TCT 2025

Alternative Access Trans-axillary Imeplla Supported High Risk Protected PCI

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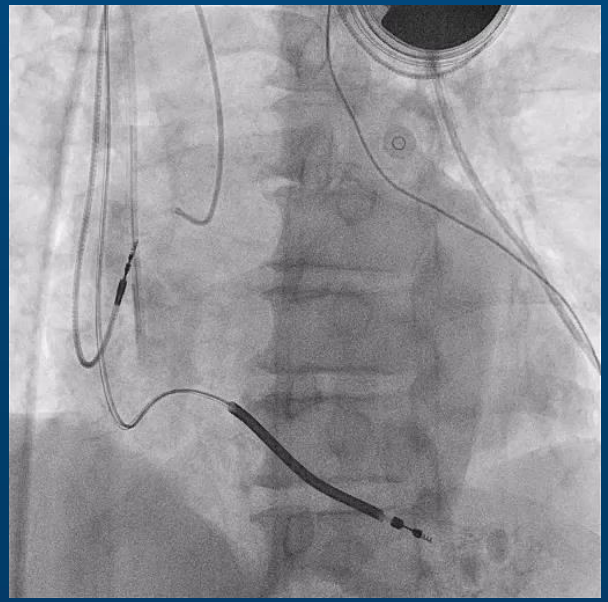
Disclosure of Relevant Financial Relationships

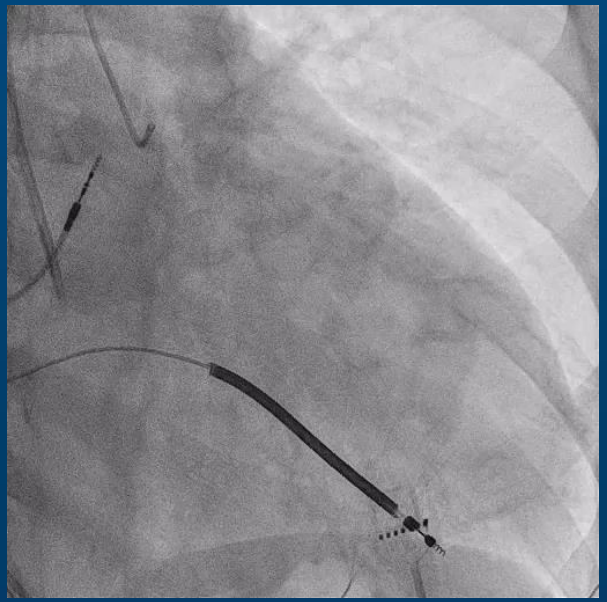
I, [LAM LAP TIN] DO NOT have any financial relationships to disclose.

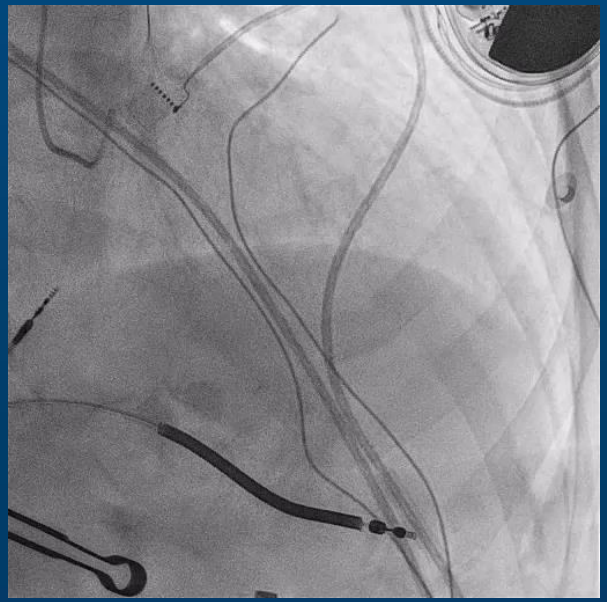
Background

- 55 years old man
- Chronic smoker
- Presented with chest pain and shortness of breath
- **Echocardiogram:** Dilated Left ventricle ~ 6.3cm, Left ventricular ejection fraction ~ 15%, Normal Right ventricle function, No aortic stenosis, mild mitral regurgitation
- **Coronary Angiogram** showed severe triple vessels diseases
- **Severe peripheral artery diseases** with complete occlusion of left common iliac artery, severe stenosis at right common femoral artery with narrowest diameter of 4.7mm, mural thrombus at descending aorta and bilateral renal arteries stenosis

