



Understanding The Cardiac Catheterization Report

Ben Starnes MD, FACC

Disclosures

I have no relevant relationships with
commercial interests to disclose.

Indication/Clinical History

- Acute coronary syndrome
- Stable angina
- Chest pain
- SOB
- Cardiac arrest

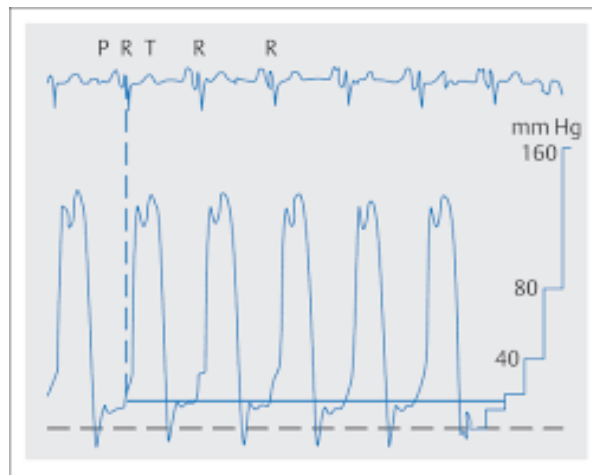
Procedural Details

- Procedure performed
 - Access – radial, femoral
 - LHC, RHC, arteriography
- Equipment used
- Complications

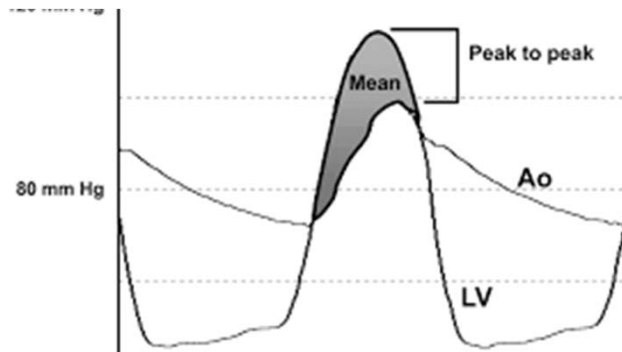
Left Heart Catheterization

- Advance catheter across the aortic valve
- Record pressures in the left ventricle
- Record pressures while pulling the catheter back across the aortic valve

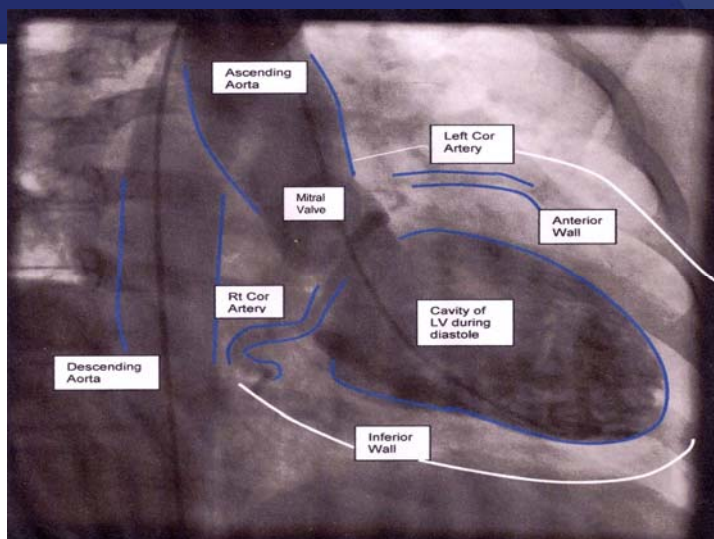
Left Heart Catheterization Left Ventricular End Diastolic Pressure (LVEDP)



