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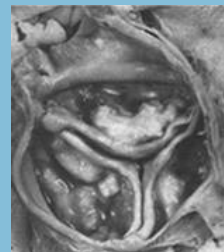
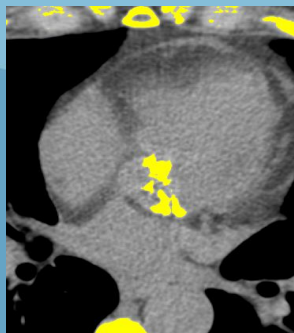
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A patient with moderate aortic stenosis and systolic heart failure

Marie-Annick Clavel, DVM, PhD

Associate Professor – Laval University (Québec, Canada)

Eurovalve – Liège 2021, October 28 - 29





Core laboratory contract - Edwards Lifesciences

Research grant - Medtronic

73-year-old symptomatic (NYHA functional class III) woman



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Dyspnea and recent hospitalization for heart failure

Hypertension: SBP:135 DBP: 71mmHg

Hyperlipidemia

Coronary artery disease - Previous infarct – CABG

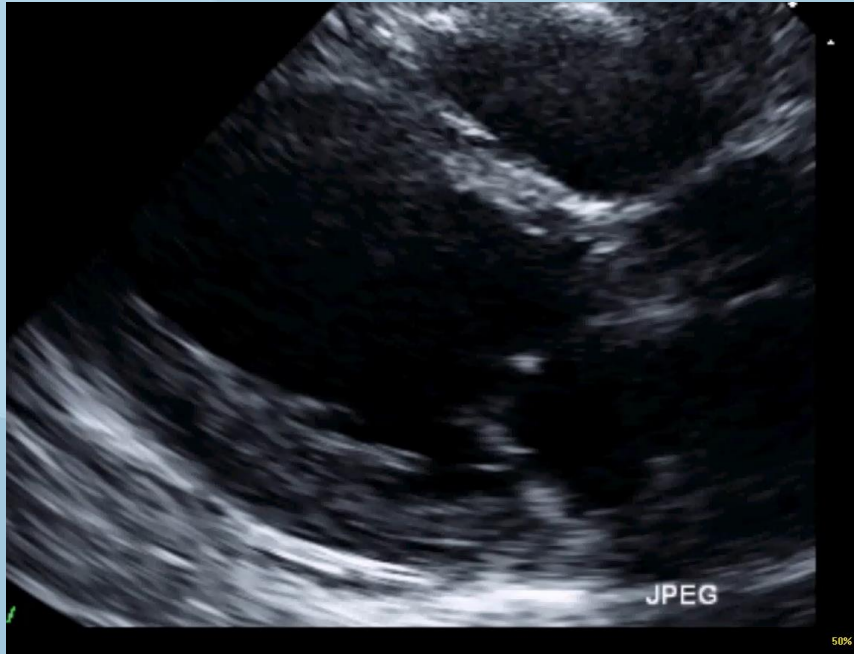
Known mild AS

Transthoracic Echocardiography



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LVEF: 30%

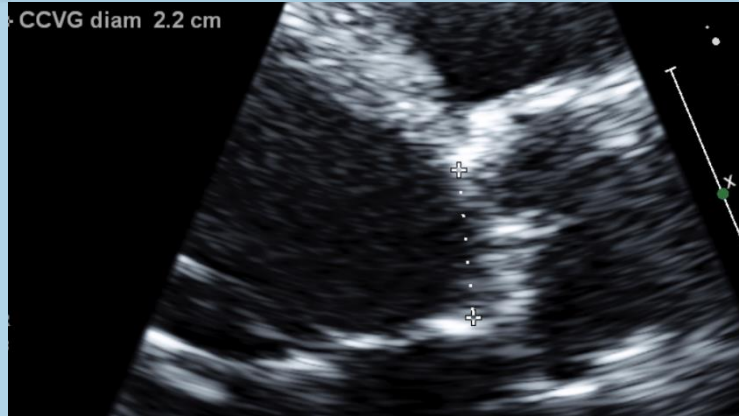


Transthoracic Echocardiography



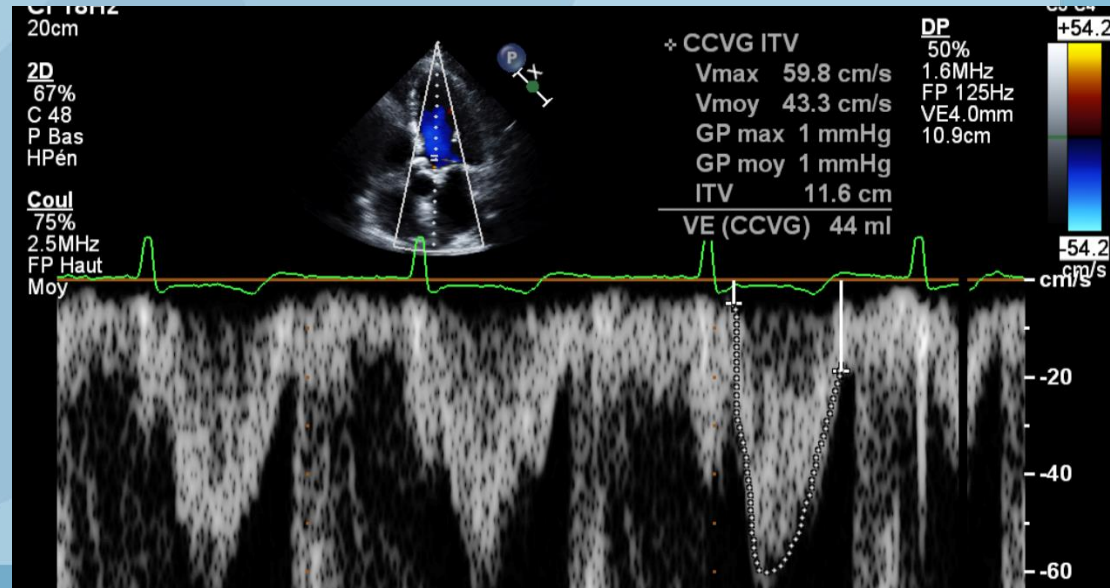
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LVOT diam: 2.2cm

