2D Image Acquisition: Getting the Right View

18th SA Heart Congress, 2017
Johannesburg, South Africa
November 9-12, 2017

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2D Acquisition: Getting the Right View

Learning Objectives

1. Determine what you are looking for
2. Recognize what you are looking at
3. Have the right imager
2D Acquisition: Getting the Right View
Learning Objectives

Case based approach

1. 52 YO with BAV and aortic stenosis
2. 18 YO with iRBBB and RV enlargement
3. 34 YO with dyspnea and systolic murmur
AVA calculation: Highly operator dependent

LVOT area \times LVOT TVI

AV area

RPS 19%

Apical 60%
Aortic Valvular Stenosis Severity
Underestimation of AVA and Gradient

\[
AVA = \frac{(LVOT \text{ diameter})^2 \times 0.785 \times TVI_{LVOT}}{TVI_{AV}}
\]

Correct Angle

Reduced AV TVI / velocity and mean gradient
52 yr old with BAV and AS
Chest Pain

Surgical Consultation?
52 yr old with Bicuspid Severe AS
What did we miss?

BAV and CoA: a single disease
52 YO with BAV: look for CoA
Identify the right views

1. No EDR
2. Continuous Flow
3. “High” Diastolic Velocity

Normal
52 YO with BAV: look for CoA
Identify the right views
What can go wrong with the non-guided aortic Doppler signal?

Alignment of Doppler with Flow
Suprasternal notch imaging:

Peak vel. 1.2 m/s
52 yr old teacher with AS and CoA
Surgical Repair

- 20 mm x 30 cm
- Ascending-to-Descending Bypass
- 21 mm St. Jude HP AVR
76 YO with BAV and TAA
76 YO with BAV and TAA

Sinus Diameter 4.3 cm

Asc Ao 5.5 cm
Identify the Right views for TAA

Right Parasternal Imaging
Identify the Right views for TAA

Right Parasternal Imaging
Identify the Right views for TAA
Right Parasternal Imaging
18 YO with iRBBB and systolic murmur
18 YO with iRBBB and systolic murmur

Right view for atrial septum?
ASD: Consider all windows
Right View for Atrial Septum

Normal Septum  Sinus Venosus ASD
18 YO with iRBBB and systolic murmur

Refer for device closure?
1) Yes        2) No
18 YO with Secundum ASD/ RVE

Always look for associated CHD
Pulmonary Venous Connection: Crab View
Associated CHD with ASD
What are we looking for?

Identify the right views

Ammash: JACC, 1997
18 YO with Secundum ASD/ RVE

Ammash: JACC, 1997
Scimitar syndrome
Secundum ASD Rims
Right Views on TEE

RAo
ASD - Ao annulus
15 - 45°

IVC
ASD-IVC
60 - 90°

AVV
ASD- TV
135°

SVC
ASD- SVC
90 - 120°
