

Complex PCI Cases: Acute Myocardial Infarction:

**Pre-shock, triple plaque rupture, radial loop, renal
insufficiency & elevated INR**

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**Cardiac Safety
Research Consortium**



Case Study

- 62 y.o. male hospital employee with C/P
- Hx atrial fibrillation
- “Stuttering” C/P for 48 hours
- ECG: Anterior & Inferior ST elevation
- BP 82/62
- *Point of care labs:*
 - INR 4.2 (coumadin)
 - Creatinine 2.3
 - Cholesterol 600
 - CPK 600
- *Additional studies:*
 - TTE: Efx 28%
 - O2 saturation: 98% on 4 L
- *Additional care:*
 - IV saline
 - Clopidogrel 300 mg
 - SL TNG
 - *Anterior ST normalized*
 - *Ongoing C/P*



Treatment strategy

- **Saline hydration:** for BP & renal function, good O2 saturation
- **Urgent cath:** Inferior STE, ongoing C/P, low Efx, high CPK, (high INR)
- **Right radial arteriotomy:** high INR
- **No IABP:** high INR



J-wire resistance: dilute contrast angio



5 Fr TIGR, 0.014 Runthrough Wire



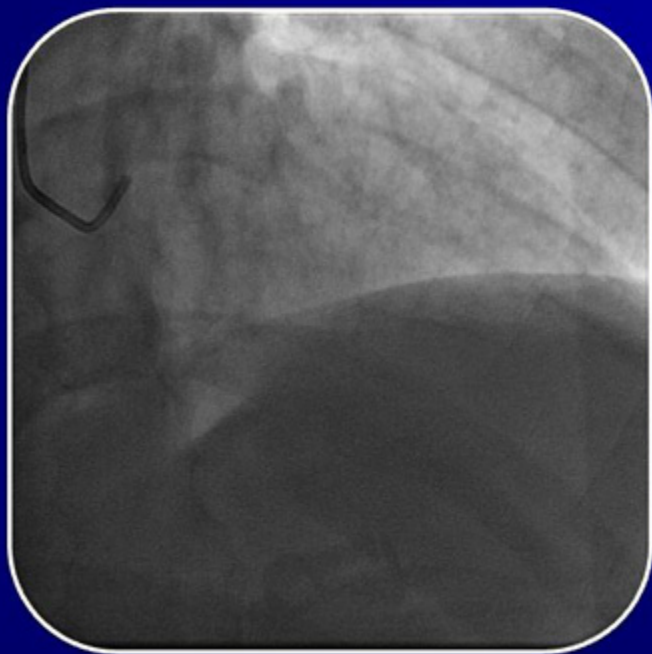
Transit Catheter over 0.014 wire



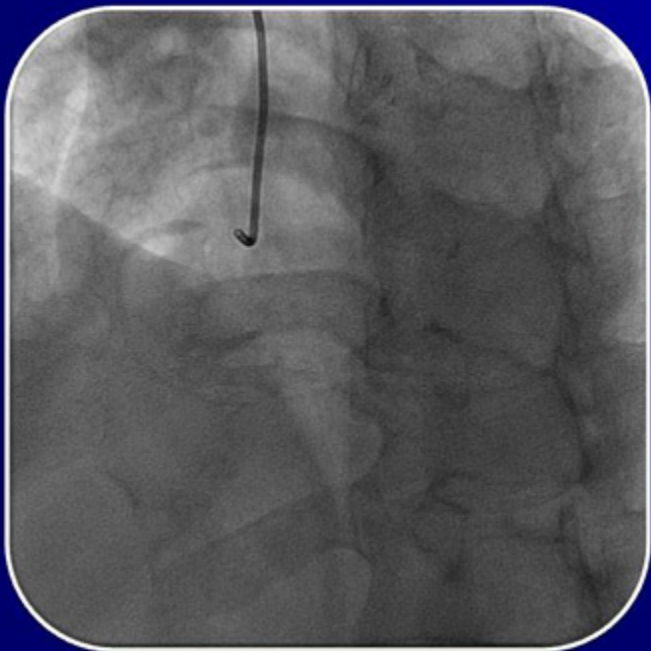
Catheter over Transit--pullback straightening