SV: 44ml

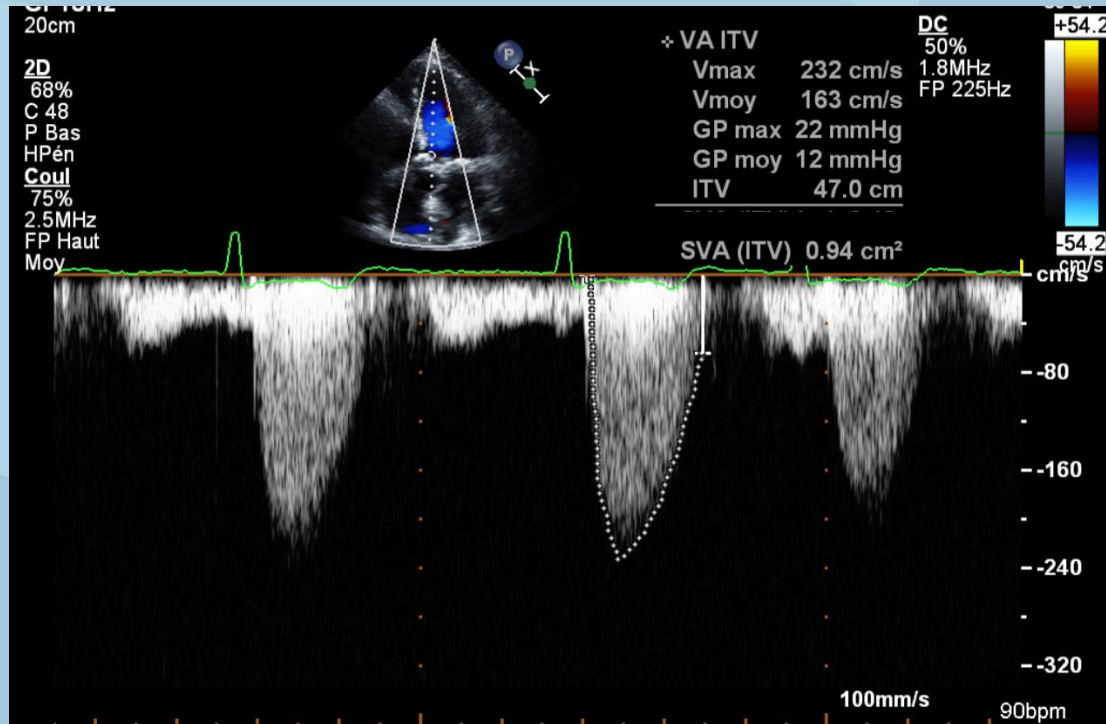


Transthoracic Echocardiography



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Vpeak: 2.32m/s
MG: 12mmHg

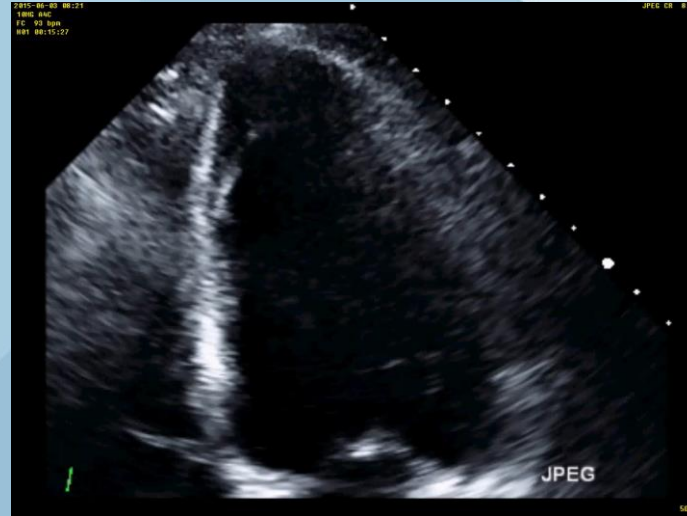
AVA: 0.94cm²
AVAi: 0.55cm²/m²

Dobutamine stress echo: Peak



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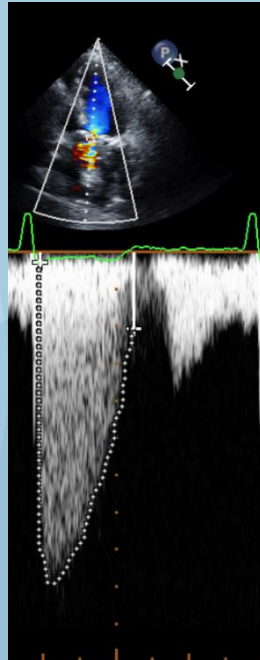
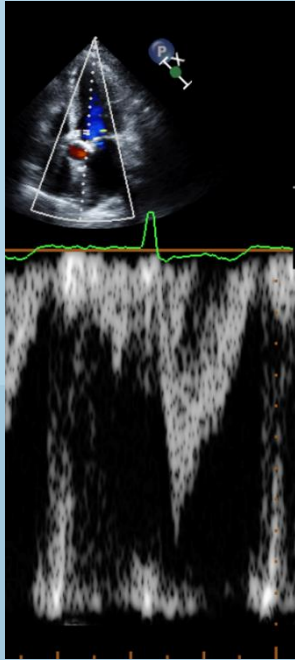


Transthoracic Echocardiography



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SV: 66ml
Vpeak: 2.66m/s
MG: 19mmHg