Coronary Angiogram



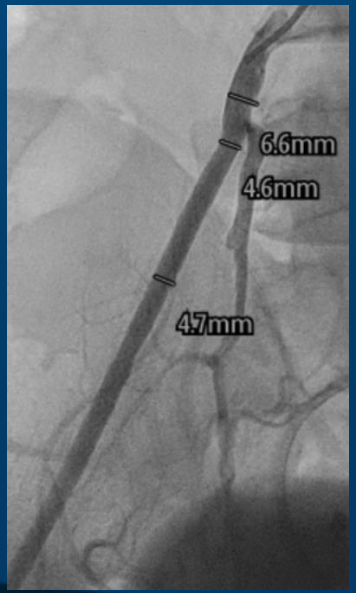


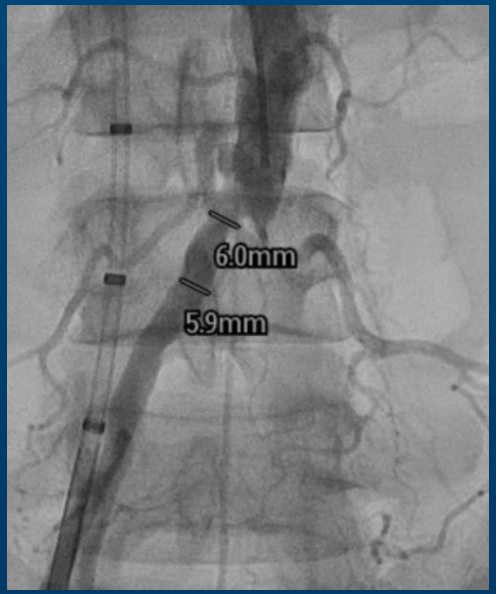


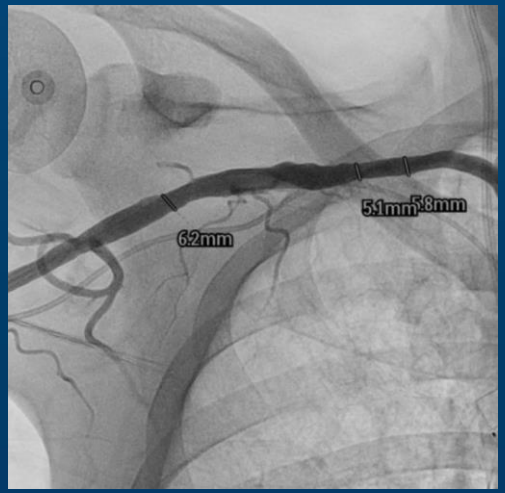
Progress

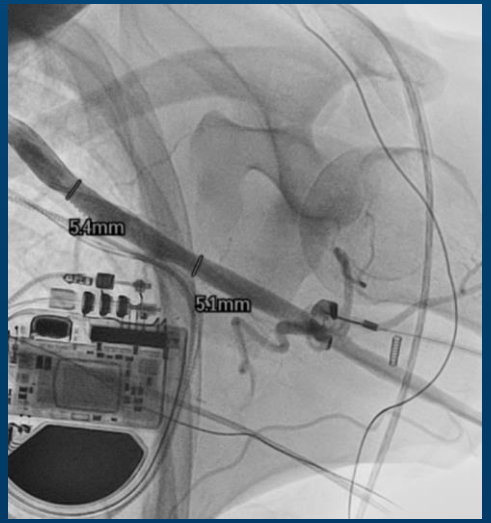
- Deemed to high risk for CABG due to poor heart function, severe peripheral vascular disease precluded by pass circulation
- Initially decided for medical treatment for advanced heart failure in view of complex anatomy for PCI
- Had VT storm, VT ablation and ICD implantation done
- Unable to tolerate guideline-directed medical therapy due to frequent hypotension
- Required Inotropes infusion
- Severe class III-IV angina
- Heart team discussion to go for complex high risk PCI

- **Femoral Artery was borderline for Impella (14Fr)**
  Consideration to use Alternative Access Impella support



