TCT 2025: Unexpected Cardiac Tamponade Post Transcather Aortic Valve Implantation Diagnostic and Therapeutic Challenges

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Disclosure of Relevant Financial Relationships

I DO NOT have any financial relationships to disclose.

Faculty disclosure information can be found on the app.

Background

79 year old female with cardiac risk factors of hypertension, former smoker, sedentarism

May 2020

Stroke
Moderate Aortic Stenosis

4 year period : symptoms gradually increased

August 2024

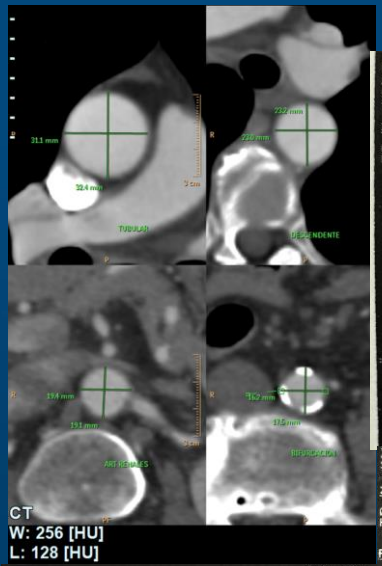
Brief hospitalization

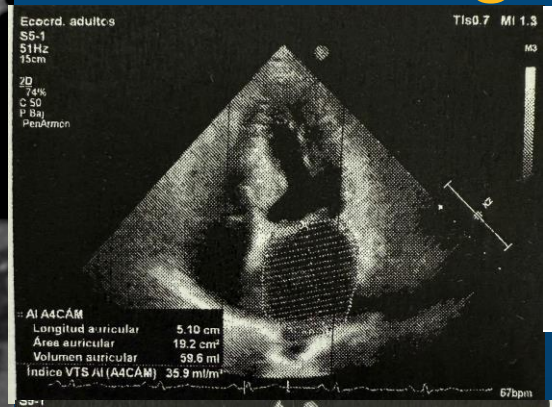
2025

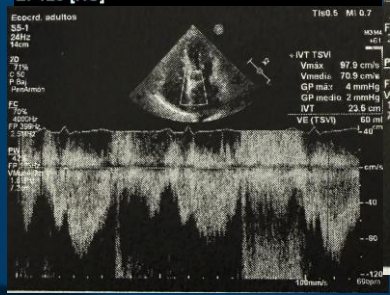
Severe Aortic Stenosis
STS 3.85% morbidity and mortality 11.5%

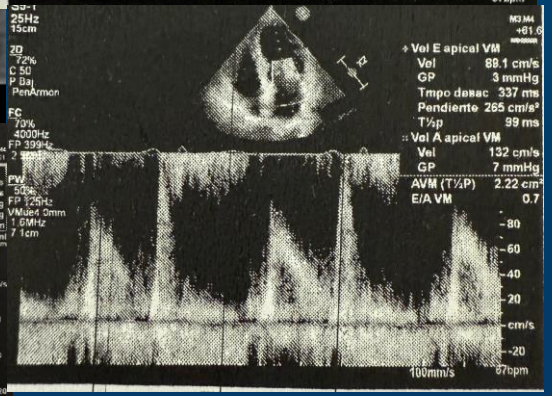
TAVR

Planning of the valve









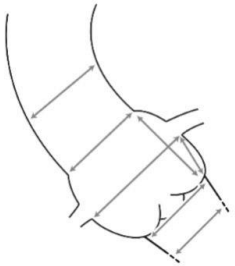
MEDTRONIC ANALYSIS

ANNULUS

Diameter (mm)	19,7 (Min)	x	23,5 (Max)	,	21,6 (Mean)
Perimeter (mm)	68,2	, Derived Ø (mm)	21,7		
Area (mm²)	354,6	, Derived Ø (mm)	21,2		

