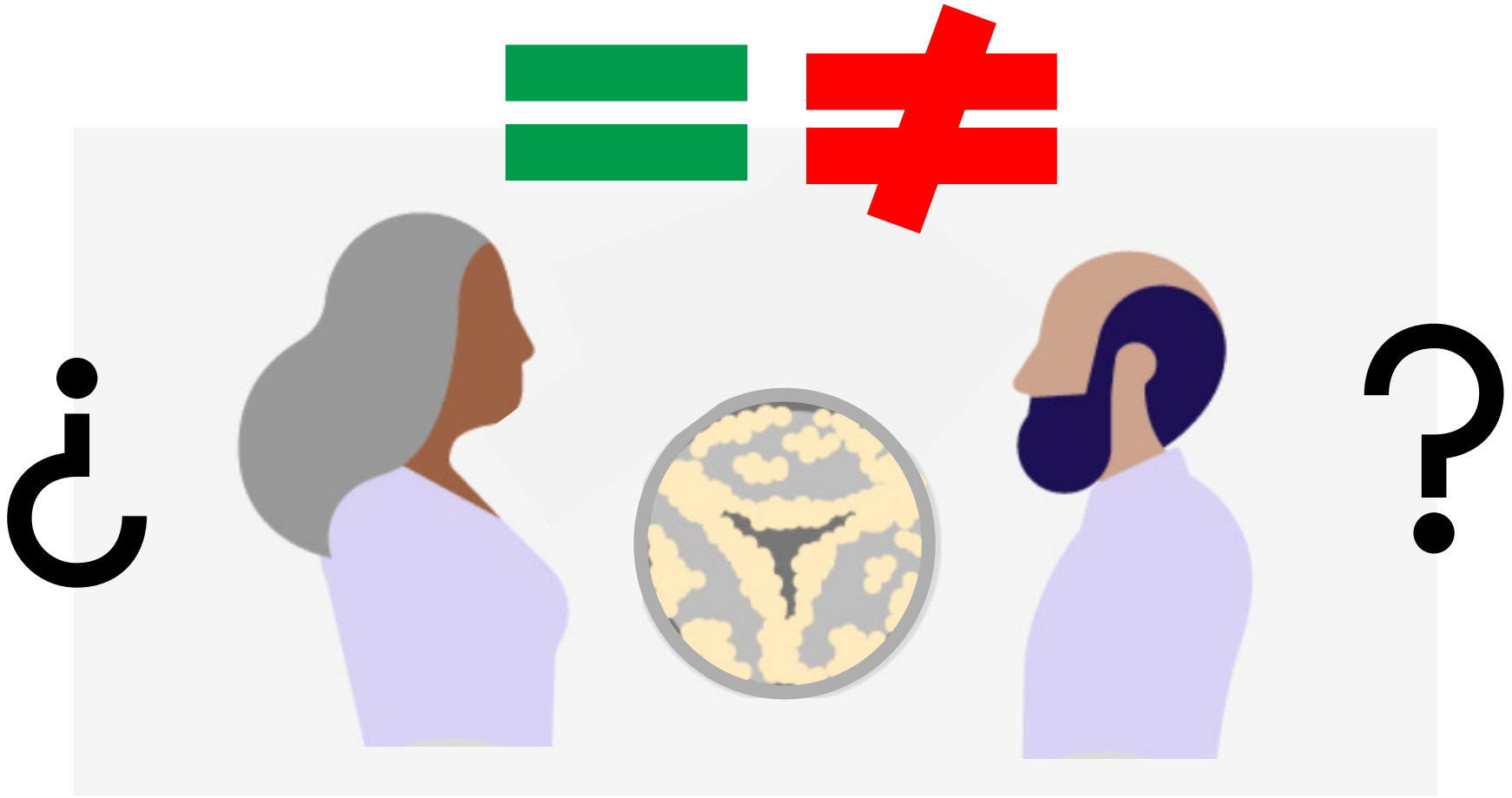

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Aortic stenosis in women:
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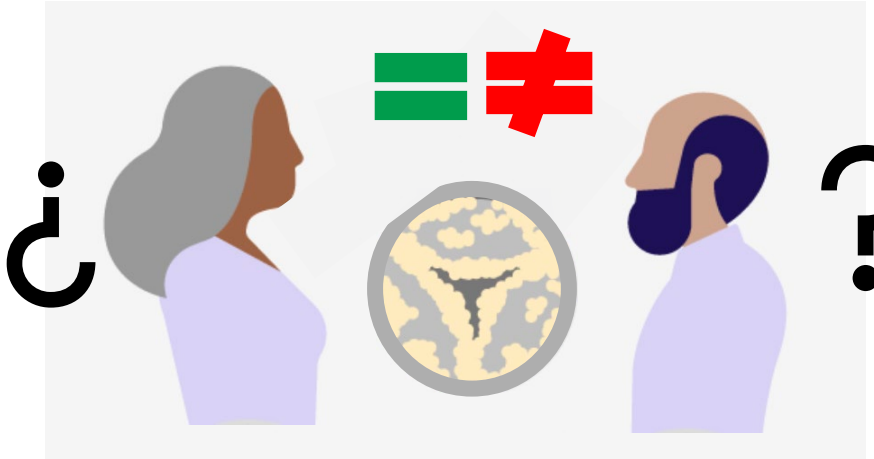

1. Clinical presentation
2. Anatomy
3. Outcomes after AVR

Aortic stenosis in women:
A different disease?