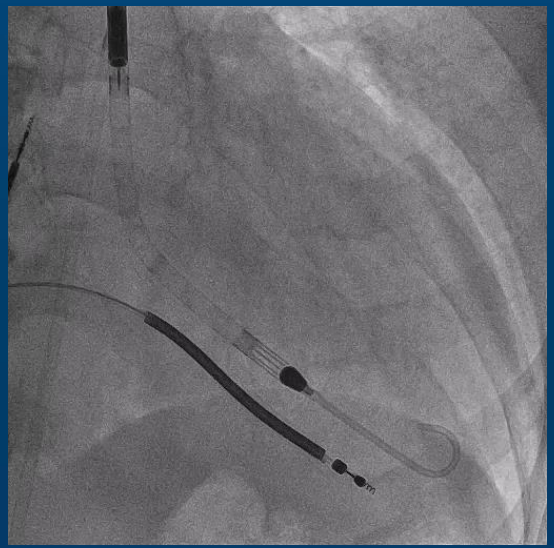


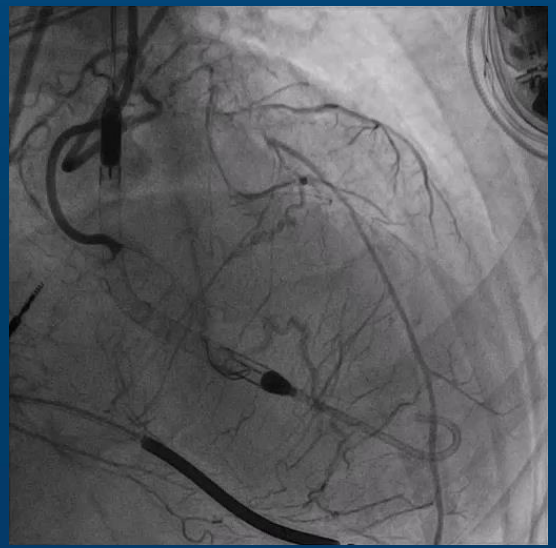


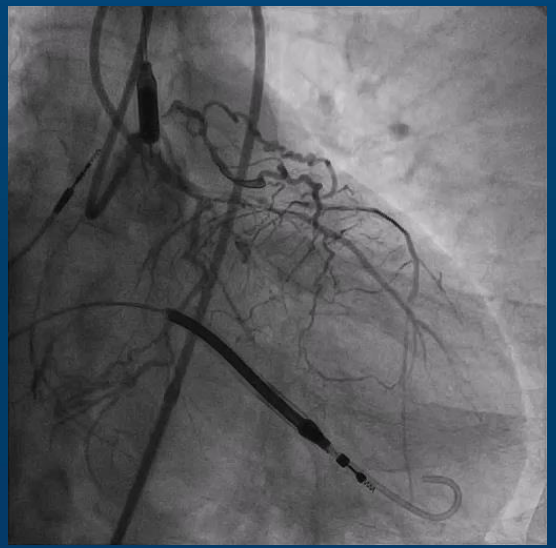


Surgical Cut Down R axillary Impella CP Support

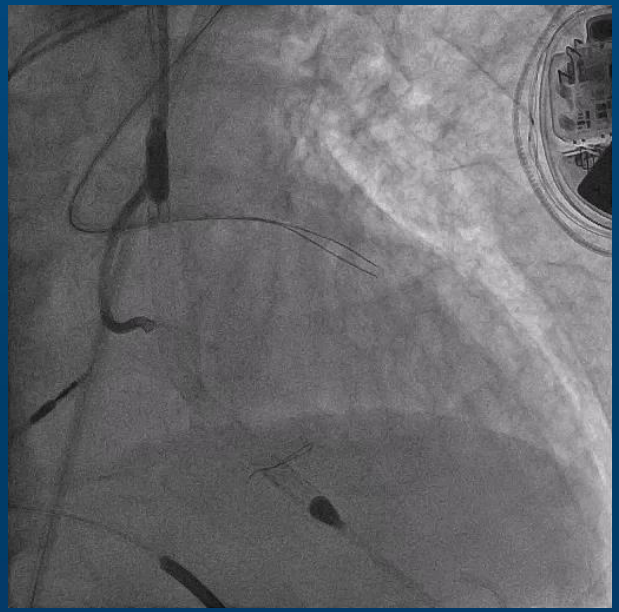
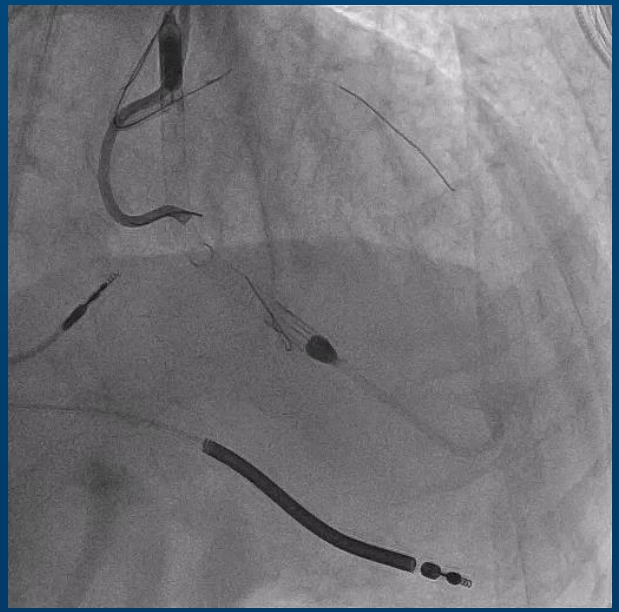
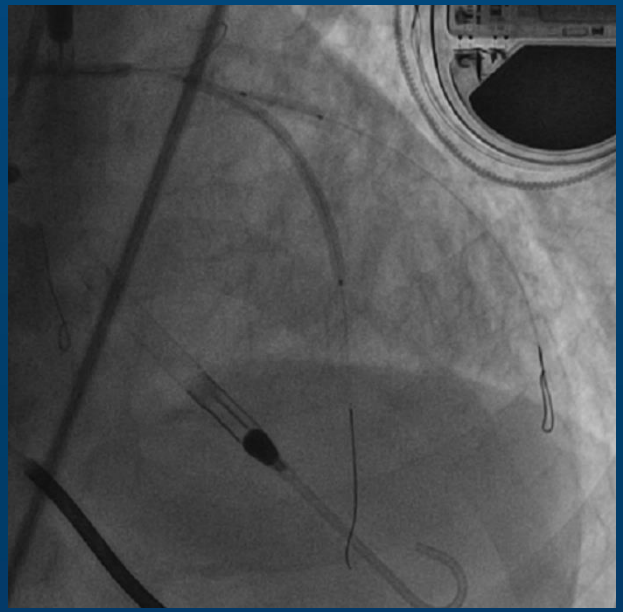
