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IVUS guided PCI for CTO with ambiguous proximal cap

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History

- 50-year-old female, non-diabetic, hypertensive
- Admitted with Angina on exertion class II for 6 months
- History of ACS nine months back
- Moderate LV dysfunction (40%, LAD RWMA, preserved wall thickness)

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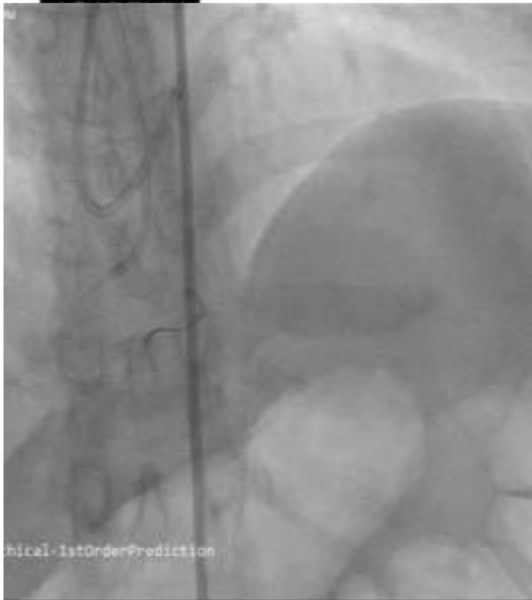
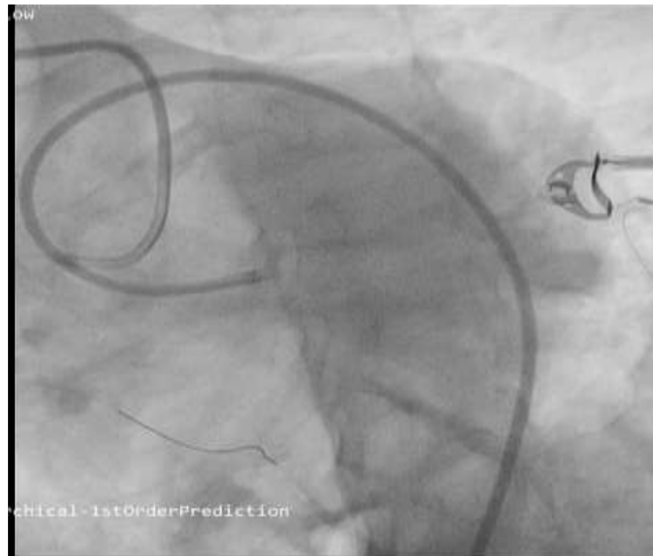
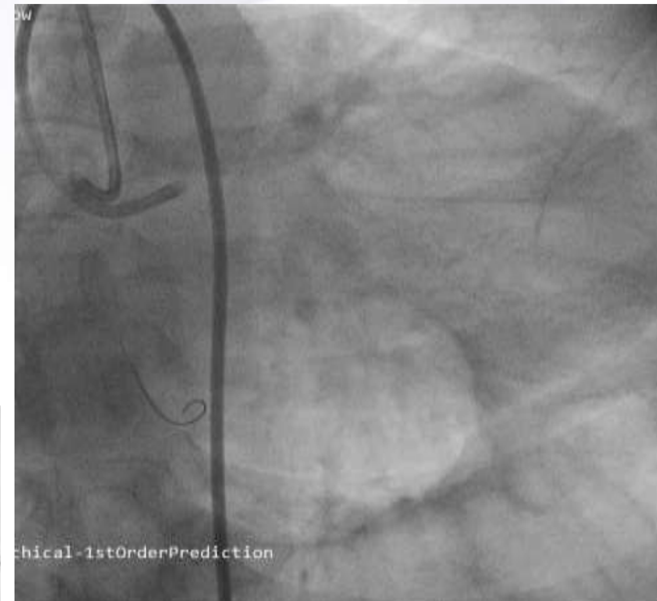
Angiograms



Ostial LAD flush occlusion, ambiguous proximal cap, distal LAD reformed via septal and epicardial collaterals, Bifurcation at distal cap





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Procedure plan

- JCTO score: 2 (Ambiguous cap, length >20 mm),
- Bifurcation at distal cap, small caliber distal vessel
- Bilateral access (Right radial, right femoral)
- Antegrade approach: IVUS guided cap puncture and antegrade wiring
- Retrograde, if antegrade approach fails
- Left main to LAD cross over stenting