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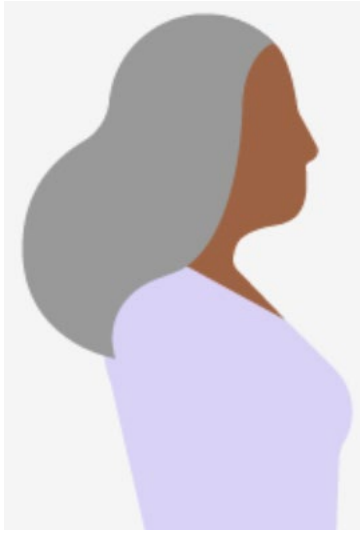
Clinical Presentation



- Older, less BMI
- More advanced heart failure symptoms
- +++ shortness of breath, dizziness, syncope
- +++ hypertension, surgical risk score
- --- coronary artery disease

- *Younger*
- *+++ Angina*
- *Less advanced heart failure symptoms*

Iribarren et al, AHJO 2022

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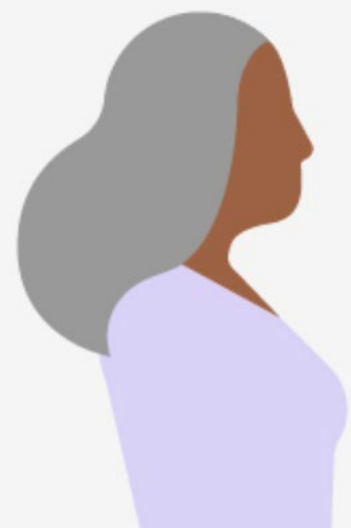
Clinical Presentation



Less frequent & delayed referral for aortic valve intervention

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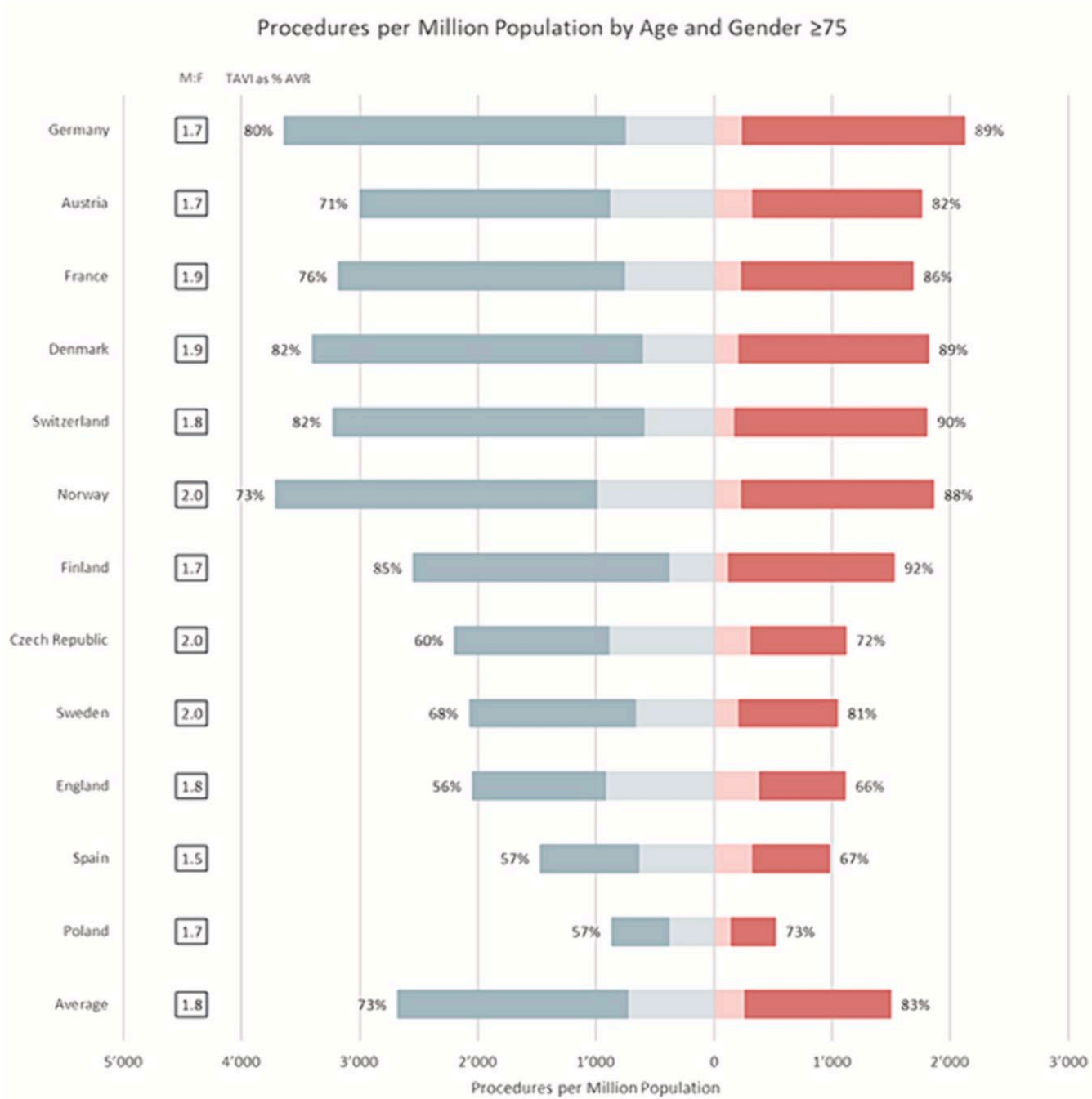
Clinical Presentation



