A Case of Complex and High-Risk Coronary Intervention with Left Main Bifurcation Stenting

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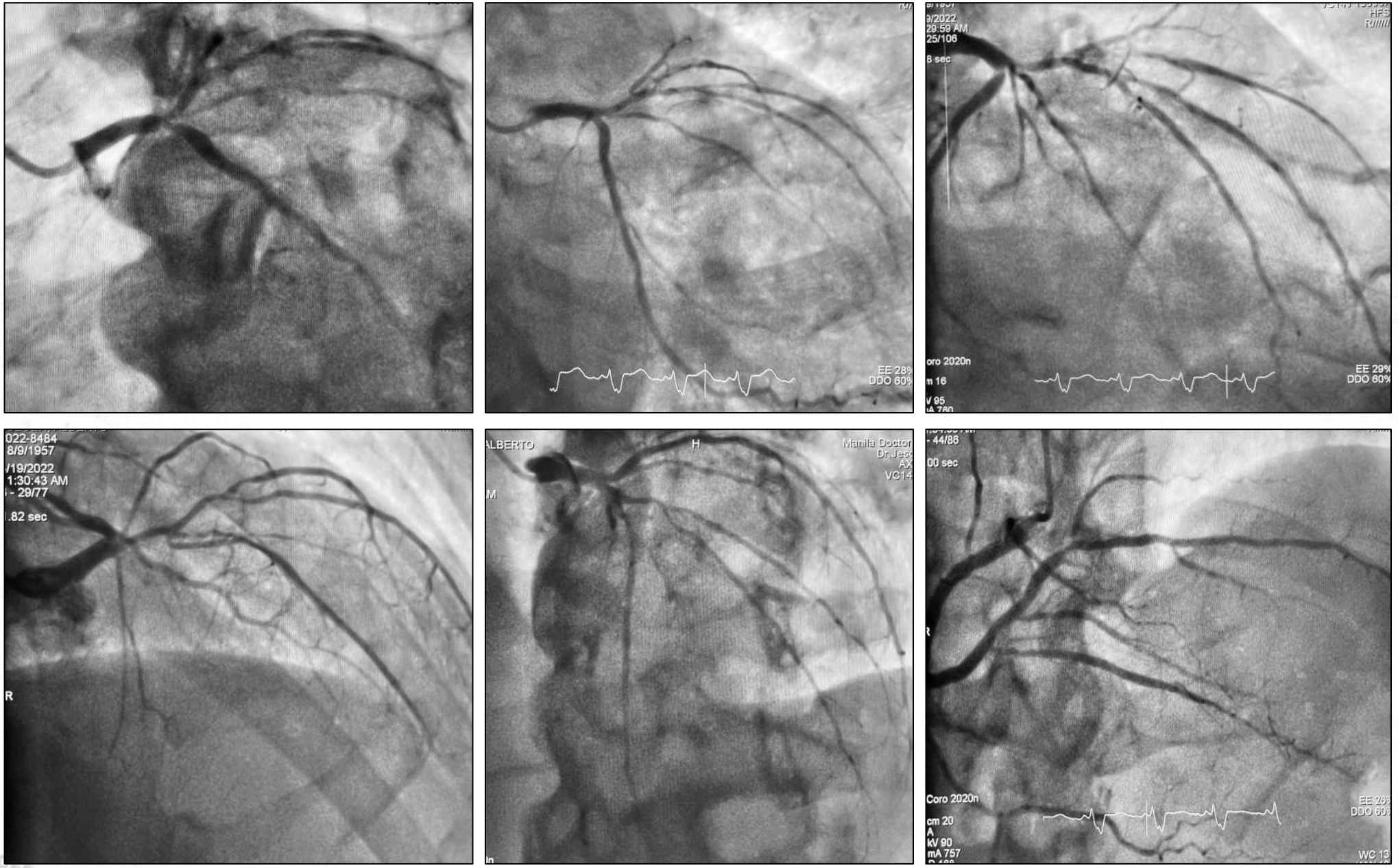
Disclosure

- None

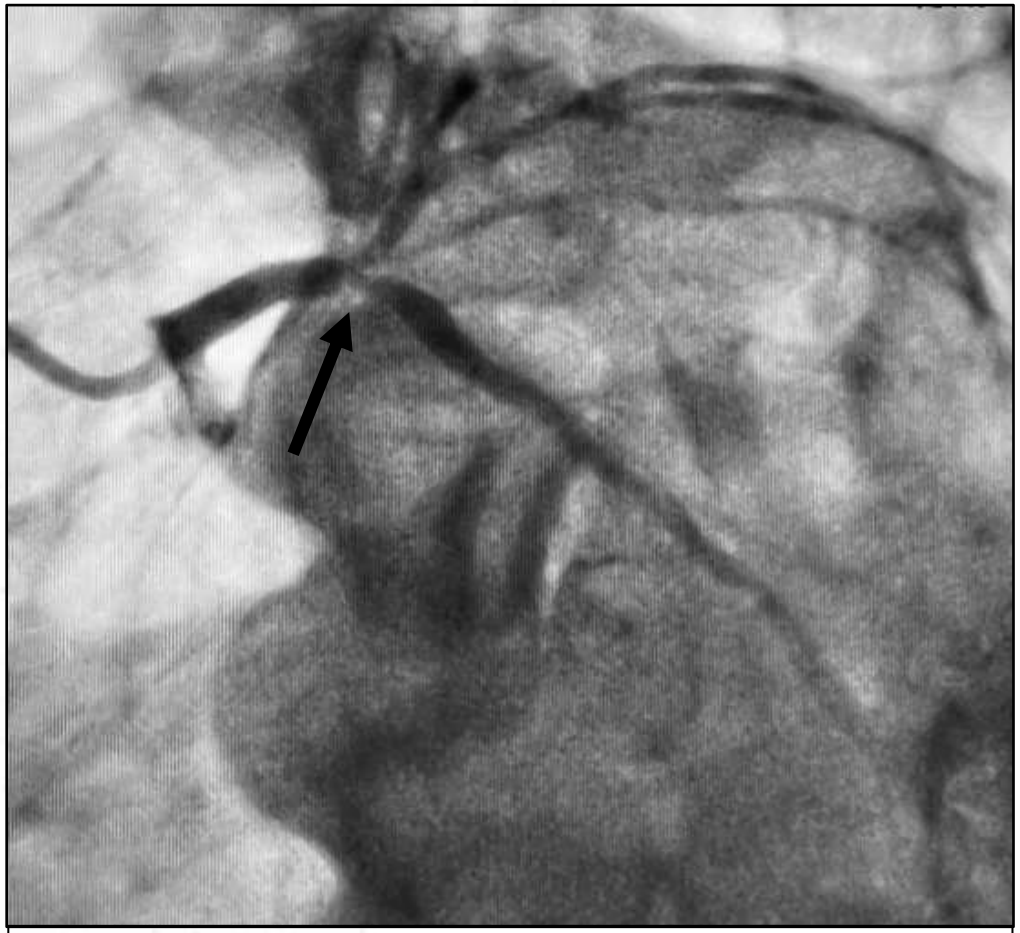