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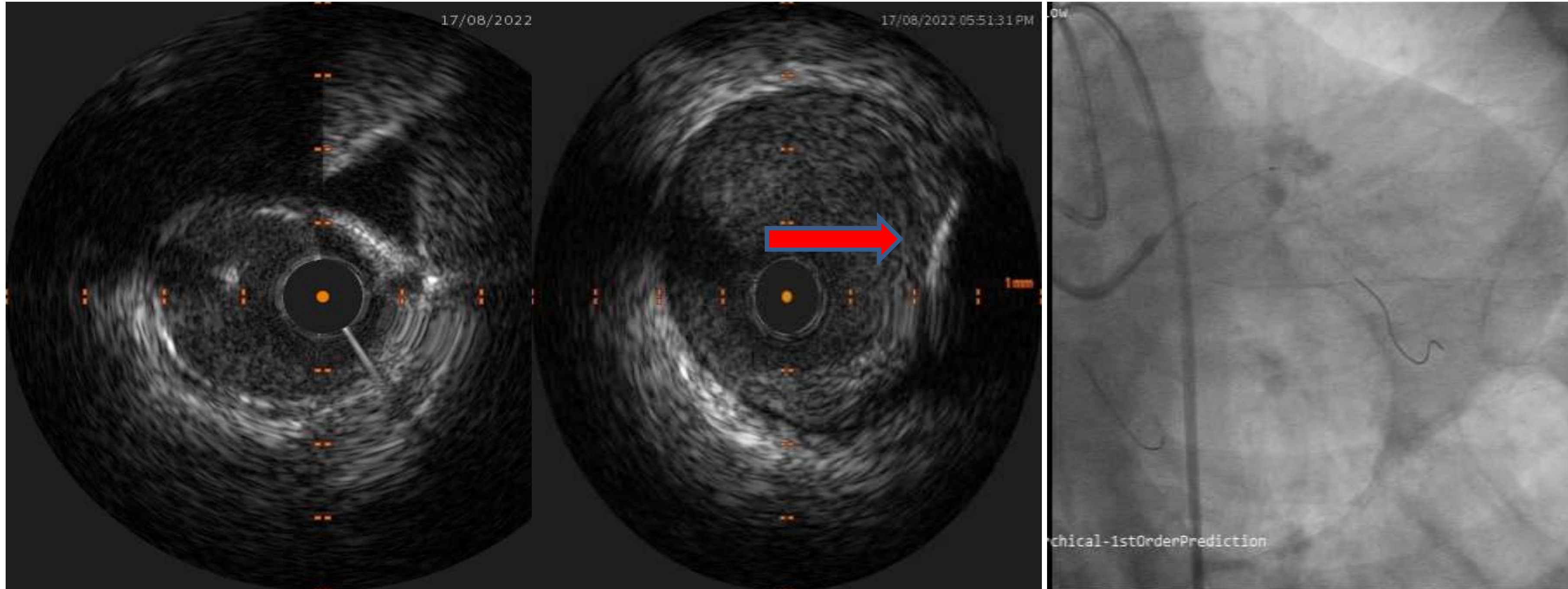
IVUS



IVUS run from LCX to Left main showing LAD cap at 3o clock position with calcification at proximal cap (arrowhead), corresponding cine run with IVUS catheter tip at cap site