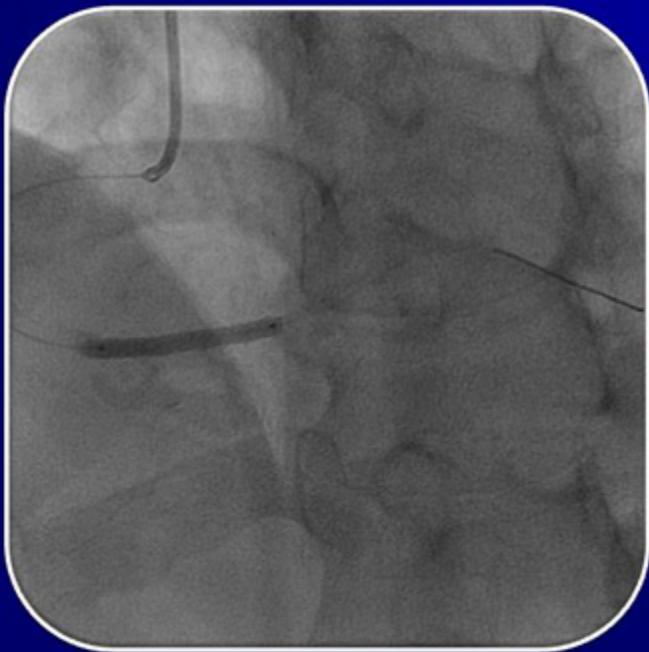
LCA Dx



Dx RCA



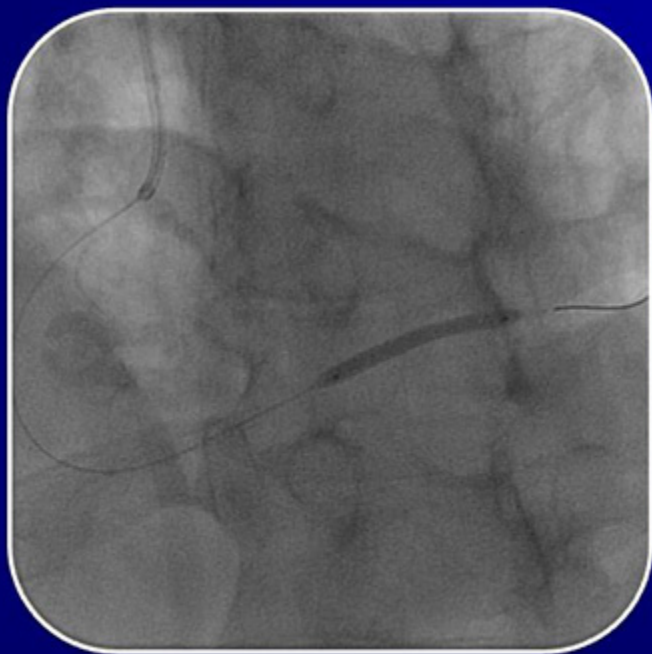
**6 Fr JR5: 2.75 X 28 mm Xience Direct Stent RCA
15 atm**



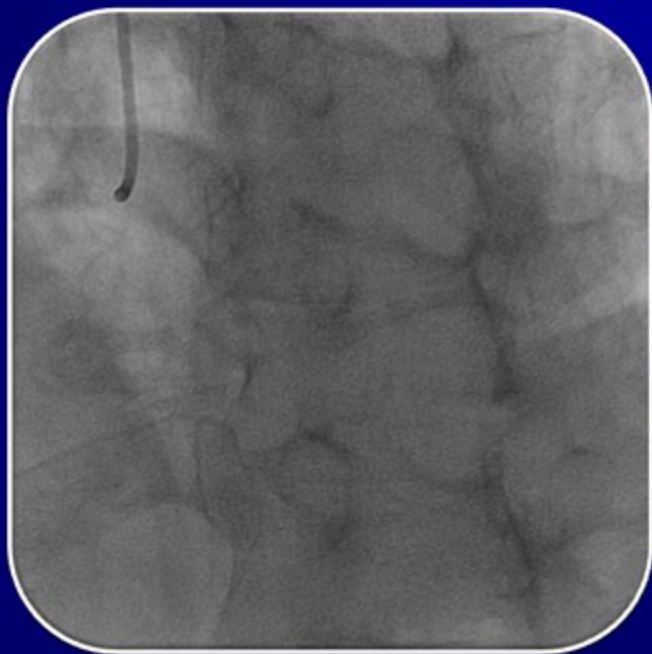
RCA PLSA second ruptured plaque (50 cc contrast)