The Case

- 64 year old, Male
- Chief complaint: Dyspnea
- Known hypertensive and diabetic
- 20 pack years smoking history and occasional alcoholic beverage drinker
- One year history of progressive exertional dyspnea accompanied by chest discomfort and easy fatigability
- 2D echocardiogram: Ejection Fraction of 22% with global hypokinesia
- 12 L ECG: Sinus Rhythm, non-specific ST wave changes
- No viability studies done (MPI)
- Normal kidney function- creatinine of 1.1 mg/dl and eGFR- 75
- Refused CABG

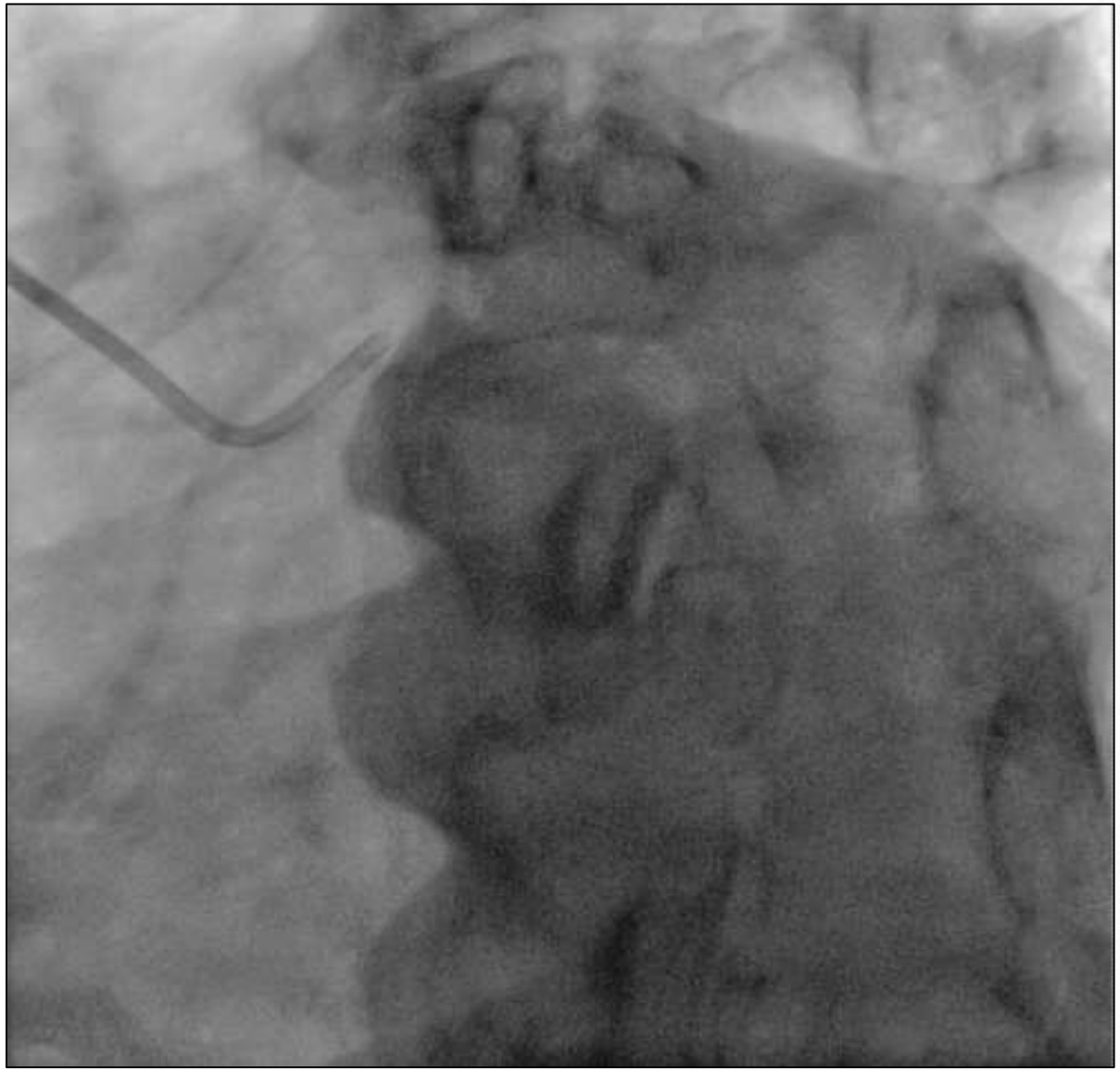
CORONARY ANGIOGRAM



CORONARY ANGIOGRAM



LAO CAUDAL view showing LMCA with 70% distal segment stenosis bifurcating into LAD with 80% ostial segment stenosis