

JCR 2015

High risk coronary intervention in ACS - Bifurcation lesion

Successful culotte stenting in severe calcified
left main bifurcation lesion
supported by 5Fr Heartrail GC



Seung-Hwan Lee, MD. PhD.

Wonju Severance Christian Hospital

Wonju Medical College, Yonsei University

Case summary

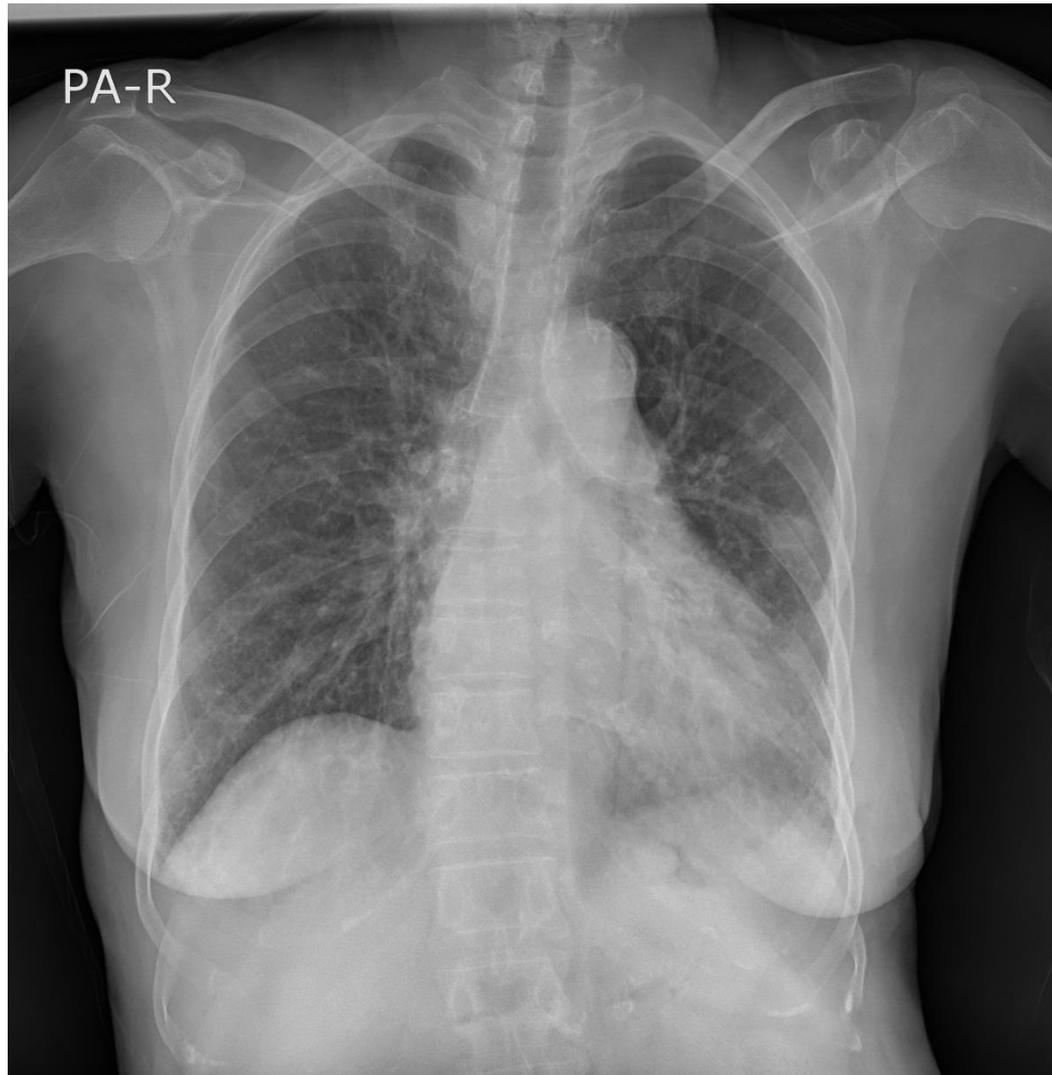
- 76 year-old, female
- C.C : Severe chest pain with radiating pain to both shoulder
- Duration : 2 weeks

