Version 2

WVU Medicine Children's
1 Medical Center Drive, Morgantown, WV 26506

Transthoracic Echocardiographic Report

Name: MILLER, BRAYSON ARTHUR HARRISON
Study Date: 03/19/2021 10:30 AM
Gender: Male
Patient Location: PEDIATRIC ECHO-POC WVUH
Referring Physician: LIKES, MAGGIE
Ordering Physician: LIKES, MAGGIE
Tech: KS

MRN: E2708616
DOB: 11/27/2017
BP: 101/64 mmHg
Accession #: 202103192875

Weight: 36 lb
Height: 38.5 in
BSA: 0.65 m^2

Indication:
Murmur. Atrial septal defect.

Conclusions:

1. The right atrium is severely dilated.
2. A large secundum ASD is noted with left to right shunting. The ASD measures 1.7 mm in diameter. Total septal length measures 4.5 cm. The RPV rim measures 5.4 mm, the AV valve rim measures 6.8 mm, the IVC rim measures 1.5 cm and the SVC rim measures 1.2 cm. The retroaortic rim appears deficient.
3. The left atrium is mildly dilated.
4. Possible drop out is noted below the aortic valve in PLAX view (Image 2/134, frame 9/57) . A similar drop out is noted in PSAX view (Image 12/134, frame 20 of 59). No flow acceleration is noted across the ventricular septum which is unlikely with a VSD. Clinical correlation advised. The ventricular septum is flattened in diastole in relation to LV.
5. Possible slight distortion of the base of the right aortic cusp.
6. Both the branch PAs and MPA appear mildly dilated.
7. The coronary sinus appears dilated. LSVC is noted. Likely LSVC to coronary sinus. A bridging vein was not clearly demonstrated.

Findings:
Cardiac Position: The cardiac position is levocardia. There are normal intracardiac connections. The great arteries are normally related. There is atrioventricular concordance. There is ventriculoarterial concordance.
Veins: The right-sided superior vena cava drains to the right atrium. The inferior vena cava is right-sided and drains normally to the right atrium. At least two pulmonary veins drain into the left atirum.
Atria: The right atrium is severely dilated. The left atrium is mildly dilated. A large secundum ASD is noted with left to right shunting. The ASD measures 1.7 mm in diameter. Total septal length measures 4.5 cm. The RPV rim measures 5.4 mm, the AV valve rim measures 6.8 mm, the IVC rim measures 1.5 cm and the SVC rim measures 1.2 cm. The retroaortic rim appears deficient.
AV Valves and Inflow Physiology: Normal tricuspid valve morphology. Trivial (physiologic) tricuspid valve insufficiency. No tricuspid valve stenosis. There is a normal appearing mitral valve without evidence of prolapse. No mitral valve insufficiency. No mitral valve stenosis.
Ventricles: The right ventricle is severely dilated. The right ventricular systolic function is normal. Normal left ventricular size. The left ventricular systolic function is normal. A moderate sized conoventricular VSD is noted with predominantly left to right shunting.The ventricular septum is flattened in diastole in relation to LV.
Semilunar Valves and Outflow Physiology: Grossly normal appearing pulmonary valve. Trivial (physiologic) pulmonary valve insufficiency. There is no pulmonic valvular stenosis. There is a normal trileaflet aortic valve. No aortic valve insufficiency. Doppler interrogation of the aortic valve reveals no stenosis. Possible slight distortion of the base of the right aortic cusp.
Great Vessels: Both the branch PAs and MPA appear dilated. The aortic arch appears normal and unobstructed. The aortic arch is left sided. Normal aortic root dimension. The sinotubular junction is normal in size. The ascending aorta is normal in size.
Coronary Arteries: The origins and proximal portions of the coronary arteries appear normal.
Pericardial and Pleural Space: There is no pericardial or pleural effusion seen.