and LCx with 70% ostio-proximal segment stenosis



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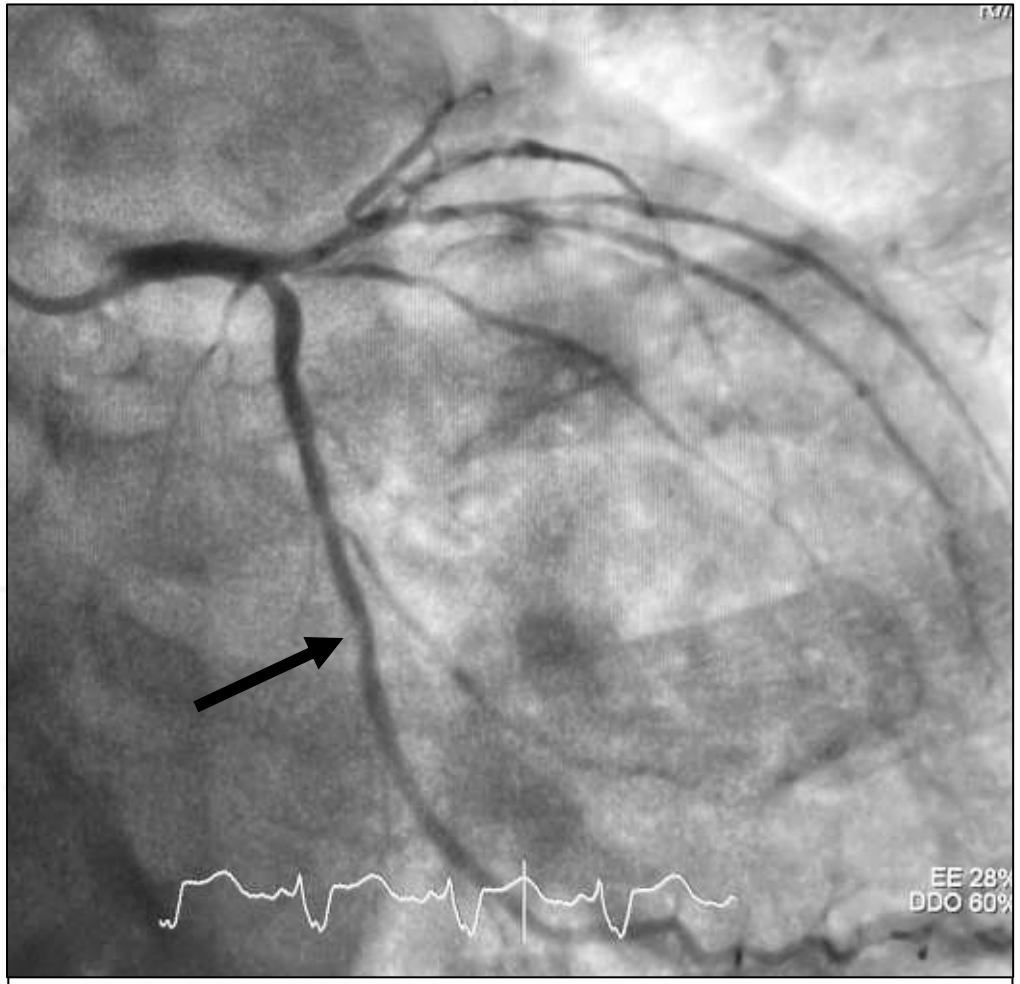
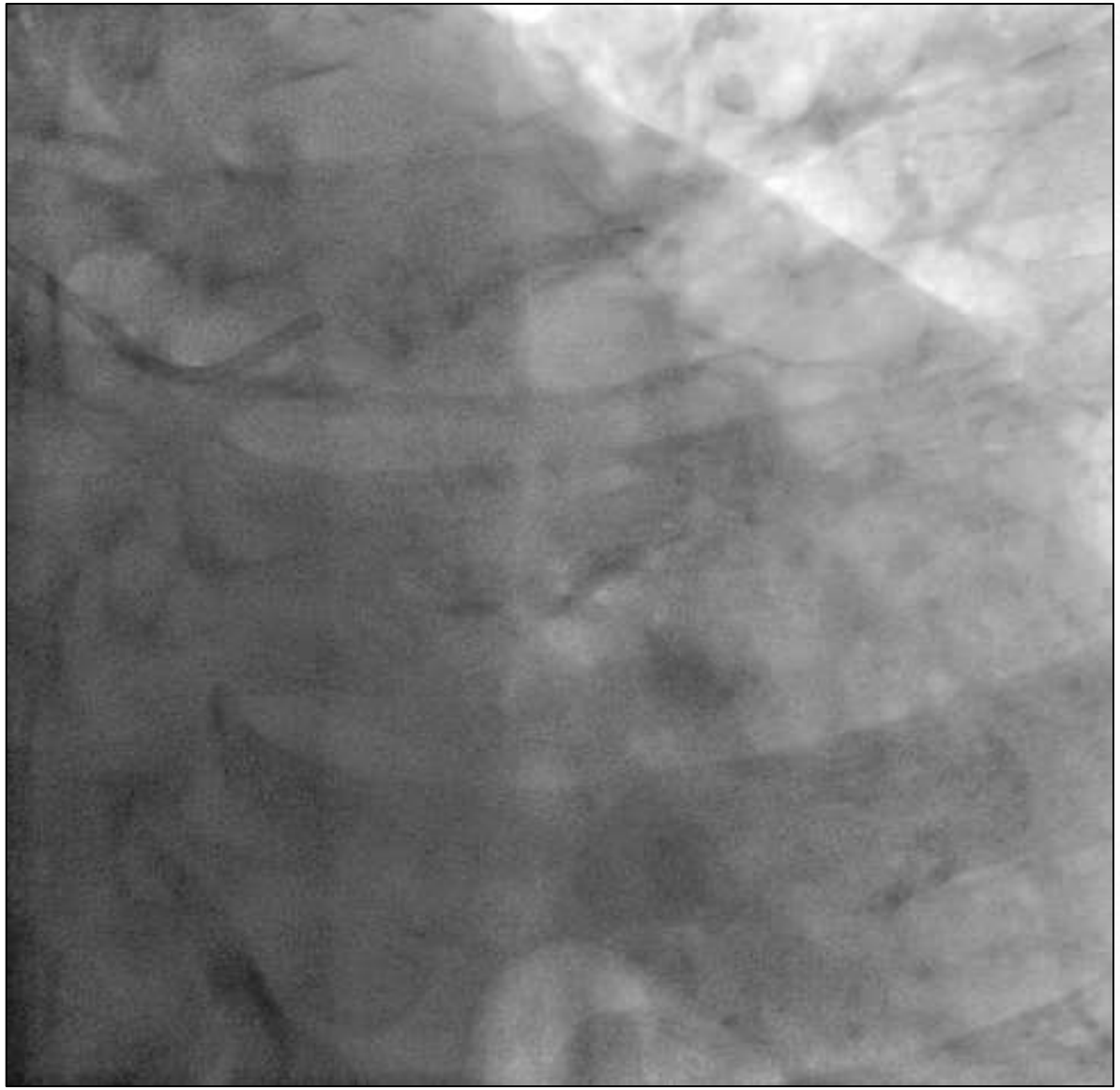


AP CAUDAL view showing the LCx which is a large-sized