TAVI patients male
TAVI patients female
SAVR patients male
SAVR patients female

S. Bleiziffer et al, IJC 2024

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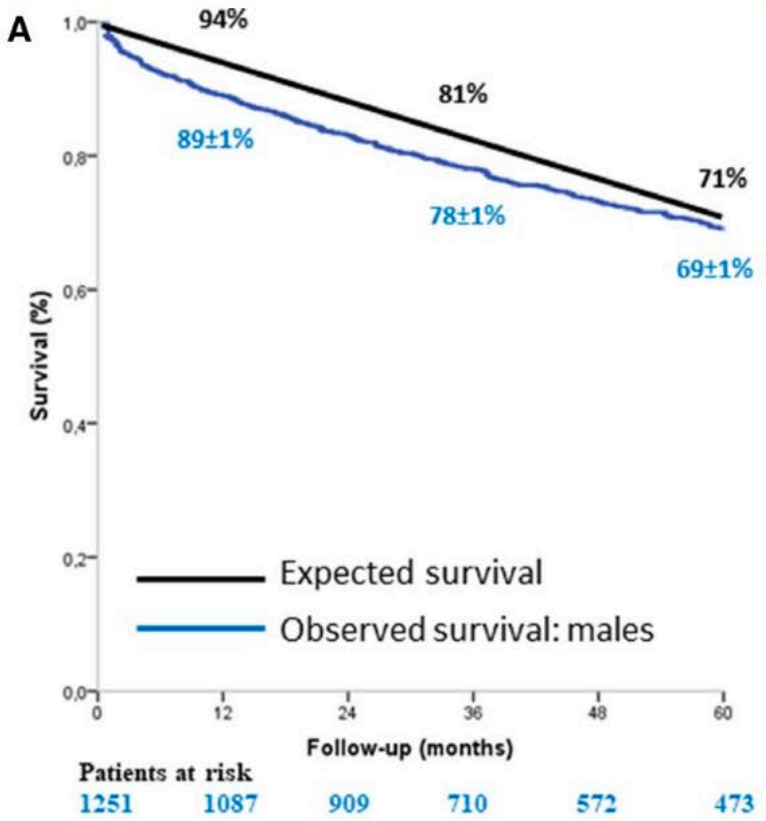
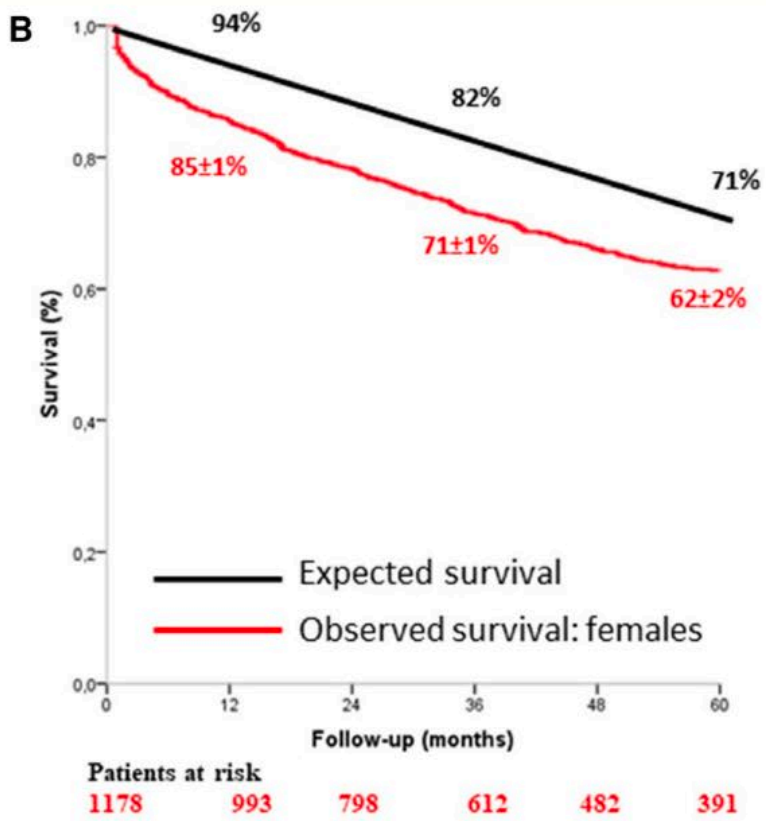
Clinical Presentation

Women with severe AS might have worse outcomes due to undertreatment:



MEN



WOMEN

Tribouilloy et al, JAHA 2021

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Clinical presentation

Female patients are older

Female patients have a higher risk profile

Female patients are undertreated

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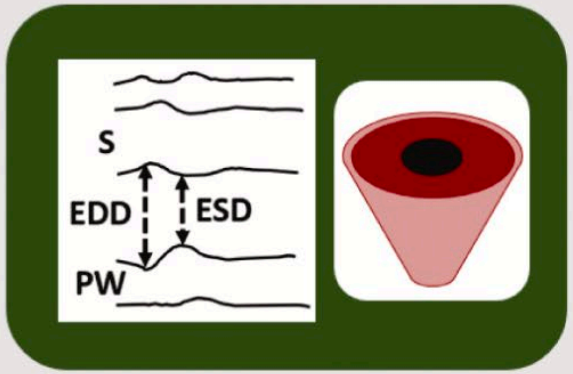
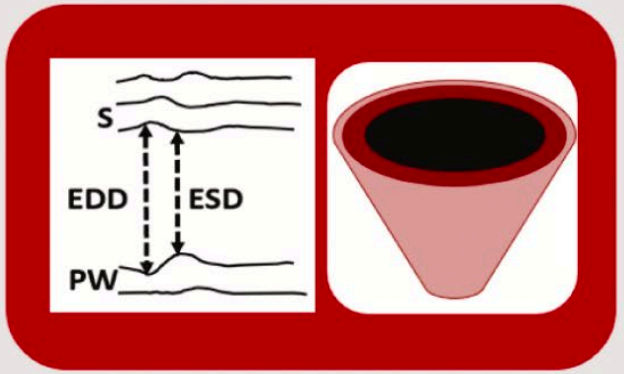
Anatomy

Sex differences in longitudinal changes in LV remodeling in patients with AS

WOMEN		MEN
+++ Concentric Remodeling 	Type of Geometric Pattern	+++ Eccentric Remodeling 
> 0.42	Relative Wall Thickness	≤ 0.42
< 95 g/ m^2 BSA	LV Mass Index	> 115 g/m^2 BSA

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Anatomy

ORIGINAL RESEARCH

Sex Differences in LV Remodeling and Hemodynamics in Aortic Stenosis

Sex-Specific Criteria for Severe Stenosis?

Saki Ito, MD, MSc,[a] William R. Miranda, MD,[a] Vuyisile T. Nkomo, MD, MPH,[a] Bradley R. Lewis, MSc,[b] Jae K. Oh, MD[a]

Women

Smaller AVA than men.
Smaller BSA in women yields lower SV resulting in lower AV gradient than men.