AVA: 1.12cm²
AVAi: 0.66cm²/m²
Qmean: 259ml/s

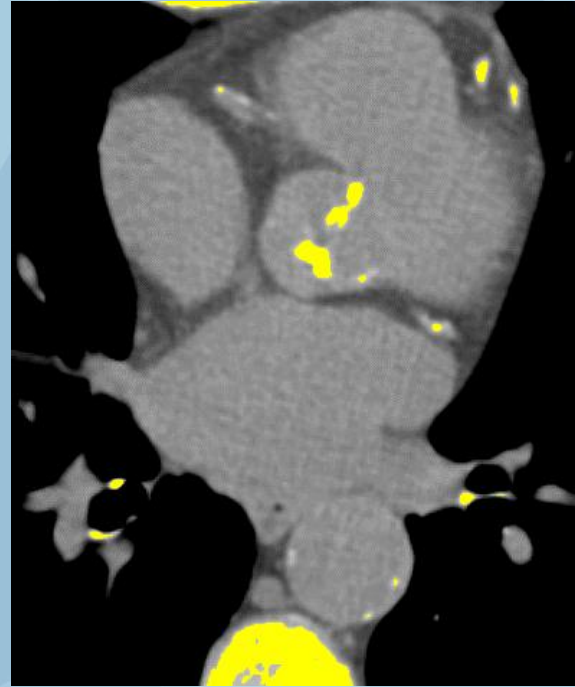
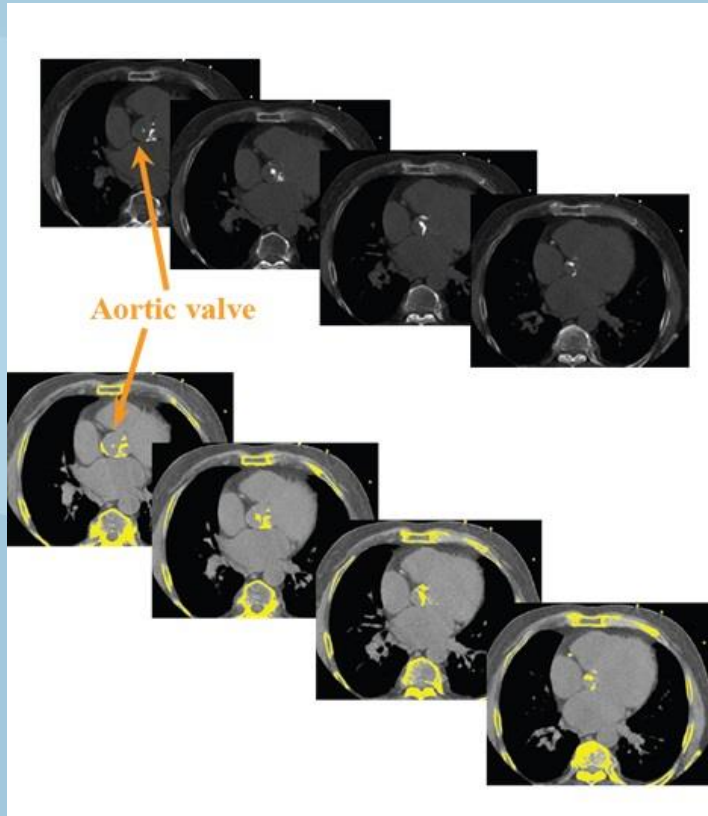
Moderate AS

