

Procedures: Transthoracic echo (TTE) complete with contrast Date of Study: 10/11/22
MRN: Ordering:
DOB: 69 y.o.) Indications: Nonrheumatic aortic valve stenosis [I35.0 (ICD-10-CM)]
Gender Identity: Male
Height: Not recorded
Weight: Not recorded
BSA: Not recorded
BP: Not recorded
Interpreting Physicians Performing Staff

Cardiac Procedural History

Past Surgical History

	Laterality	Date	Comments
Coronary angiography with LV and right heart	N/A	9/2/2021	
Coronary angiography with LV	N/A	11/25/2022	
Replacement Transcatheter Aortic Valve Endovascular (TAVR) with TEE	N/A	12/28/2022	
Coronary angiography with LV	N/A	8/3/2023	
Percutaneous coronary intervention (PCI)	N/A	8/3/2023	

Interpretation Summary

- Left Ventricle: Systolic function is normal with an ejection fraction of 60-65%.
- Right Ventricle: Systolic function is normal.
- Aortic Valve: There is severe stenosis (pk vel: 4 m/s, mn grad: 41 mmHg, area: 1.00 cm², VTI ratio: 0.25). This has worsened compared to the prior study.

Study Details

Echo An echo was performed using complete 2D, color flow Doppler and spectral Doppler. Lumason (4 mL) contrast was used during the study. Lumason was used for evaluation of LV wall motion. Overall the study quality was fair.

Rhythm normal sinus

Prior Study Prior TTE study available for comparison. Prior study date: 7/8/2021. Changes noted compared to prior study.

Myocardial Findings

Left Ventricle	Cavity appears normal. There is mild concentric hypertrophy. Systolic function is normal with an ejection fraction of 60-65%. Wall motion is normal. Unable to assess diastolic function due to discordant parameters.
Wall Motion	The left ventricular wall motion is normal.
Right Ventricle	Cavity appears normal. Systolic function is normal.
Left Atrium	Left atrial volume index is normal.
Right Atrium	Cavity is normal.
IAS	There is no evidence of shunting.
IVC/SVC	The inferior vena cava demonstrates a diameter of ≤ 21 mm and collapses $>50\%$.
Mitral Valve	The leaflets appear mildly thickened. There is trace regurgitation. There is no evidence of mitral valve stenosis.
Tricuspid Valve	Tricuspid valve structure is normal. There is trace regurgitation. There is no evidence of tricuspid valve stenosis. The right ventricular systolic pressure is upper limit of normal (30-35 mmHg).
Aortic Valve	The aortic valve is trileaflet. The leaflets exhibit severely reduced excursion. The leaflets appear severely calcified. There is trace regurgitation. There is severe stenosis (pk vel: 4 m/s, mn grad: 41 mmHg, area: 1.00 cm^2 , VTI ratio: 0.25). This has worsened compared to the prior study.
Pulmonic Valve	Pulmonic valve structure is normal. There is trace regurgitation. There is no evidence of pulmonic valve stenosis.
Aorta	The ascending aorta is borderline dilated.
Pericardium	There is no pericardial effusion.

2D Measurements

Volumes		Dimensions		Aortic Root - End Diastolic	
LVOT stroke volume	79.76 cm3	LVIDd	4 cm	Ao-sinuses	3.2 cm
LA vol by MP	58 cm3	LVIDs	2.6 cm	Ao-st junc	3.2 cm
LA vol index by BP	27 mL/m2	IVSd	1.3 cm	Ao-asc	3.8 cm
		LVPWd	1.2 cm		
		FS	35 %		

Doppler Measurements - Aortic Valve

LVOT diameter	2 cm	AV LVOT peak gradient	5 mmHg
LVOT area	3.14 cm2		
LVOT peak vel	1.17 m/s		
LVOT peak VTI	25.4 cm		
AV peak vel	4 m/s		
AV VTI	100 cm		
AV VTI ratio	0.25		
AV area	1 cm2		
AV mean gradient	41 mmHg		
AV peak gradient	57 mmHg		
AV velocity ratio	0.29		

Doppler Measurements - Mitral Valve

MV VTI	40.5 cm	MV peak E vel	102 cm/s
MV mean gradient	3 mmHg	MV e'	9.1 cm/s
MV peak gradient	8 mmHg	tissue velocity lateral	
MV valve area by continuity eq	1.97 cm ²	MV E/e'	11.21
		tissue velocity lateral	
		MV e'	7 cm/s
		tissue velocity medial	
		MV E/e'	14.57
		tissue velocity medial	
		MV Peak A Vel	97 cm/s

Doppler Measurements - Tricuspid Valve

TR peak gradient	30 mmHg	TR max vel	2.8 m/s
------------------	---------	------------	---------

Doppler Measurements - Pulmonic Valve

PV peak gradient	4 mmHg	Pulmonic Valve Acceleration Time	74 ms
		PV PEAK VELOCITY	1 cm/s

Doppler Measurements - Diastolic Filling

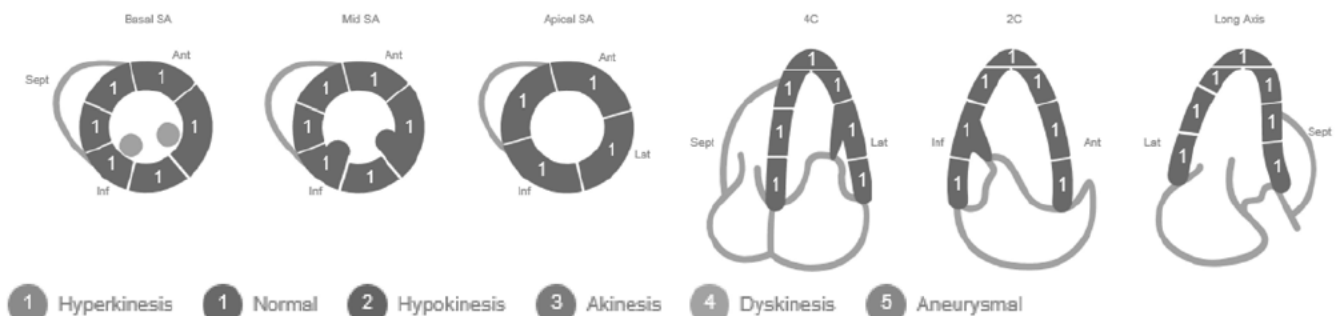
E/A ratio	1.05	E wave deceleration time	261 msec
IVRT	61 msec	MV "A" wave duration	127 msec

Doppler Measurements - Shunt Ratio

LVOT stroke volume	79.76 cm ³
--------------------	-----------------------

Wall Motion

Score Index: 1.00



Signed

Electronically signed by [REDACTED] MD on 10/12/22 at 1121 PDT