vessel with 70% tubular stenosis at its mid segment



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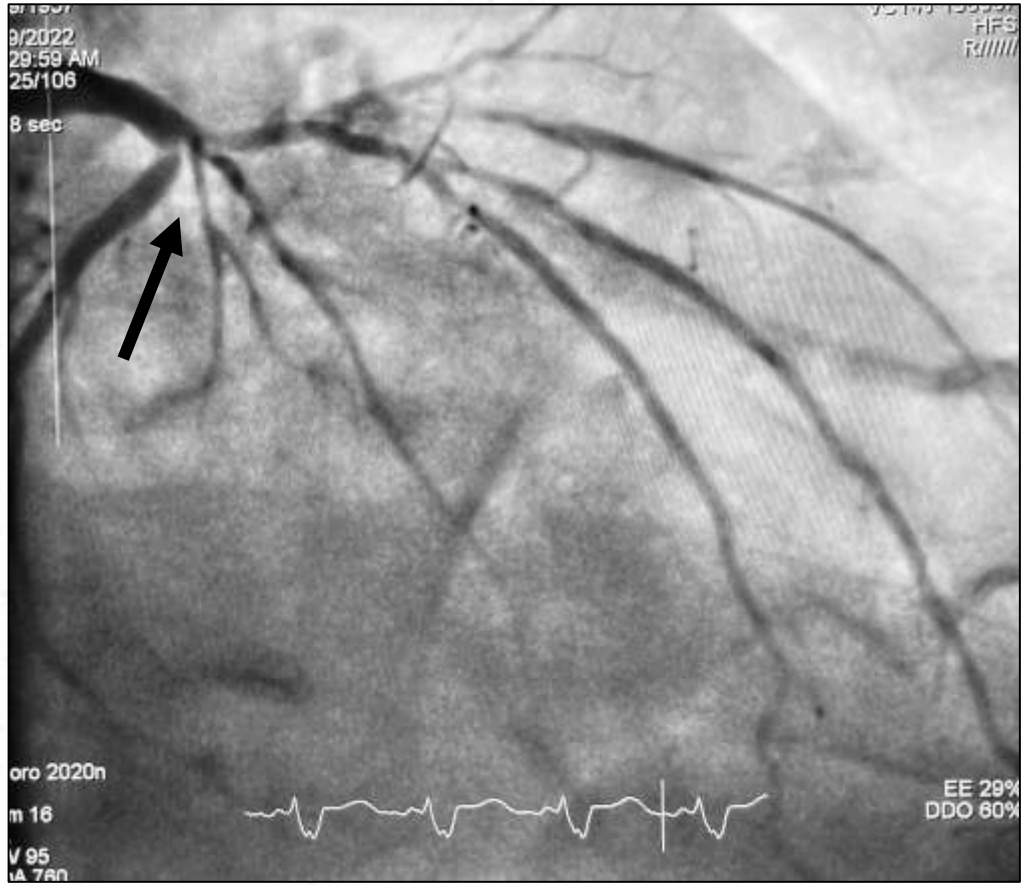
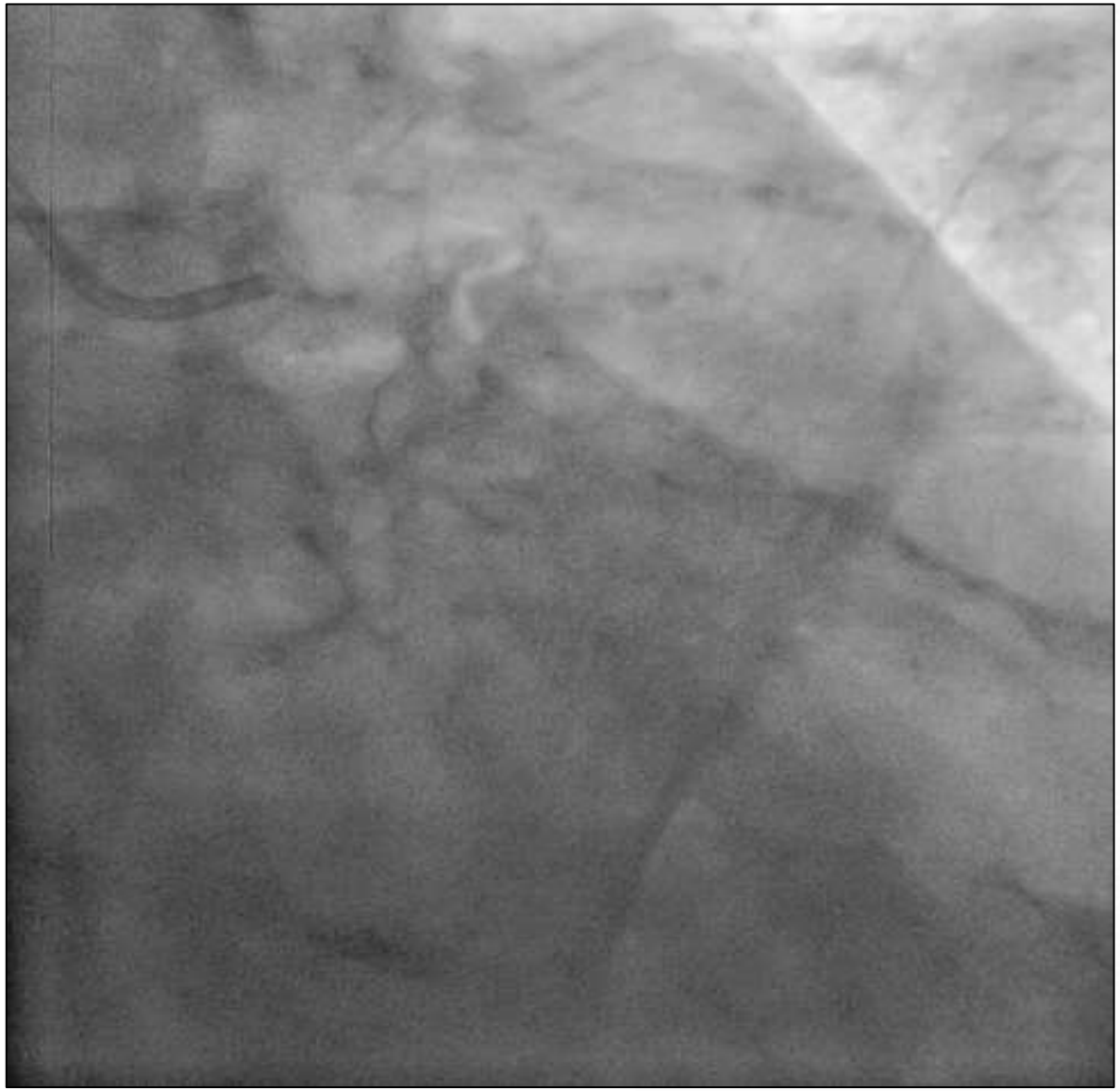


RAO CAUDAL view