Aortic Valve Calcium Scoring by CT



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AVC: 900AU

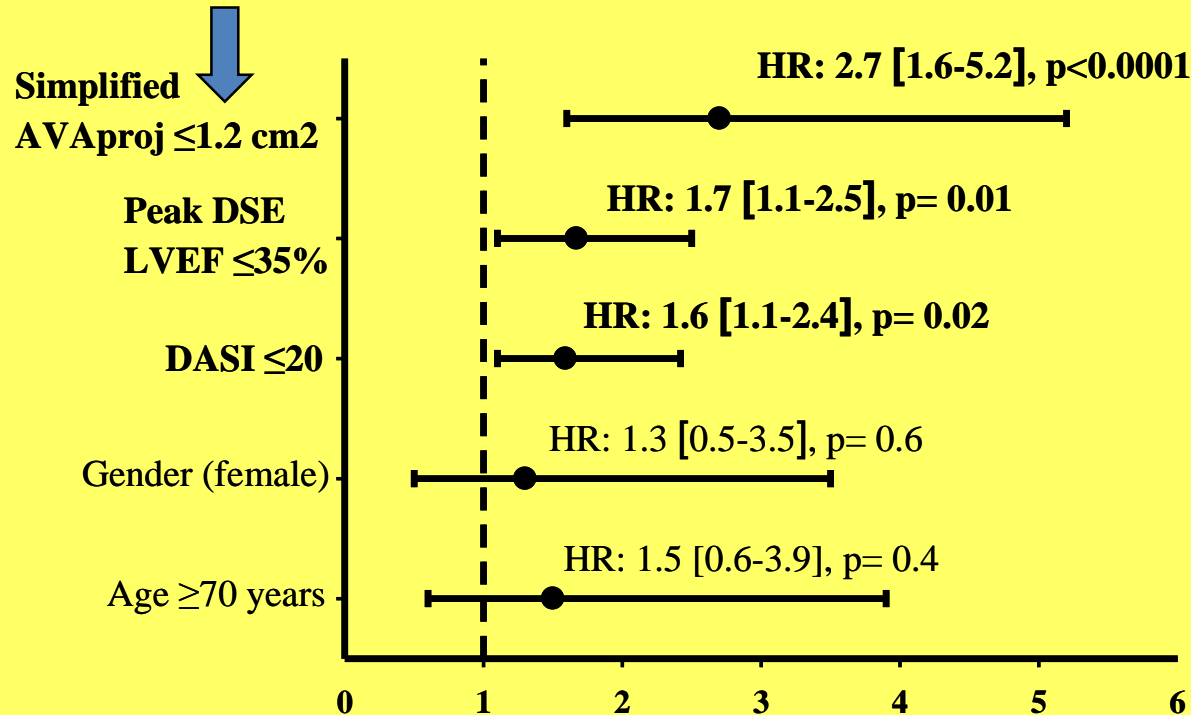
Moderate AS

with Low-LVEF, Low-Flow, Low - Gradient AS Treated Medically - TOPAS Study



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Clavel et al. Circulation
2008
and JASE 2010