RCA guiding catheter via R Axiilary Impella Sheath and LCA guiding catheter via R Femoral Artery



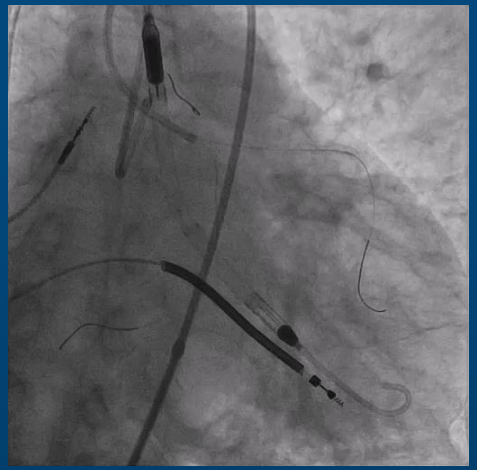




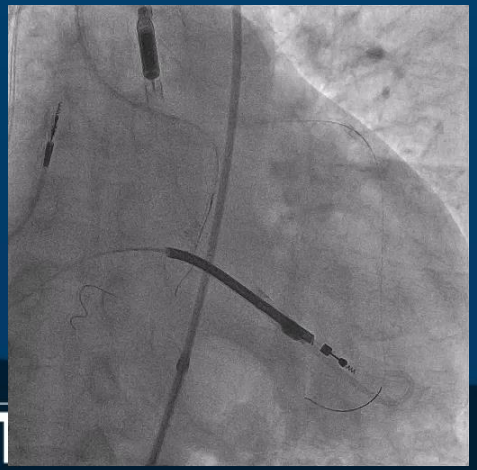
Parallel wiring using Gladius EX wire into LAD
Modified jailed balloon technique stenting to p-dLAD