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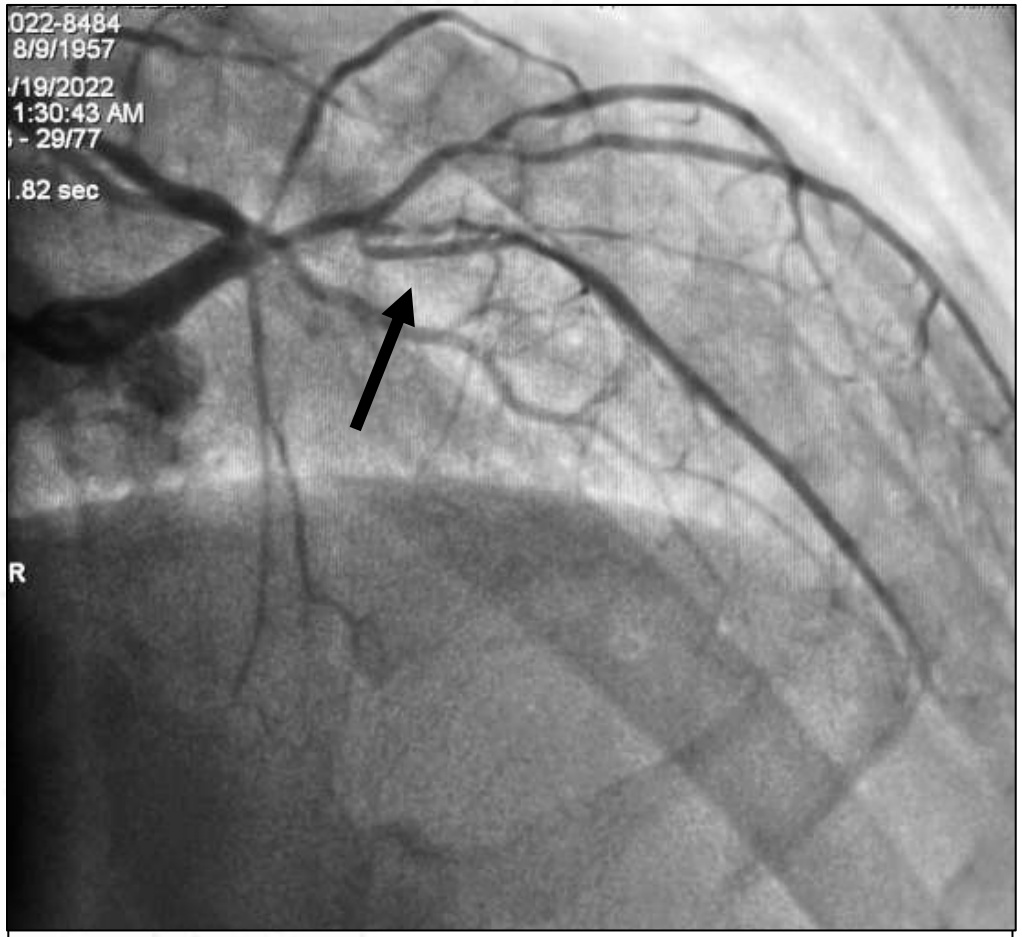
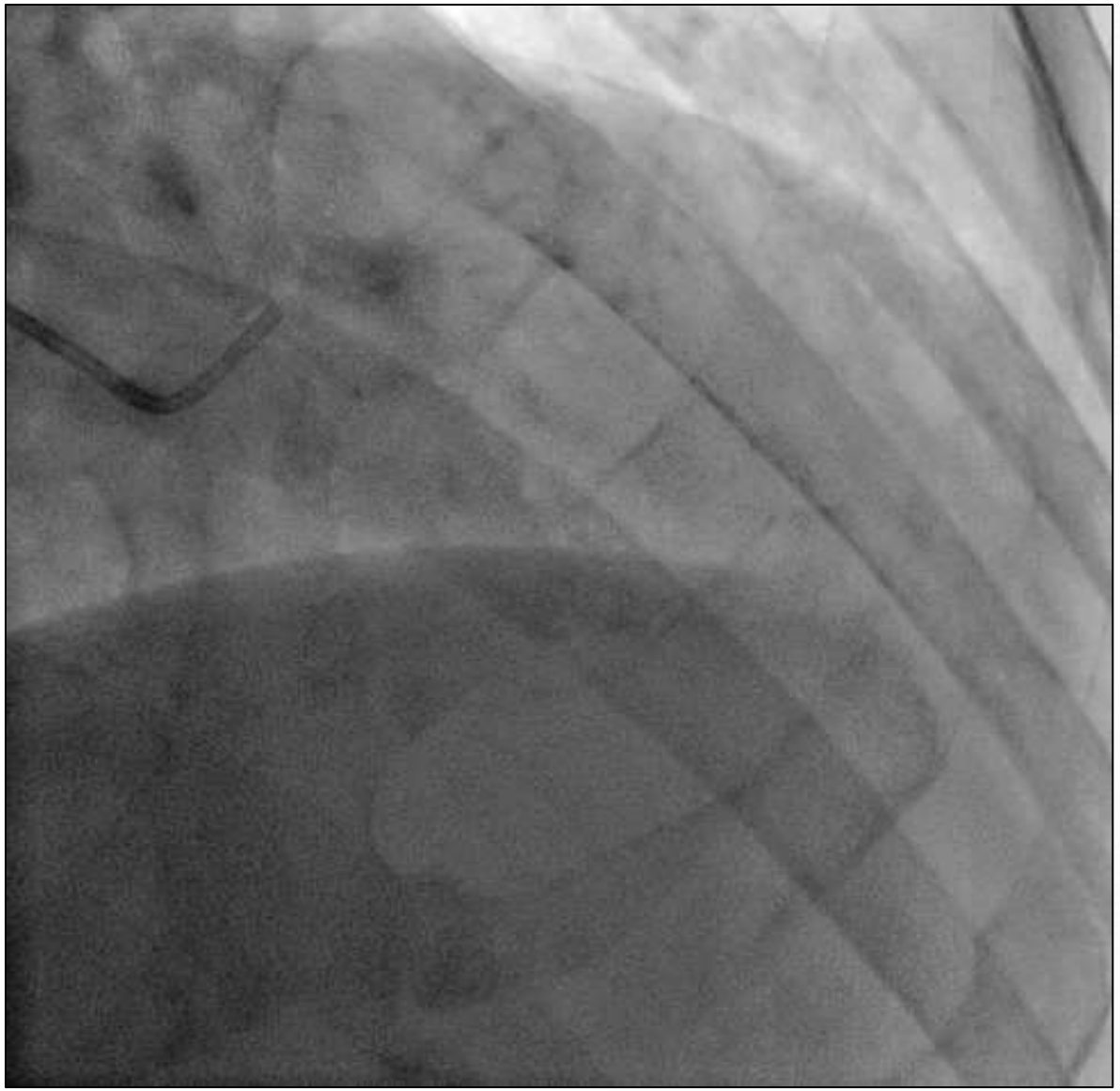


RAO CRANIAL view showing the LAD which is a large-sized vessel with a 80-90% stenosis at its mid segment with linear hazy