Aortic Valve Calcium Scoring by CT

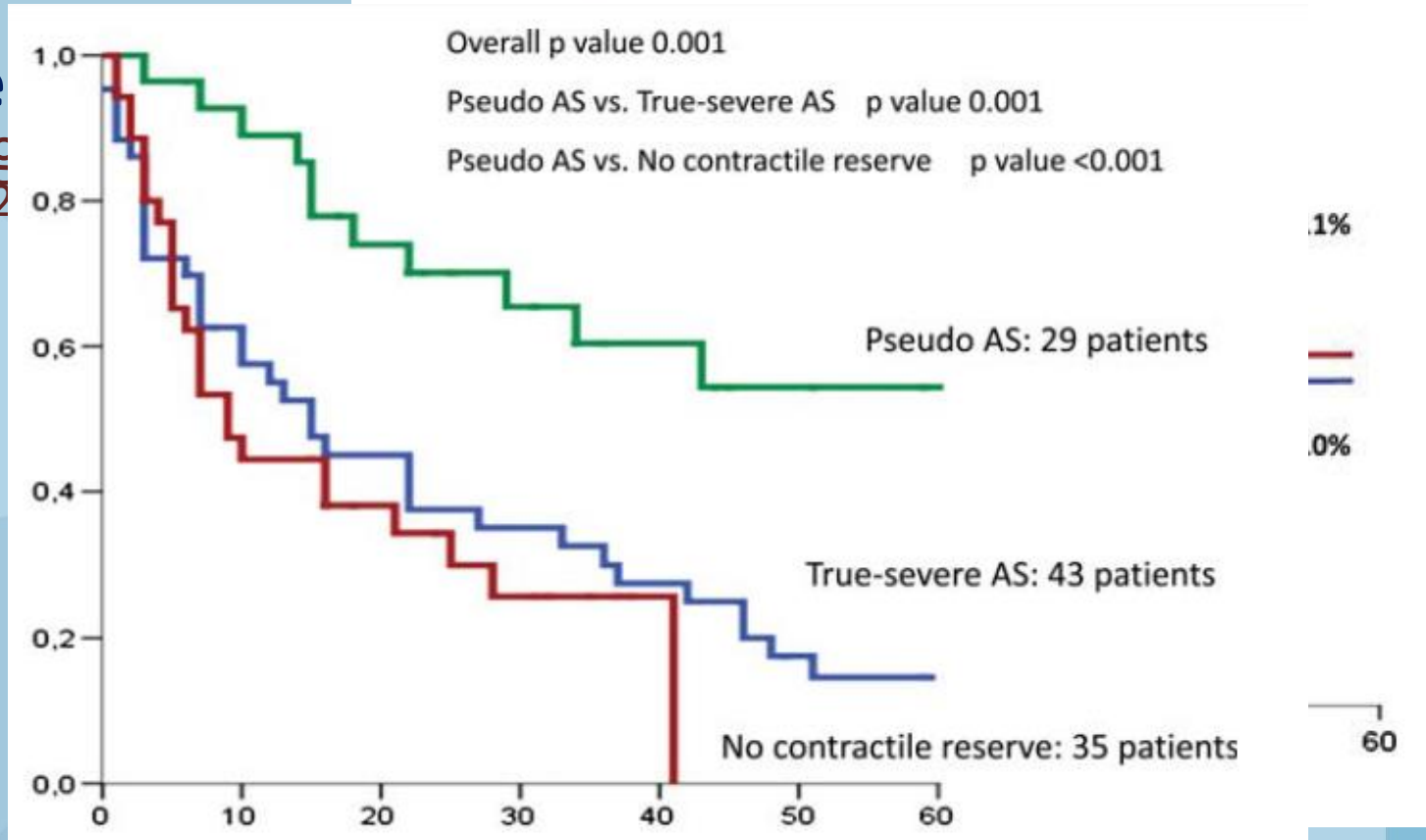


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Pseudo-Severe

$\Delta P < 40$ mmHg
 $AVA \geq 1.2$ cm²
at peak DSE

29 patients
had PSAS



Outcome of Patients with Moderate AS and Low LVEF

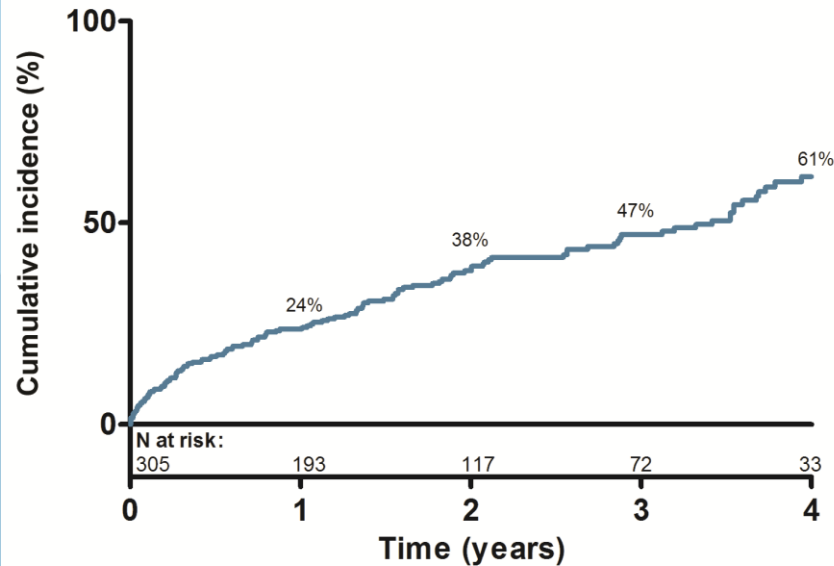


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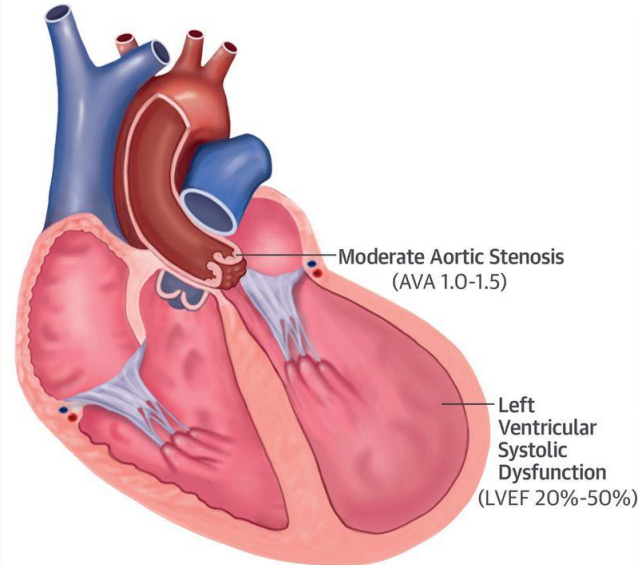
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Retrospective 3-center study of 305 patients with moderate AS and LVEF<50%

Death, AVR or HF hospitalization



CENTRAL ILLUSTRATION: Moderate Aortic Stenosis and LV Systolic Dysfunction



Prognostic Implications at 4-year follow-up:

- All-cause death or hospitalization for heart failure-48%
- All-cause death-36%
- Aortic valve replacement-24%
- Hospitalization for heart failure-27%

Factors Associated with Worse Prognosis:

- Male sex
- NYHA functional class III or IV
- Higher transaortic velocities

Future Treatment Option:

- Early transcatheter aortic valve replacement; to be investigated in the randomized TAVR-UNLOAD trial.