Aortic Stenosis



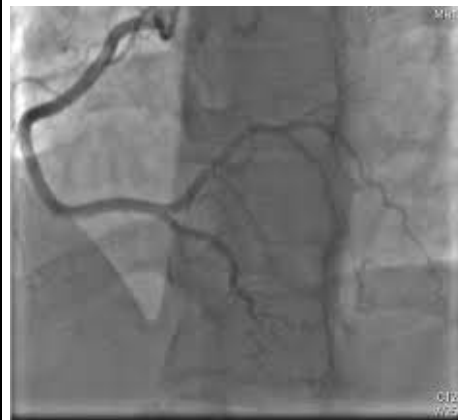
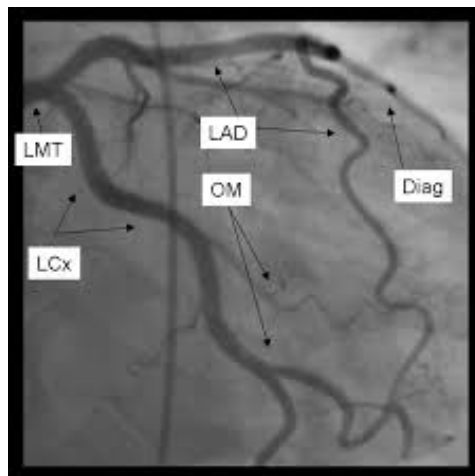
Left ventriculography



Aortography



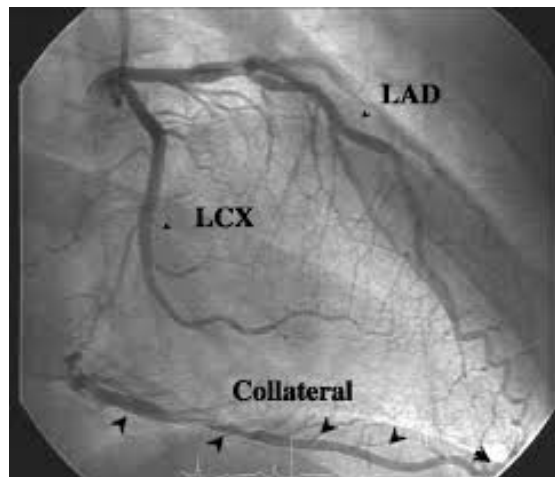
Coronary Angiography



Coronary Angiography

- Vessel size
- % stenosis or narrowing
- Tortuosity
- Calcification
- Collaterals
- Coronary dominance

Occluded RCA with left to right collateral flow



Right Heart Catheterization

- Catheter advanced through the right atrium, right ventricle into pulmonary artery
- Assess for pulmonary hypertension
- Pulmonary Capillary Wedge Pressure (PCWP)
- Cardiac output
 - Fick
 - Thermodilution

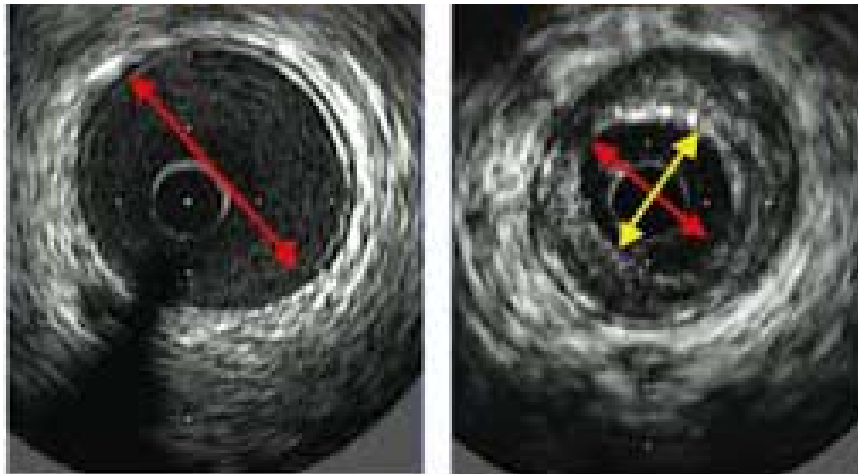
Percutaneous Coronary Intervention

- Balloon angioplasty
- Stenting
- Thrombectomy
- Atherectomy
 - Rotational
 - Orbital

Intravascular Ultrasound (IVUS)

- Catheter with ultrasound probe advanced over a wire
- Vessel sizing
- Plaque assessment
 - Minimal luminal area
 - Calcification
- Assessing stent expansion and apposition

IVUS



Fractional Flow Reserve (FFR)

- Measuring pressure gradient across stenosis at rest and after administering intracoronary adenosine with a pressure wire
- Used when angiographic severity of stenosis is uncertain
- <0.80 significant, intervention indicated
- >0.80 medical therapy
- iFR – instantaneous wave free ratio

Conclusions/Recommendations

- Summarize angiographic and hemodynamic findings
- Medical therapy
- Intervention
- Referral for surgical intervention

Thank You