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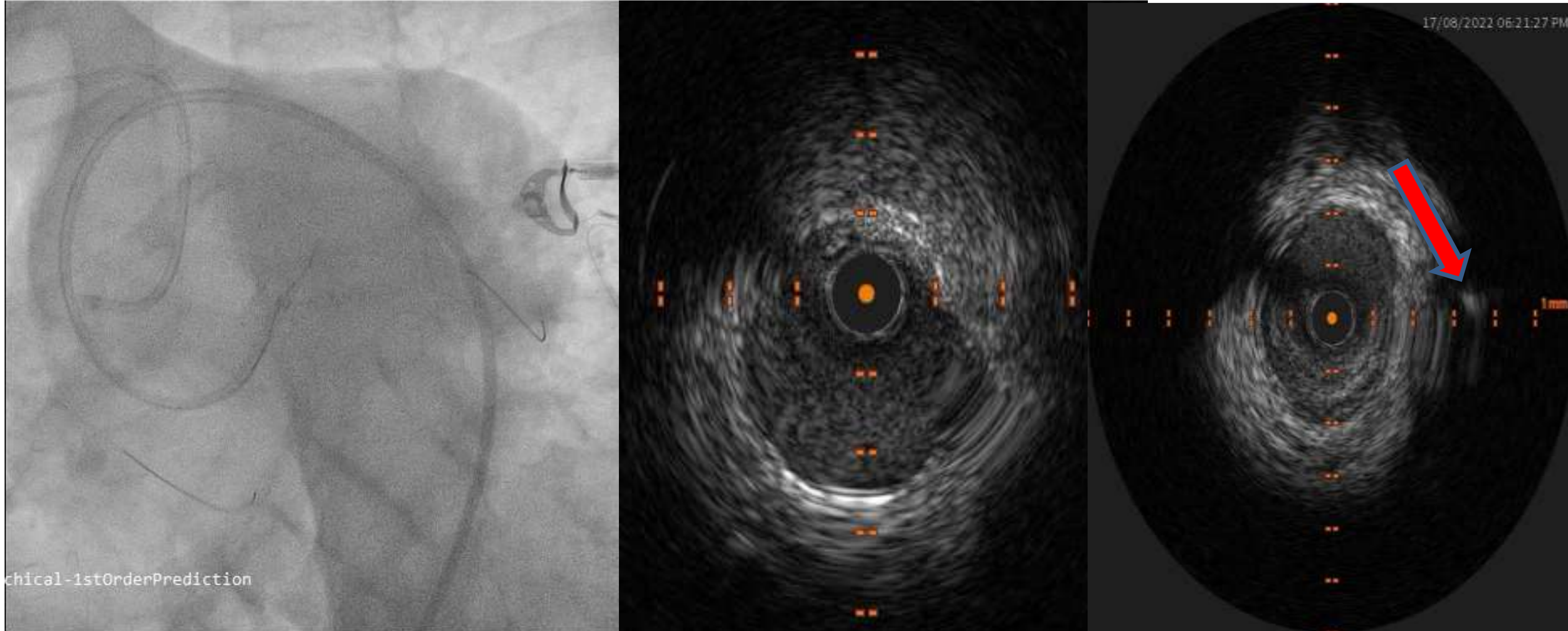

With roadmap of cap site, cap puncture attempted initially with fielder xt (unsuccessfully), punctured with cross it 200, wire position verified with IVUS (arrowhead)

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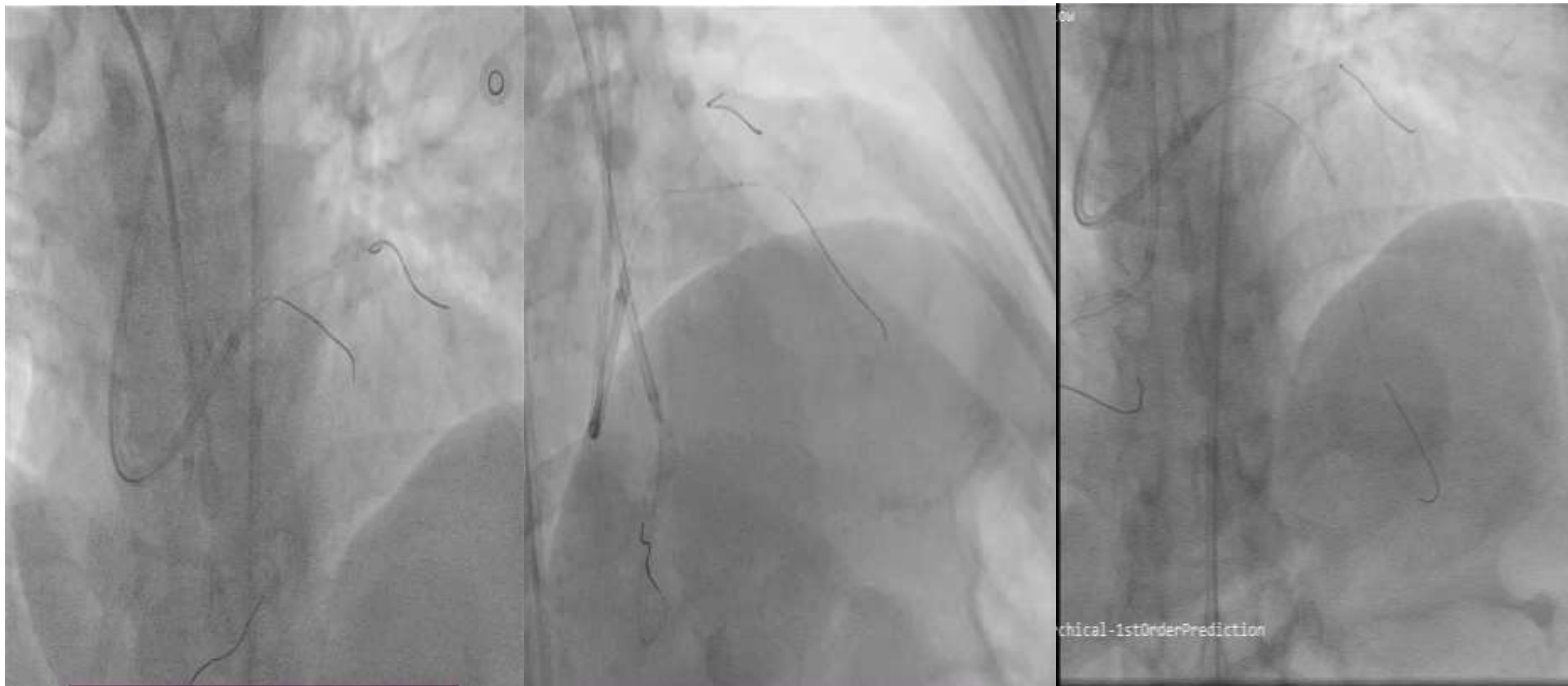