Men

Higher AV gradient than women but less increase in AV gradient from moderate to severe AS due to larger reduction in SV.

Ito el al, JACC CV Imaging 2022

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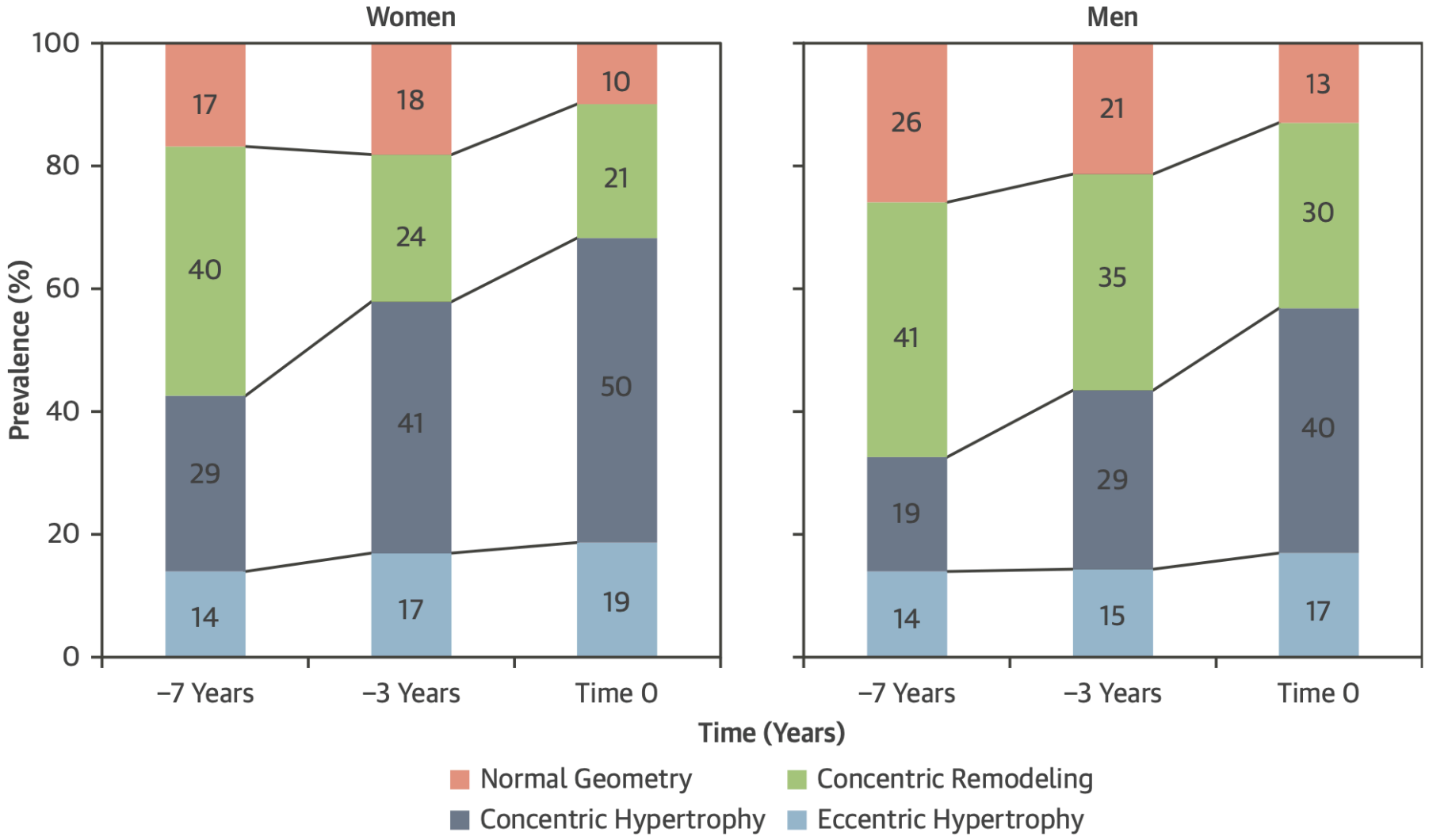
Anatomy