LVOT

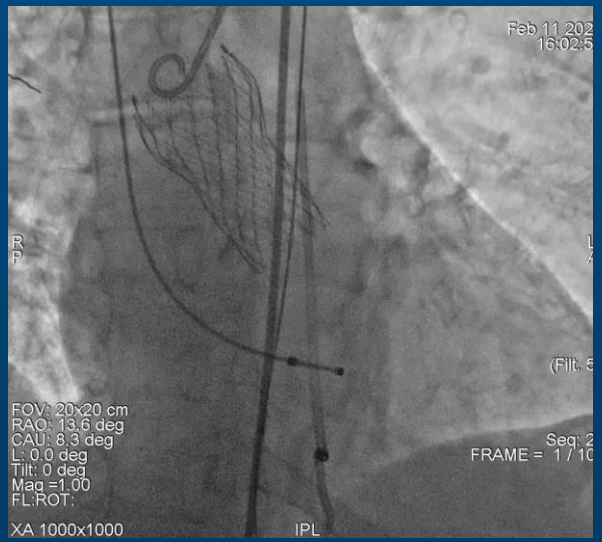
Diameter (mm)	18,5 (Min)	x	23,6 (Max)	,	21,1 (Mean)
Perimeter (mm)	65,1	, Derived Ø (mm)	20,7		
Area (mm²)	318,8	, Derived Ø (mm)	20,1		



Max Ascending Aorta Diameter (mm)	29,9		
Sinotubular Junction Diameter (mm)	25,3 (Min)	x	26,3 (Max)
Sinus of Valsalva Diameter (mm)	28,7 (LCC)	27,6 (RCC)	28,1 (NCC)
Sinus of Valsalva Height (mm)	21,2 (LCC)	20,5 (RCC)	20,5 (NCC)
Coronary Ostia Height (mm)	14,6 (Left)	14,4 (Right)	

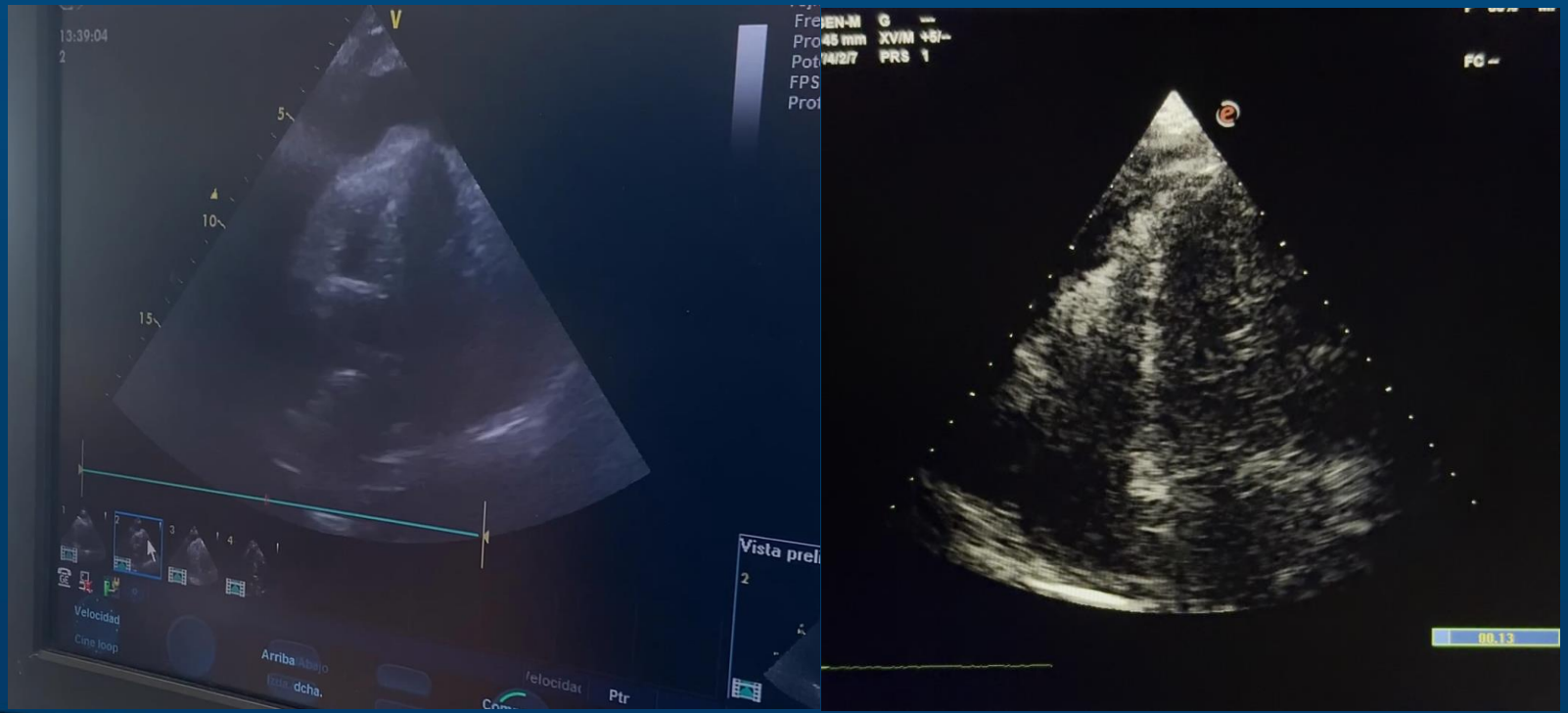
Echocardiogram	
Fey	70%
Valve area	0.6
Mean gradient	37 mmhg
Mean Velocity	2.9 m/s