Wire deescalated to pilot 200, manoeuvred into LAD and exchanged with workhorse wire

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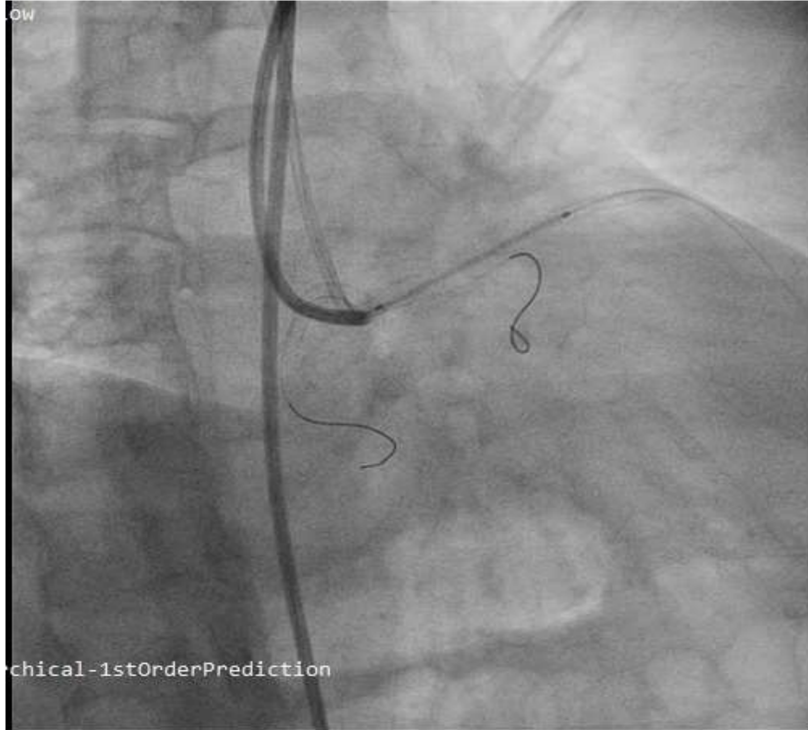

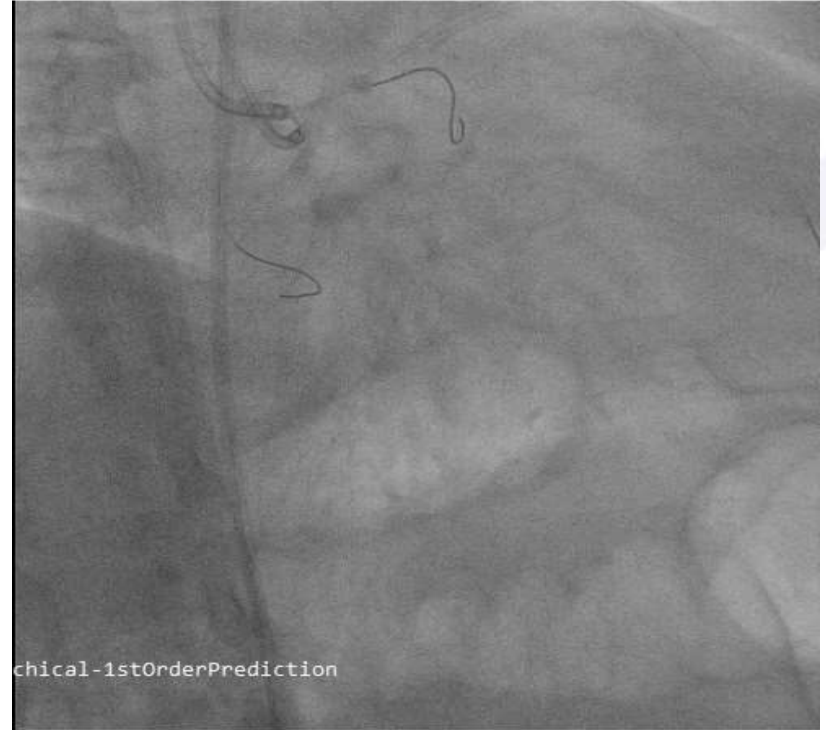

LAD stented with 2 stents (2.5*23 and 3.5*38) after IVUS, post stent abrupt LCX closure due to plaque shift, managed with mini-cullote stenting with 3.5*18 stent