Ito el al, JACC CV Imaging 2022

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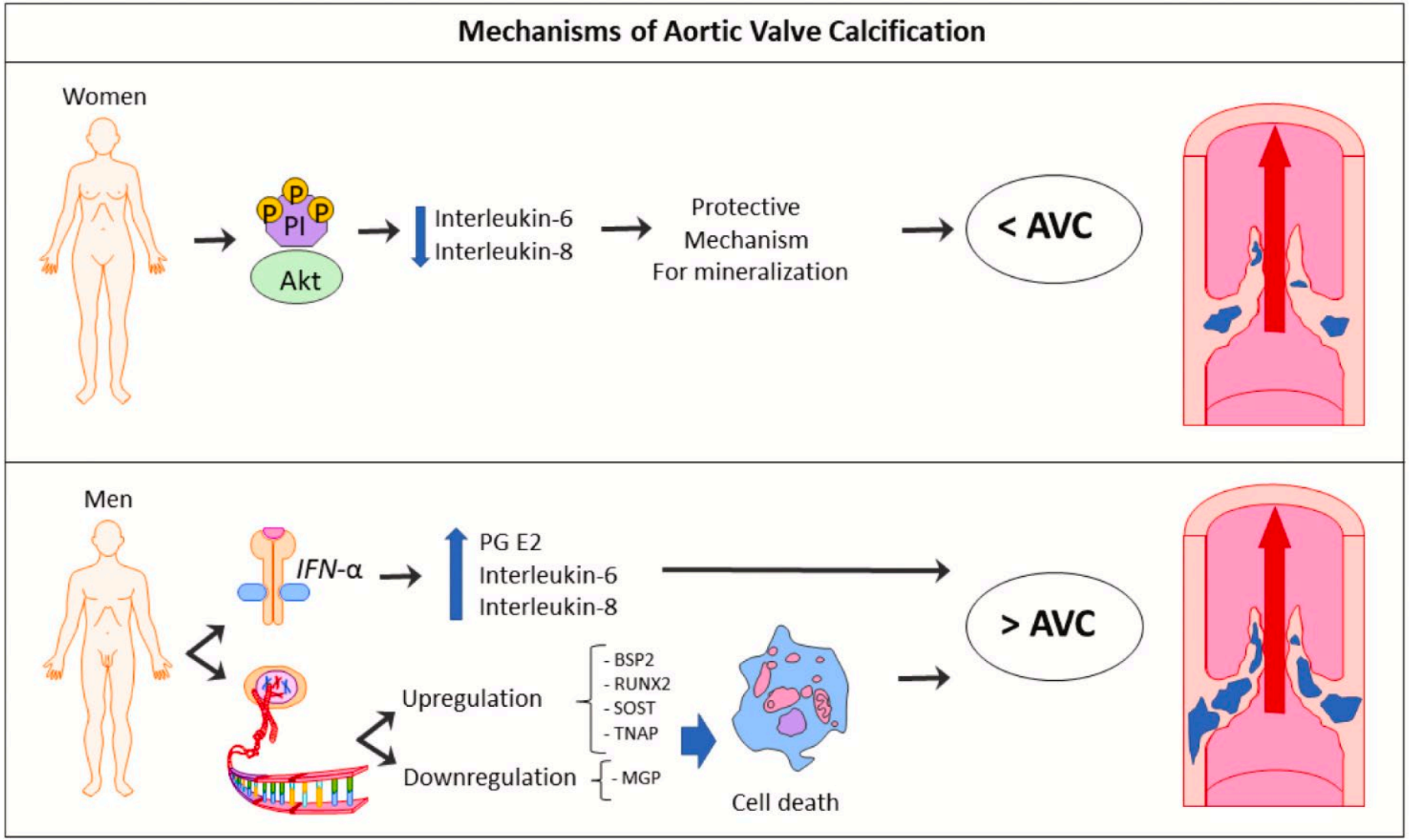
Anatomy

At the same haemodynamic severity of AS, women have LESS calcification and MORE fibrosis



Iribarren et al, AHJO 2022

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Anatomy

Female patients have smaller LV & stroke volume

LOWER GRADIENTS

Female patients have stiffer ventricles

INCREASED FILLING PREASSURES

Female patients have smaller LVOT

SMALLER AVA

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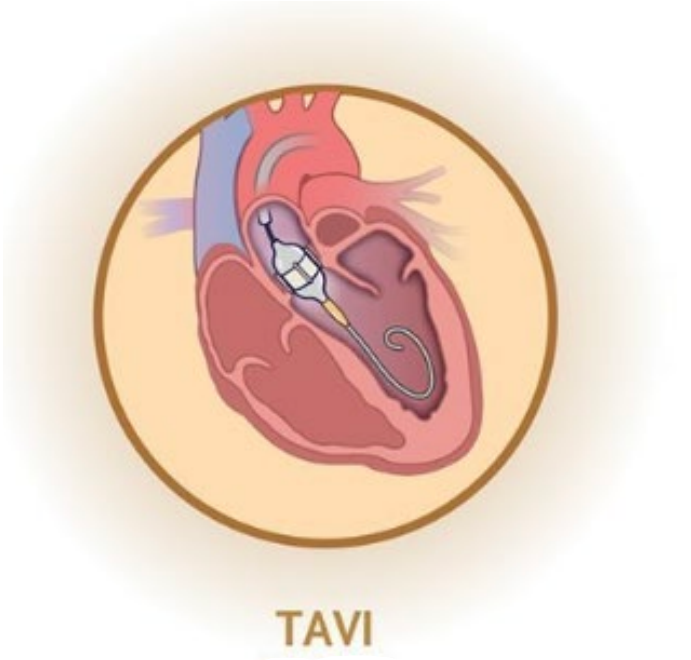
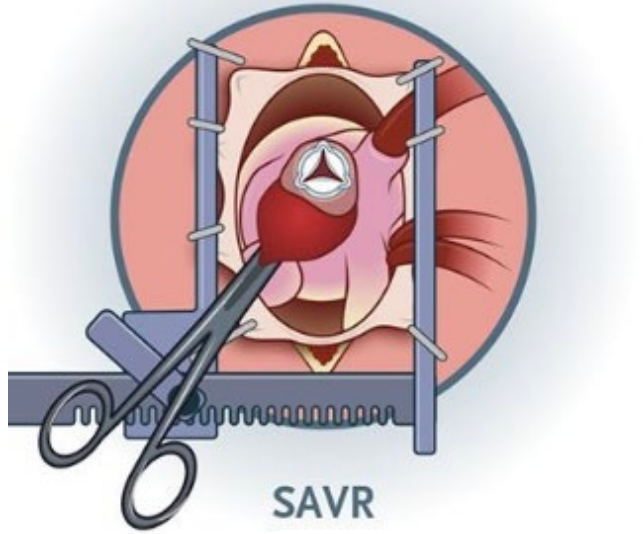
Outcomes