**PLSA 2.5 X 28 mm Xience direct stent
14 atm**



RCA Final

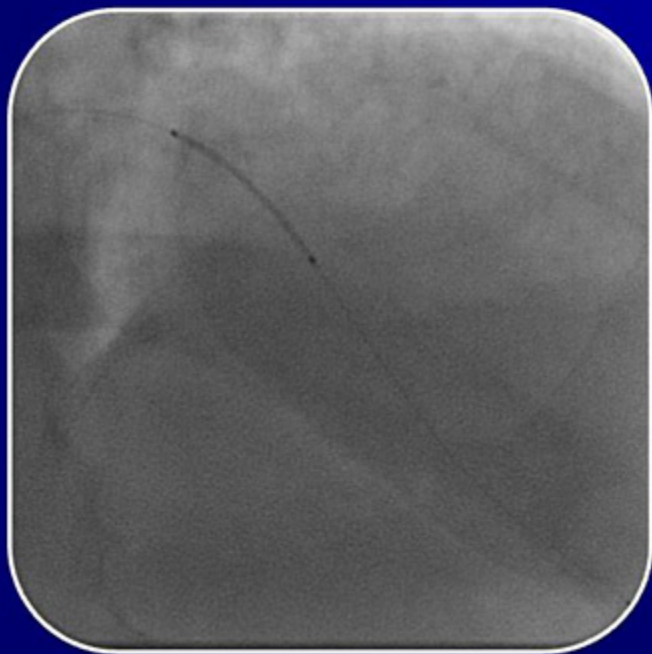


Therapeutic decisions

- **Stop:** IABP,
minimize contrast
- **Continue:** direct
stent LAD
- **Continue:**
 - Acute ECG anterior & inferior*
 - Low Efx—borderline shock*
 - Occlusion on coumadin*
 - Total contrast <100c*



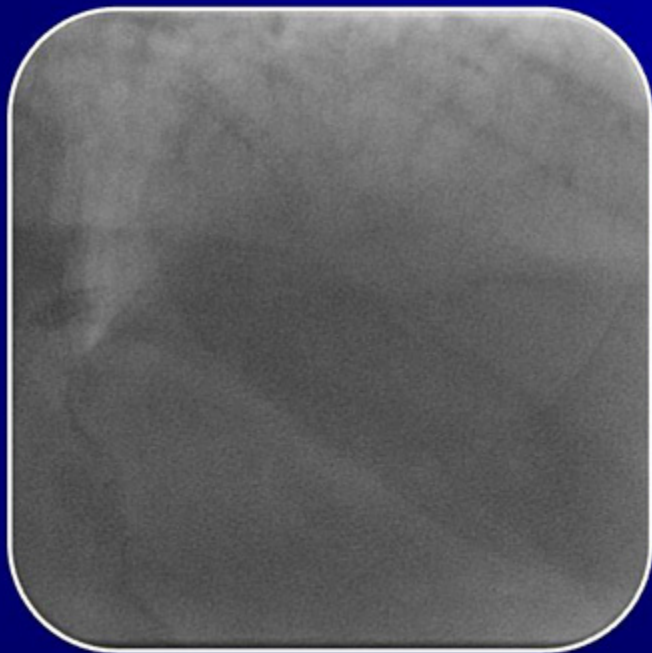
6 Fr EBU 4: Direct Stent: 3.0 X 23mm Xience



LAD Direct stent 17 atm



LAD Final: total contrast 90cc



Follow up: Index Hospitalization

- **72 hours creatinine: 2.3 to 3.2 to 1.3**
- **INR 2.3**
- **Echo at 96 hours: 40%**
- **Discharge on ASA 81mg, clopidogrel 75 mg and coumadin in 5 days**
- **High dose statin, beta blockers, ACE**



Follow up: 6 months

- **Clinically stable**
- **Total cholesterol 260**
- **Efx 65%, normal wall motion**



Points to consider: *triple plaque rupture AMI, elevated INR, pre-shock and renal insufficiency*

- ***In AMI, clinical and technical considerations must be combined!***
- **Radial approach to STEMI:**
 - Controversial
 - Time delay (vs not in experienced hands)*
 - Complex anatomy: left vs right radial*
 - We do 90% elective radial
 - INR >3.0
- **Contrast and renal function:**
 - Dilute contrast per injection
 - Direct stent in soft (ruptured plaque)
 - Undersize stent, deploy at high pressure with SDS
- **Complete vs. partial revasc strategy: *shock & dual IRA***