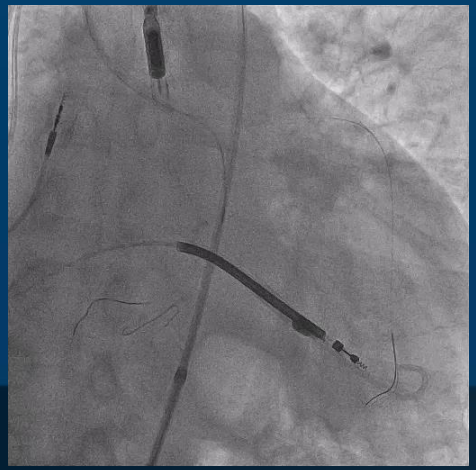




Thrombus Embolization into ipsilateral collaterals

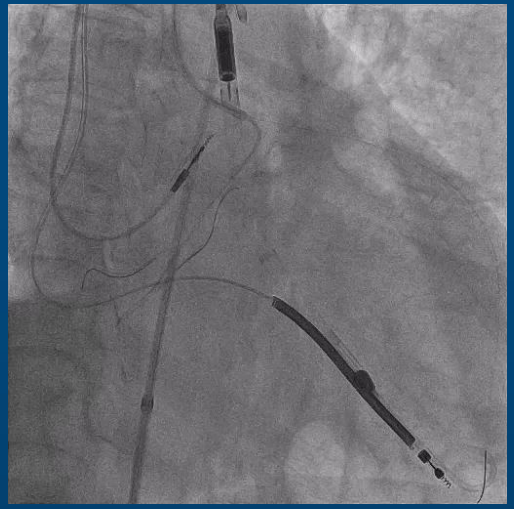


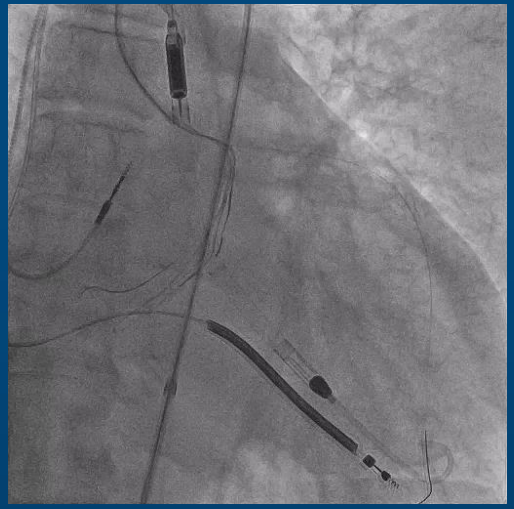
- Significant ST elevation in I, aVL leads
- Total loss of intrinsic blood pressure
- Total dependent on Impella CP support
- Added IV Noradrenaline for support

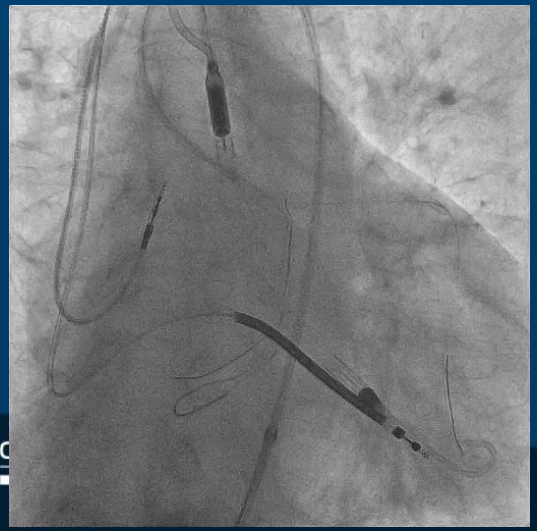


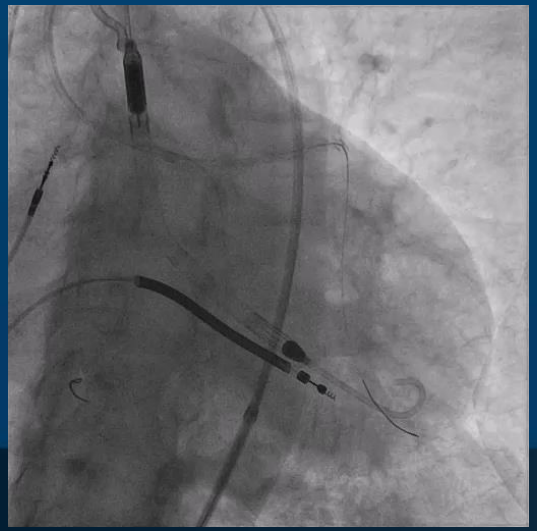


- Wire the ipsilateral collaterals using Sion Black and Suoh 03









- Retrograde Gladius EX back to Proximal Cap Antegrade Puncture with Gaia 3rd then Knuckle using Gladius Mongo
- Successful Reverse CART
- Stenting to Left main and Drug coated balloon to LCx

Progress

- Hemodynamically more stable and no more ST elevation at the end of procedure
- Weaned off Impella CP on table
- Post op Day 0 complicated with R lower limb acute limb ischaemia requiring thrombectomy

Conclusion

- *This case illustrated* the importance of heart team, vascular management, mechanical circulatory support and CTO skillsets to tackle a challenging CHIP case