Outcomes in women with AS

¿





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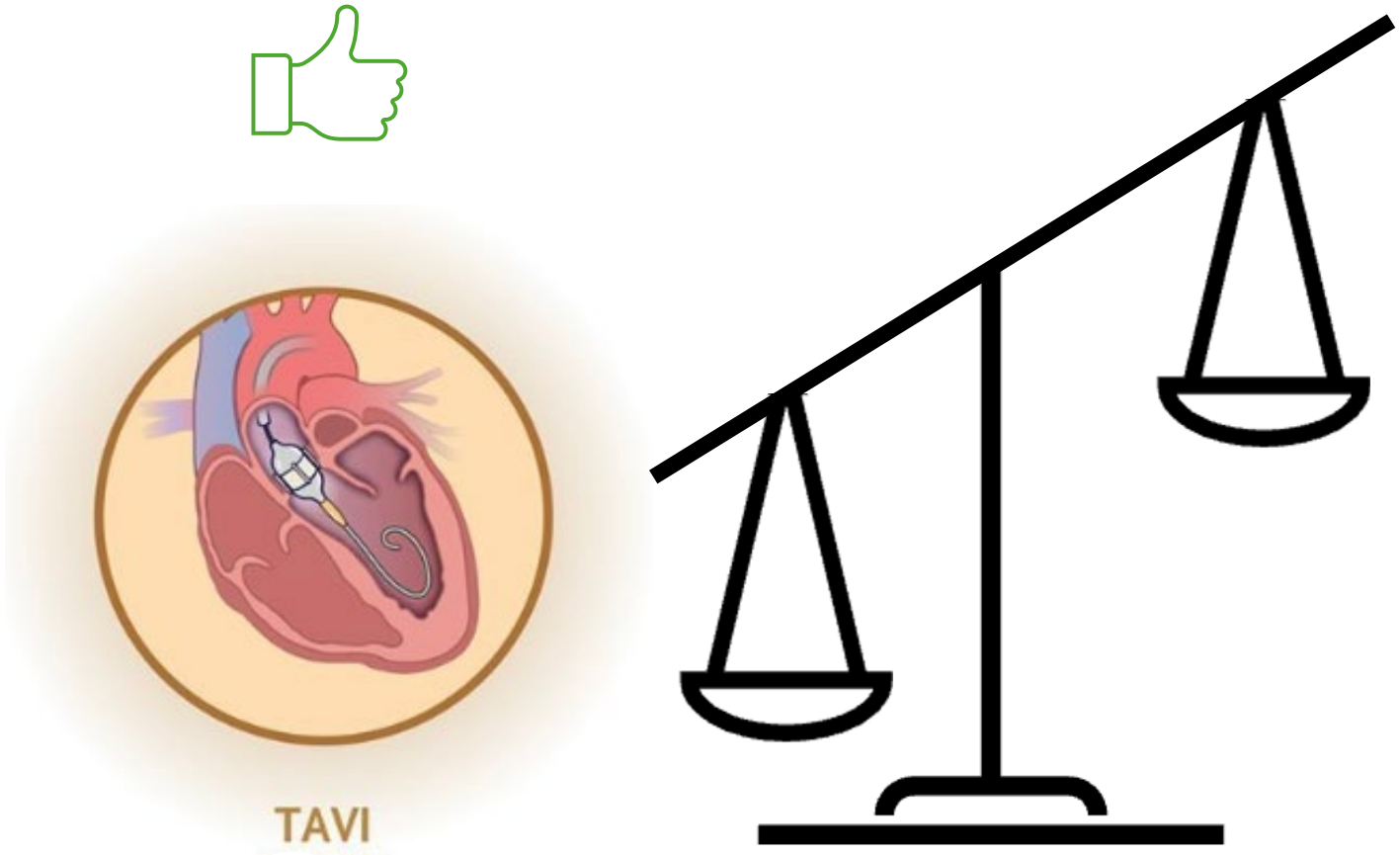
Outcomes



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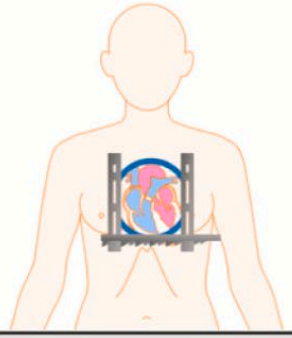
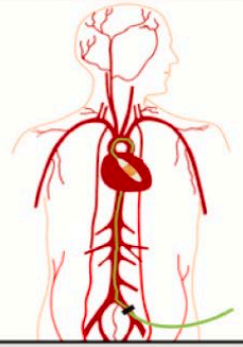
Outcomes

Medical Therapy	SAVR	TAVR
		
- No evidence of sex-related differences in AS progression with medical therapy.	↑ - Anemia/bleeding/blood transfusion. - Stroke events. - Renal Failure. - Heart Failure. - Postoperative stay. - Prosthesis-patient mismatch - In-hospital and 30-day mortality.	↓ - Valve sizes. - Transfemoral approach. - Paravalvular regurgitation. - Prosthesis-patient mismatch . ↑ - Vascular/bleeding complications. - Long-term survival. ⇔ In-hospital and 30-day mortality.

Iribarren et al, AHJO 2022

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Outcomes

Aim

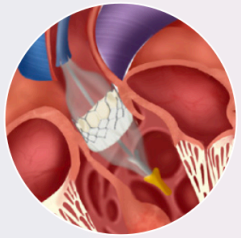
The **RHEIA trial** compared outcomes with TAVI vs surgery for valve replacement in women all-comers with severe aortic stenosis