Intervention Day



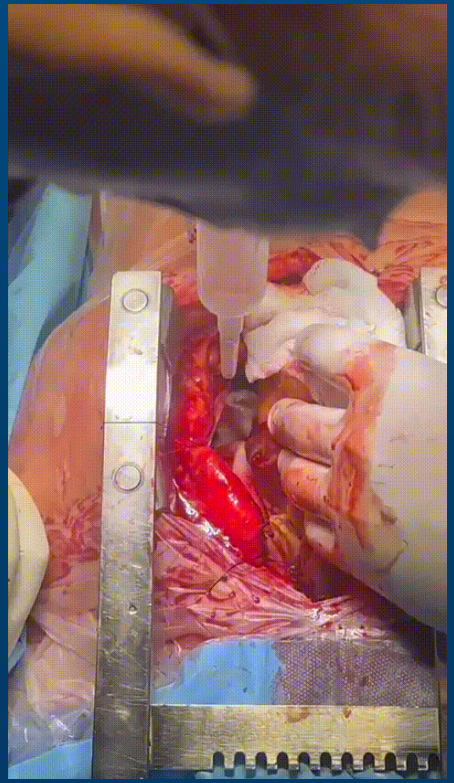
A few minutes later: presents a very low diastolic blood pressure

Suspicion of Cardiac Tamponade



Case Resolution

- Three hours later, the patient ***exhibited increased*** inotropic requirements and a ***drop*** in red blood count levels.
- **Active bleeding** (approximately 2000 ml) was observed from the pericardial drain
- Re- admission to the ***operating room for left ventriculoplasty***



Conclusion/Take-home Message

This case underscores the importance of knowing the valve type, anticipating potential complications, and ensuring that all members of the hemodynamic team are well trained. Careful planning and readiness are essential to managing emergencies effectively and improving TAVI outcomes.

Dr. John G. Webb's method was proven accurate, correct valve positioning and the application of Gada's technique are grounded in physiological principles. Interpreting systolic and diastolic pressure waveforms can provide early warning of complications, while proficiency in emergency echocardiography is crucial for every member of the hemodynamic team.

Thank you for your time

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