Imaging in and Around the Cath Lab

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Disclosures

• I have no disclosures pertinent to this presentation.
Modalities in Procedure Lab

- Intracardiac Echocardiography (ICE)
- Transthoracic Echocardiography (TTE)
- Transesophageal Echocardiography (TEE)
Key Points to Anticipate Imaging

• Which chamber or valve?

• General anesthesia?
Primary Procedures Requiring Imaging

• Exclusion of LAA thrombus
  – Afib/flutter ablation
  – Mitral valvuloplasty
• Transseptal – most procedures involving LA or LV
• Valve replacement
  – AV, ?MV, ? PV
• Valvuloplasty
  – Mitral or aortic
• Valve repair
  – MitraClip
  – Paravalvular leak repair
• Pericardiocentesis
• Alcohol septal ablation
• PFO or ASD closure
Transseptal Procedures

- Mitral Valvuloplasty
- EP Ablations
- Paravalvular Leak
- Left Atrial Appendage Closure
- Mitral Repair with MitraClip system
Bicaval TEE

IVC
EV
SVC
Caval flow into the RA
Intracardiac Echocardiography
Intracardiac Echocardiography
Intracardiac echo
Transesophageal Echocardiography
Esophagus
LA Appendage – Thrombus
Mitral valve repair

MITRAACLIP
MitraClip Procedure Animation
Imaging Objectives in MitraClip

- Exclude LAA thrombus.
- Document preprocedure MR.
- Guide crossing point for trans-septal.
- Guide catheters in the LA to appropriate position.
- Guide clip positioning.
- Assess for safe capture of leaflets.
- Post-procedure MR assessment.
- Assess for complications.
Endovascular Mitral Repair System
3D Transesophageal Echo

View from RA

View from LA
Transeptal Puncture
Sheath Placement in LA
Guide Catheter Across Septum
Clip Introduction
Clip Orientation/Steering
Open Clip
Clip Alignment/Line of Coaptation
Positioned above MR jet
Clip Advanced into LV
Leaflet Capture
Clip Deployment
MR Jet Evaluation
Assessment of MR after Second Clip
Assessment of gradient
Double orifice
Congenital Double Orifice Mitral Valve
Percutaneous Repair of Anterior Leaflet Perforation
Device Placement
Paravalvular Leak Repair
Iatrogenic ASD (iASD)
After Transseptal Procedure
AORTIC VALVE - TAVR
Imaging and TEE

• Annulus assessment prior to opening seal on valve.
• Baseline TEE (valves, function, effusion, working views).
• Valve placement (secondary)
• Ongoing assessment for complications.
Recognition of complications

- Post-deployment
  - Hematoma
  - Dissection
  - LV wall motion abnormalities
  - Pericardial effusion
  - Paravalvular regurgitation
  - Unstable valve position
Pre and post post-dilation of AV
Take Home Points

• TTE, TEE and ICE are all commonly used in the procedure lab.
• Think about where the imaging probe is relative to the procedure.
• Understanding the steps in the procedure will allow you to anticipate the necessary views.
• Review imaging from previous procedures.
Questions?