Study population

443 female patients

Randomized 1:1

TAVI
Third-generation balloon-expandable system



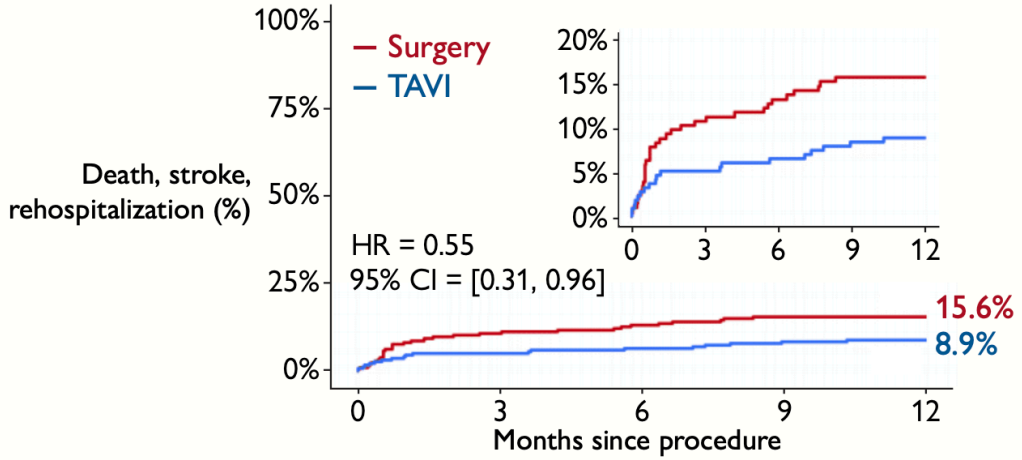
Surgical aortic valve replacement

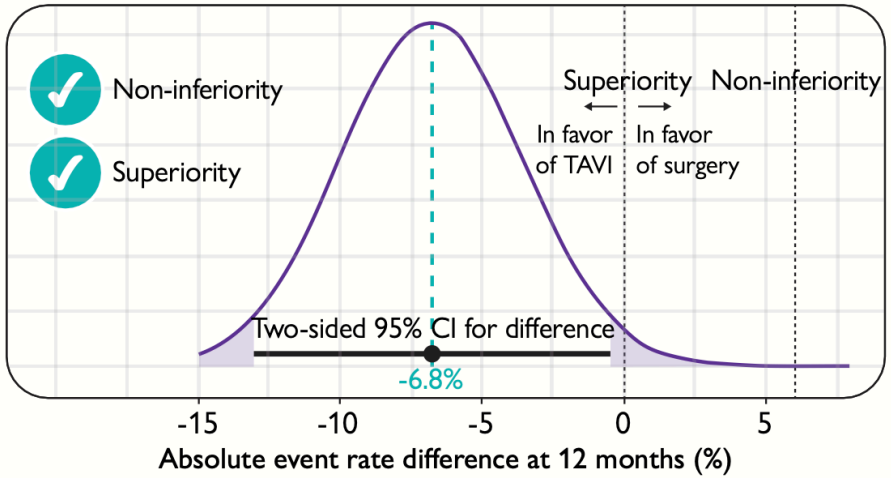
Study sites

48 centres

12 countries in Europe

Primary composite endpoint: death, stroke, rehospitalization





Tchetche et al. EHJ 2025

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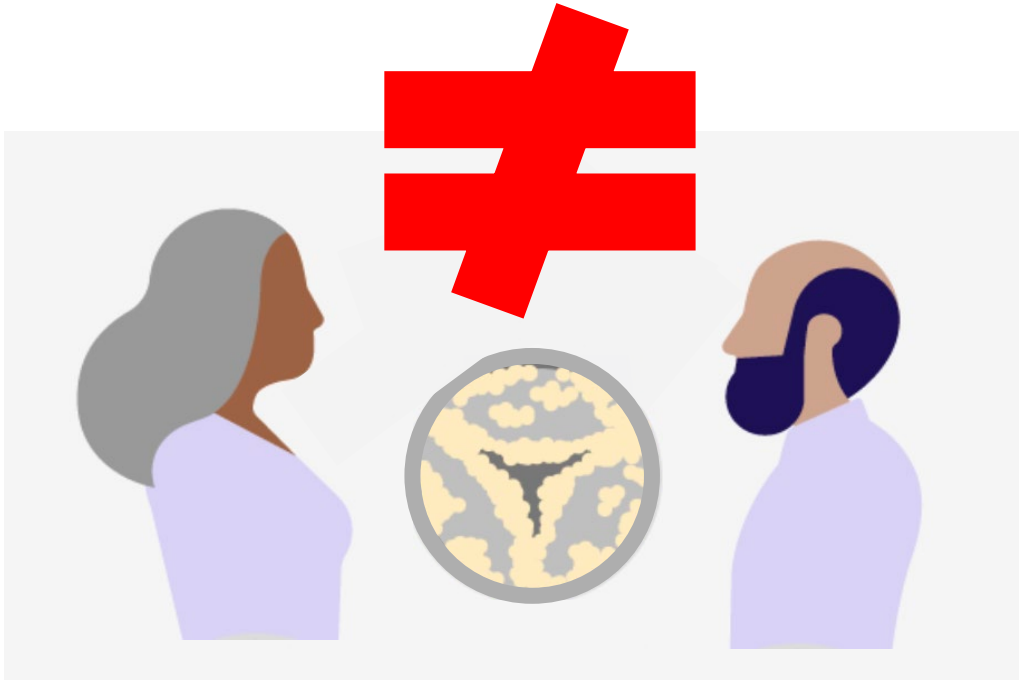

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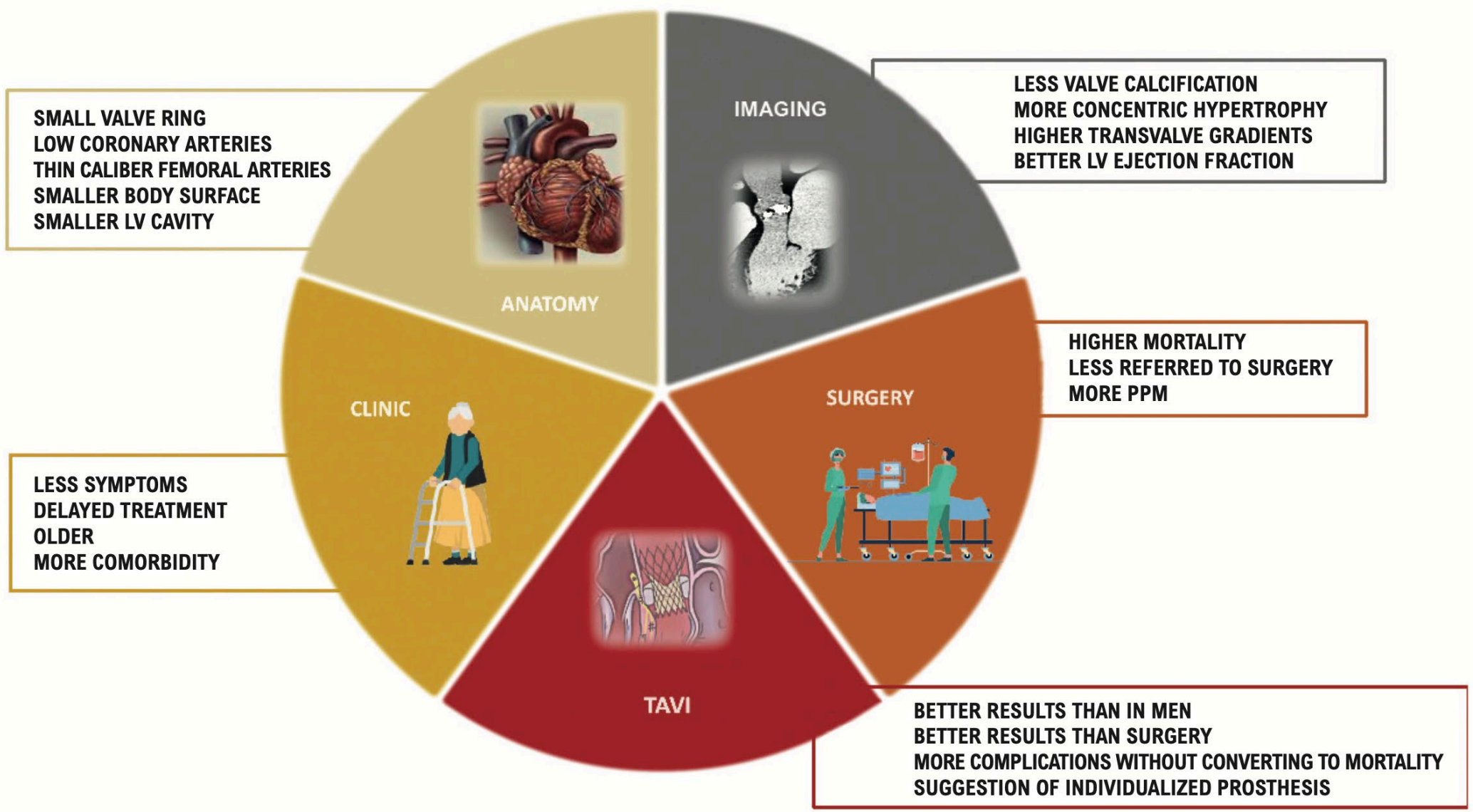