- Risk factors
: ESRD on hemodialysis, Hypertension, Diabetes mellitus

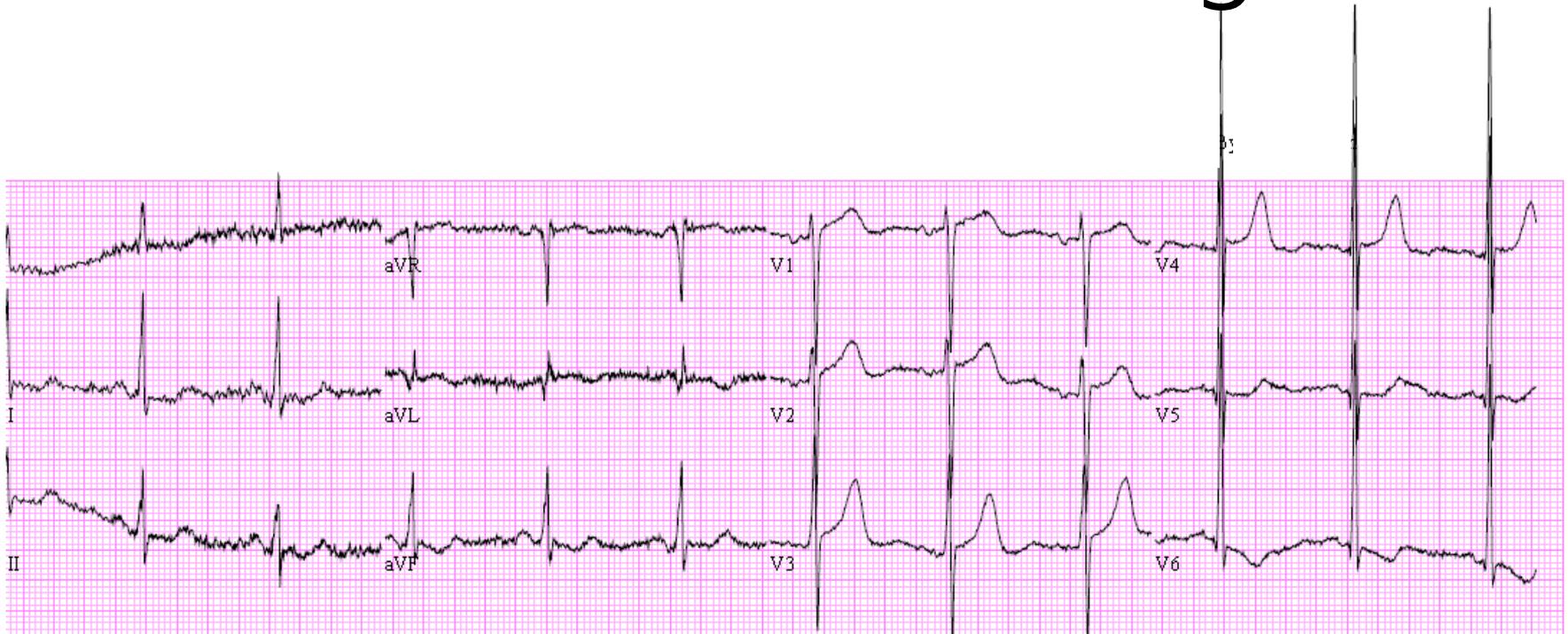
- Vital sign : 196/94 mmHg, HR 73 bpm

- Hgb 11.4 g/dL
- Creatinine 3.14 mg/dL
- BNP 1200 pg/mL
- CK-MB / Troponin I 1.14 / 0.069 ng/mL
- HbA1c 7.6%

Initial chest X-ray



EKG & Echo finding



1. Biatrial enlargement.
2. Concentric left ventricular hypertrophy.
3. Normal global left ventricle systolic function (EF = 69%).
4. Tri-phase mitral inflow ($E/E' = 43$).
5. Pulmonary hypertension, moderate.
6. MR GI/IV, TR GI/IV, trivial aortic regurgitation.

Treatment strategy

- Clinical diagnosis : unstable angina, ESRD(high surgical morbidity)
- Anatomical diagnosis : 3 vessel disease (severe calcified lesion)
critical stenosis on Lt. main bifurcation, P-Lad, d-Lcx, RPD
- Plan : Lt main PCI (Culotte stenting)
- LCX first → LAD next
- Expected situations
: coronary calcification related events
 - balloon induced dissection, under-expansion
 - device passing failure (balloon or stent)
 - consideration (backup support, buddy wire,
anchor balloon, rotablation atherectomy)

Summary and Conclusion

- For lesion preparation in heavy calcified stenotic lesion, **buddy wire (additional 1 or 2)** is helpful to **break down calcified vessel**.
- If balloon failed to cross lesion or stent strut, don't push hard and exchange balloon with **new small one**.
- In TRI case, **mother-child technique using 5Fr Heartrail catheter** within 6Fr XB catheter can provide good backup support, especially in **severe angulated LCX ostial lesion**.