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GOOD OUTCOME

**MODERATE AS
(SEVERE AS)**

**PRESERVED LV
FUNCTION**

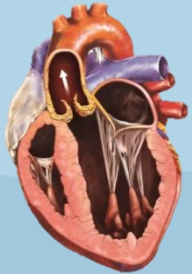




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LV DYSFUNCTION
(Systolic or Diastolic)



HEART FAILURE
POOR OUTCOME



MODERATE AS

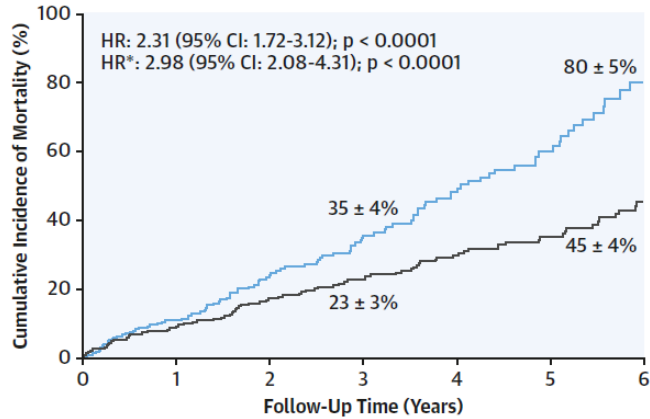
HF with and without moderate AS



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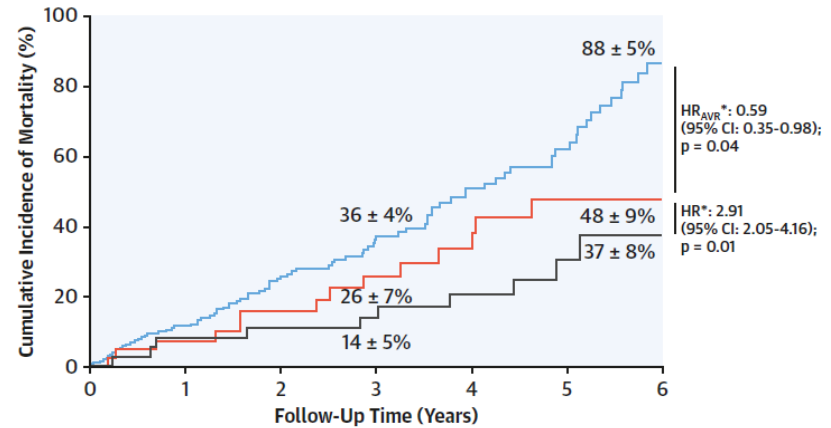
A



Patients at risk:

— HFrEF	262	178	117	44
— HFrEF + Moderate AS	262	129	51	9

B



Patients at risk:

— HFrEF + Moderate AS without Intervention	219	103	36	5
— HFrEF + Moderate AS with Intervention	43	26	15	4
— HFrEF	43	32	22	7
Matched Patients				

Jean et al. JACC 2021

TAVR UNLOAD Trial

International
Multicenter
Randomized

Heart Failure
LVEF < 50%
NYHA ≥ 2
Optimal HF
therapy
(OHFT)
Moderate AS

R

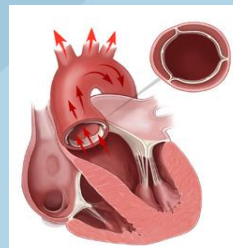
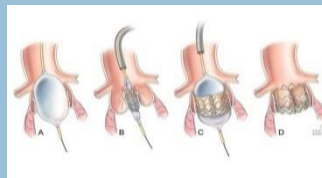
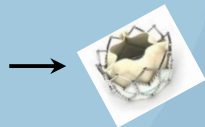
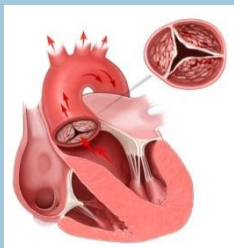
**TAVR +
OHFT**

**OHFT
alone**

Follow-up:

1 month
6 months
1 & 2 years

Clinical
endpoints
Symptoms
Echo
QoL



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Thank you for your attention



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Heart&Stroke
Cœur+AVC TM/MC



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