Olivera et al, Int J Cardiovasc Sci. 2023

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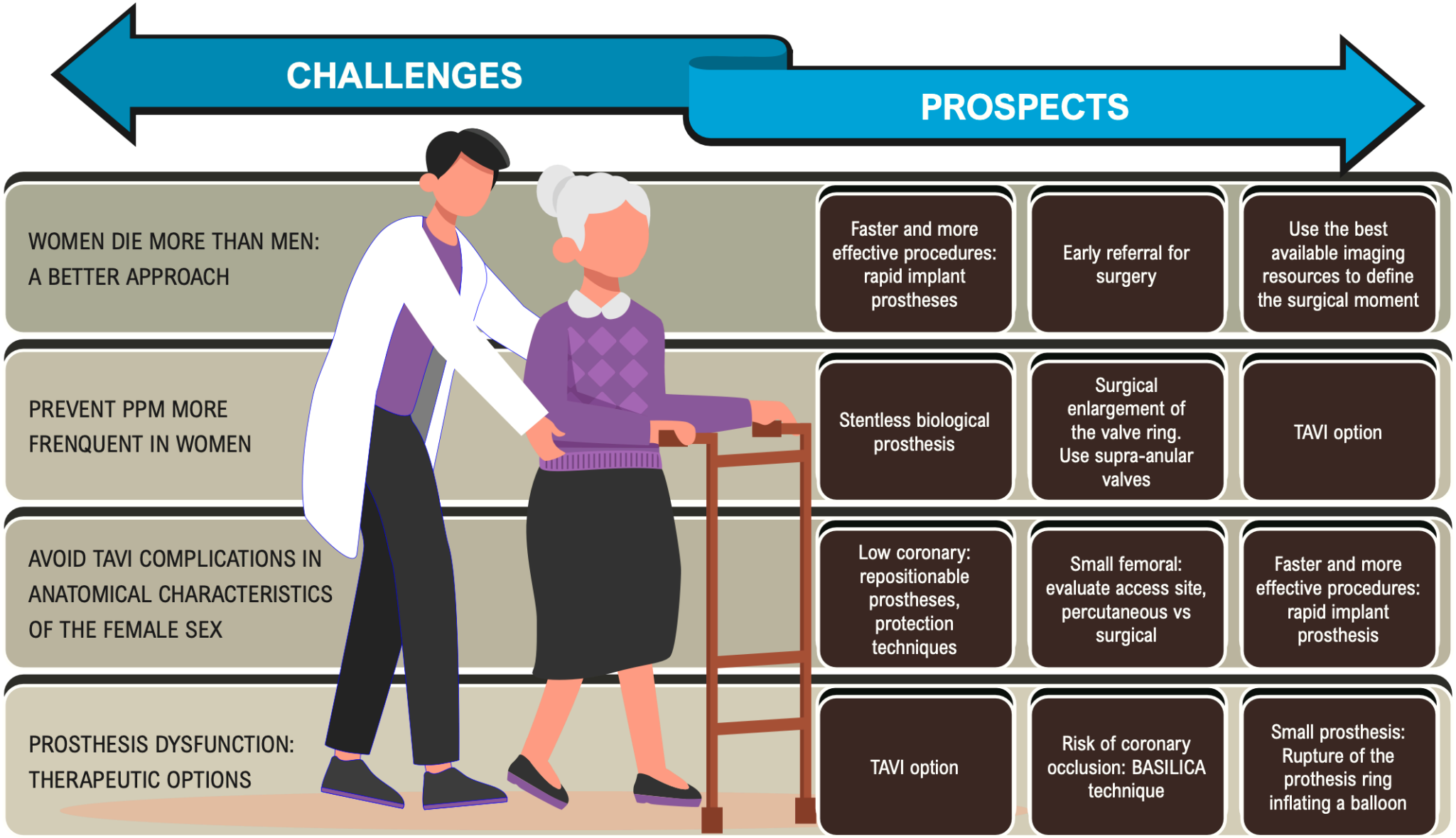

Olivera et al, Int J Cardiovasc Sci. 2023

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Thank you

Carla R Agatiello.

Jefa de Servicio de Hemodinamia.