Boston Z-Scores (Measurements & Calculations)

Measurement Name	Value	Z-Score	Predicted Mean Value	Normal Range
Ao sinus diam(2D) (vs. BSA(Haycock))	1.9 cm	1.1	1.7	1.4 - 2.1
Ao ST Jx Diam(2D) (vs. BSA(Haycock))	1.6 cm	1.1	1.5	1.2 - 1.8
AoV annu area (vs. BSA(Haycock))	1.4 cm^2	0.33	1.3	0.81 - 1.75
AoV annu diam(2D) (vs. BSA(Haycock))	1.3 cm	0.32	1.3	1.1 - 1.5

asc Aorta(2D) (vs. BSA(Haycock))	1.7 cm	0.85	1.5	1.2 - 1.9
IVSd(MM) (vs. BSA(Haycock))	0.58 cm	-0.26	0.61	0.44 - 0.78
LPA diam (vs. BSA(Haycock))	0.86 cm	0.03	0.85	0.60 - 1.11
LV mass(C)d(MM) (vs. BSA(Haycock))	32.3 grams	-1.6	43.8	30.4 - 63.1
LV thick/dimen (vs. Age)	0.23	1.6	0.18	0.13 - 0.24
LVIDd(MM) (vs. BSA(Haycock))	2.6 cm	**-2.8**	3.3	2.9 - 3.8
LVIDs(MM) (vs. BSA(Haycock))	1.7 cm	-1.9	2.1	1.7 - 2.5
LVPWd(MM) (vs. BSA(Haycock))	0.61 cm	0.52	0.57	0.42 - 0.72
MPA diam (vs. BSA(Haycock))	1.9 cm	**2.8**	1.4	1.0 - 1.7
MV annu diam(4ch) (vs. BSA(Haycock))	1.9 cm	0.49	1.8	1.4 - 2.2
PV annu area (vs. BSA(Haycock))	3.4 cm^2	**3.8**	1.7	0.88 - 2.59
PV annu diam(2D) (vs. BSA(Haycock))	2.1 cm	**3.3**	1.5	1.1 - 1.8
RPA diam (vs. BSA(Haycock))	1.2 cm	**2.2**	0.91	0.66 - 1.16
TV annu diam(4ch) (vs. BSA(Haycock))	2.5 cm	**2.9**	1.8	1.4 - 2.3

2D/ M Mode Measurements

FS(MM)	34.6	%
LA dimension	2.9	cm
LVLd ap4	4.9	cm
LVLs ap4	3.8	cm
EDV(MOD-sp4)	35.2	ml
ESV(MOD-sp4)	13.3	ml
EF(MOD-sp4)	62.2	%
RVAW	0.4	cm
RVDd	2.8	cm
TAPSE	2.6	cm

Doppler Measurements

AV peak vel	125.1	cm/sec	(100.0-170.0)
Ao max PG	6.3	mmHg	(2.0-9.0)
asc Ao max vel	102.9	cm/sec	
asc Ao max PG	4.2	mmHg	
desc Ao max vel	115.5	cm/sec	
desc Ao max PG	5.3	mmHg	
MV E vel	105.5	cm/s	
MV A vel	65.2	cm/s	
MV E/A ratio	1.60		
MPA max vel	125.4	cm/s	
MPA max PG	6.3	mmHg	
LPA max vel	149.6	cm/s	
LPA max PG	9.0	mmHg	
RPA max vel	153.9	cm/s	
RPA max PG	9.5	mmHg	
PA max PG	14.4	mmHg	
PA V2 max	189.5	cm/s	
RVOT max vel	87.9	cm/s	
RVOT max PG	3.1	mmHg	
TR max vel	222.1	cm/s	
TR max PG	19.7	mmHg	

MMode/2D Measurements & Calculations

LA/Ao: 1.6

Doppler Measurements & Calculations

TV E max vel: 56.9 cm/sec

TV A max vel: 35.5 cm/sec

Electronically signed by: **UTKARSH KOHLI** on 03/19/2021 12:38 PM