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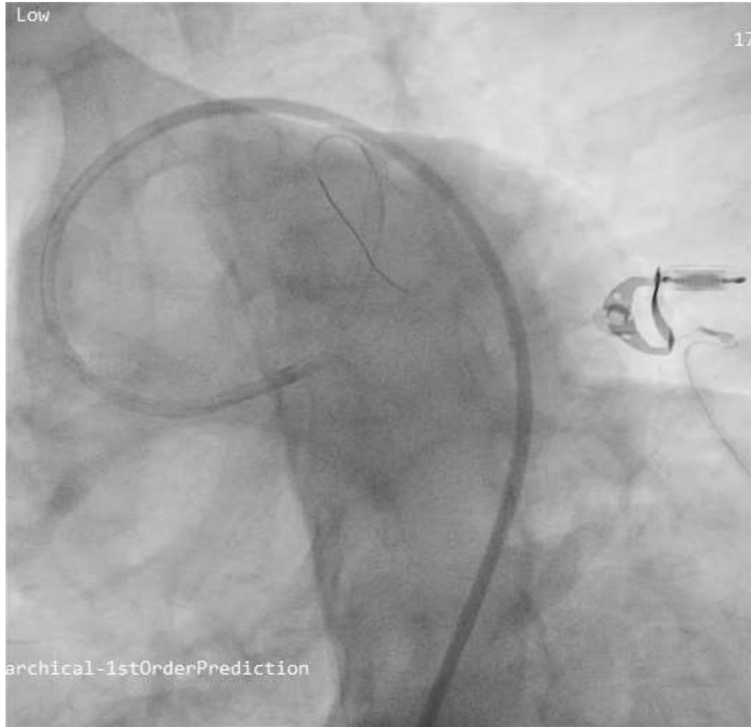
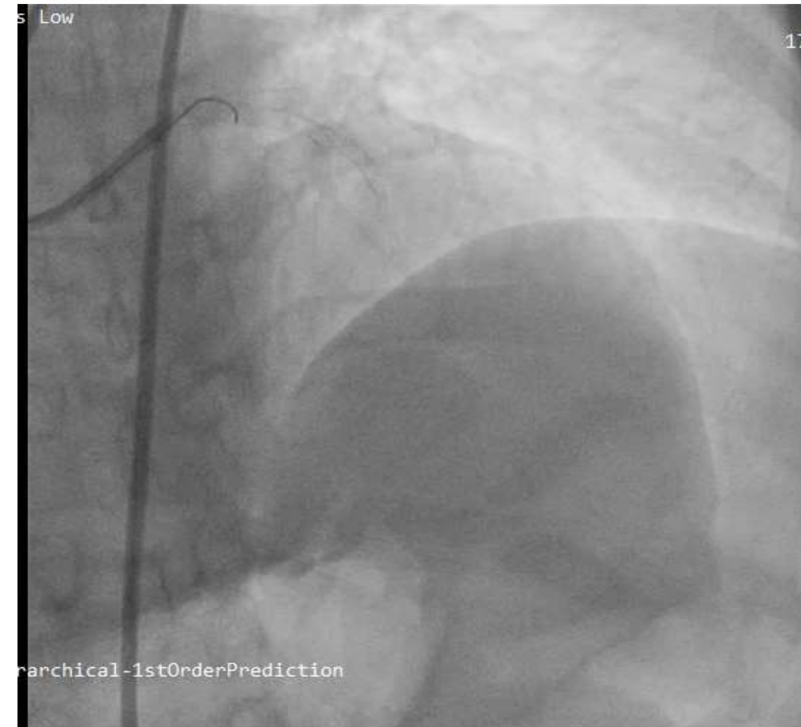
Final Result





Final result after LMCA bifurcation stenting and IVUS optimization showing well expanded stents with timi3 flow and no dissections or perforation

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Conclusion and take home message

- Post procedure course uneventful
- Doing well at 6 month follow up
- Proper assessment and planning essential in complex procedures
- IVUS useful in solving proximal cap ambiguity and optimization of result
- Awareness of potential complications and management must for a successful outcome

THANK YOU