opacification consistent with a dissection and or calcifications



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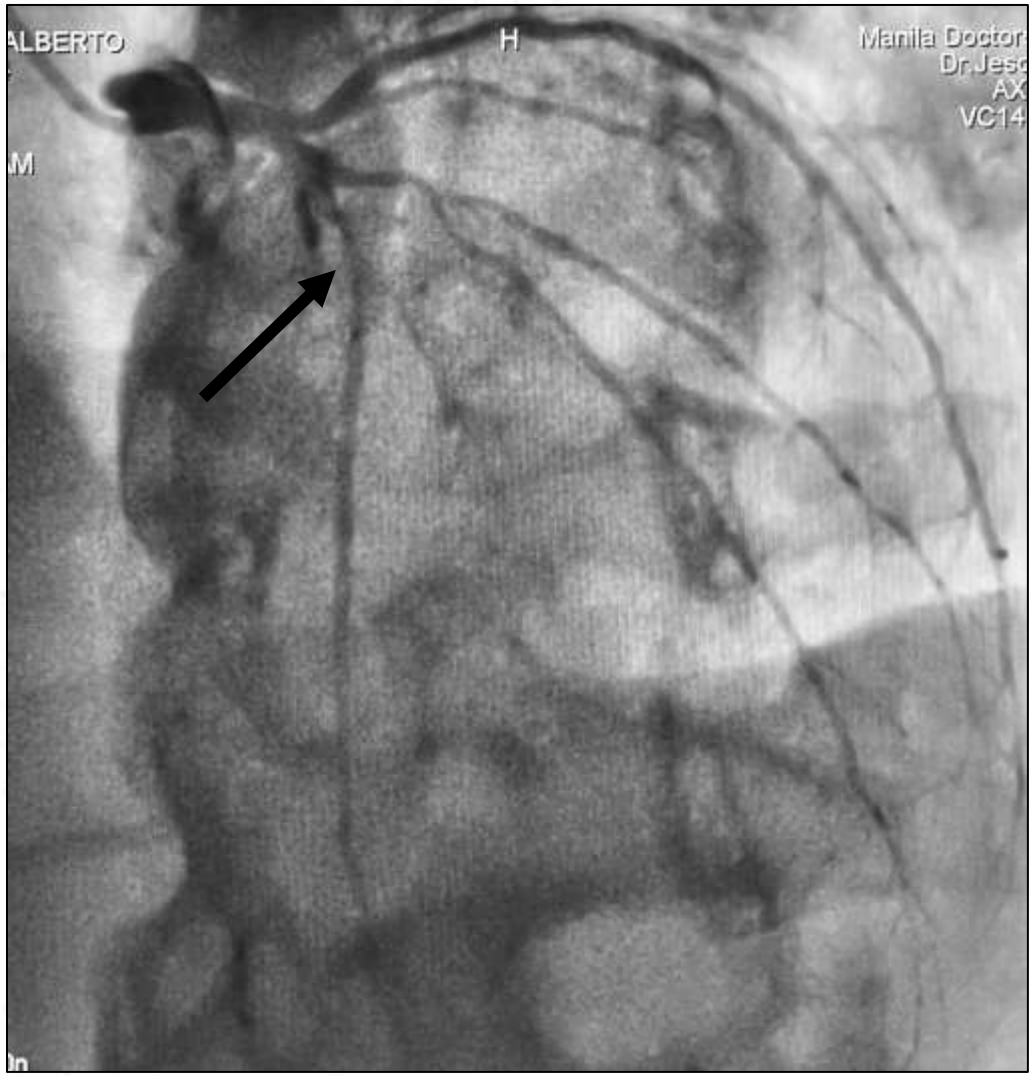
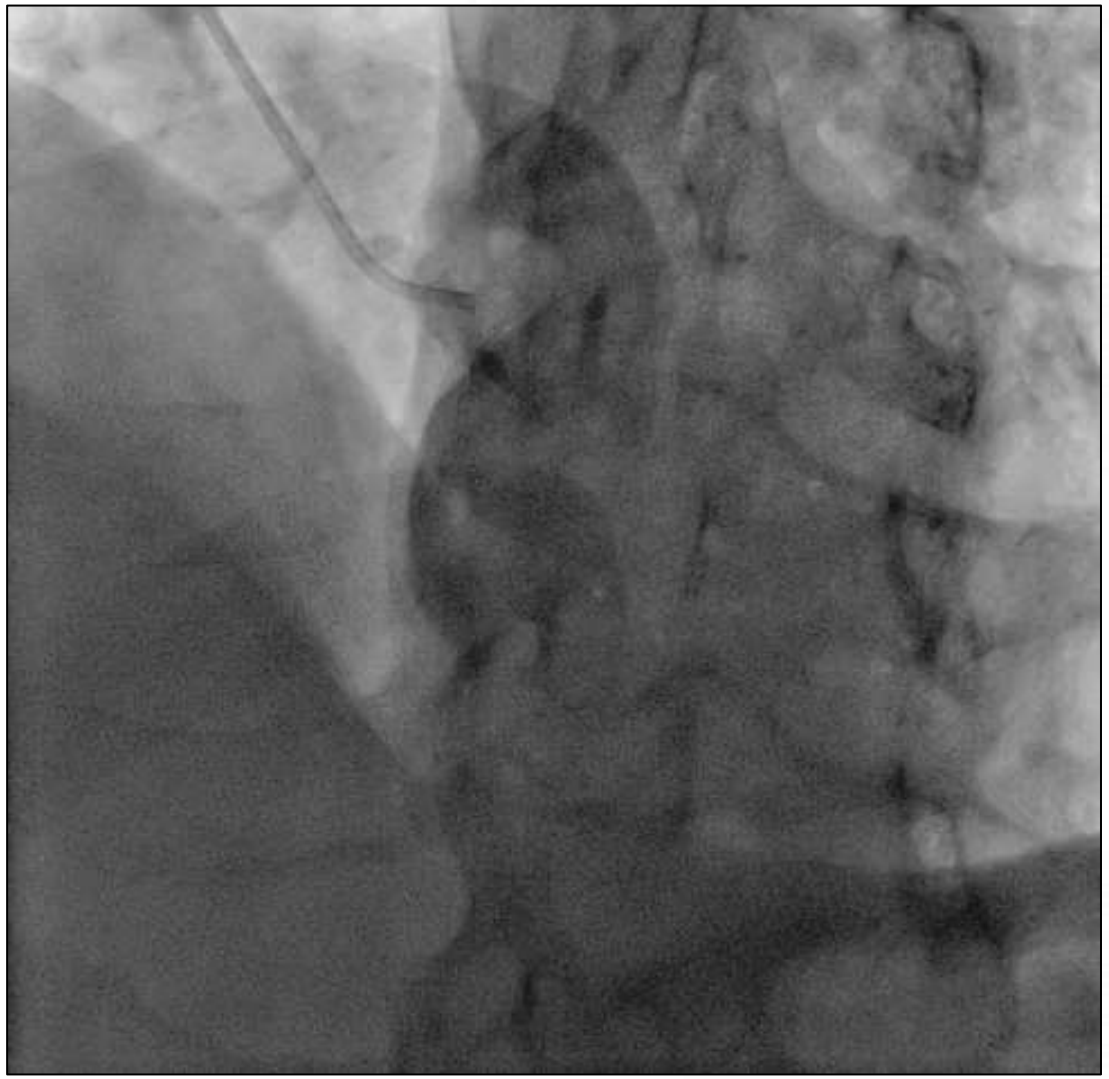
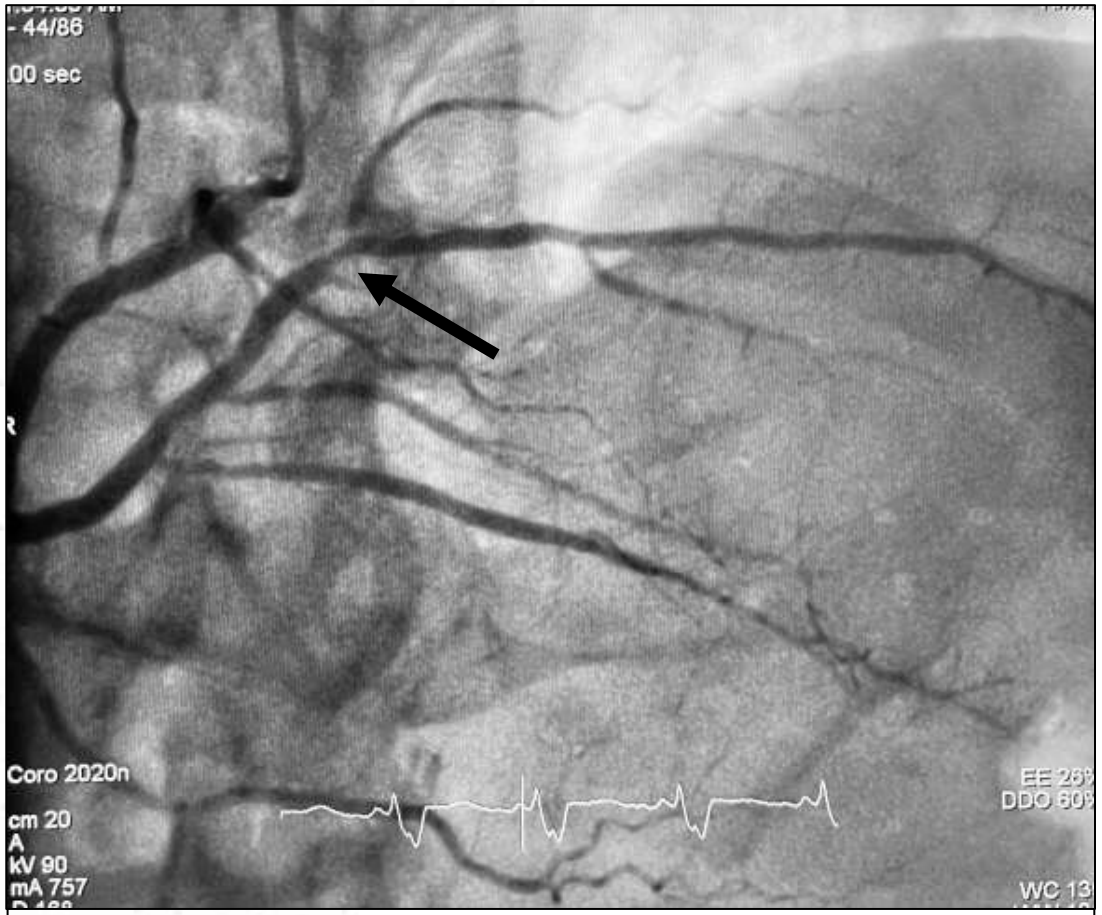


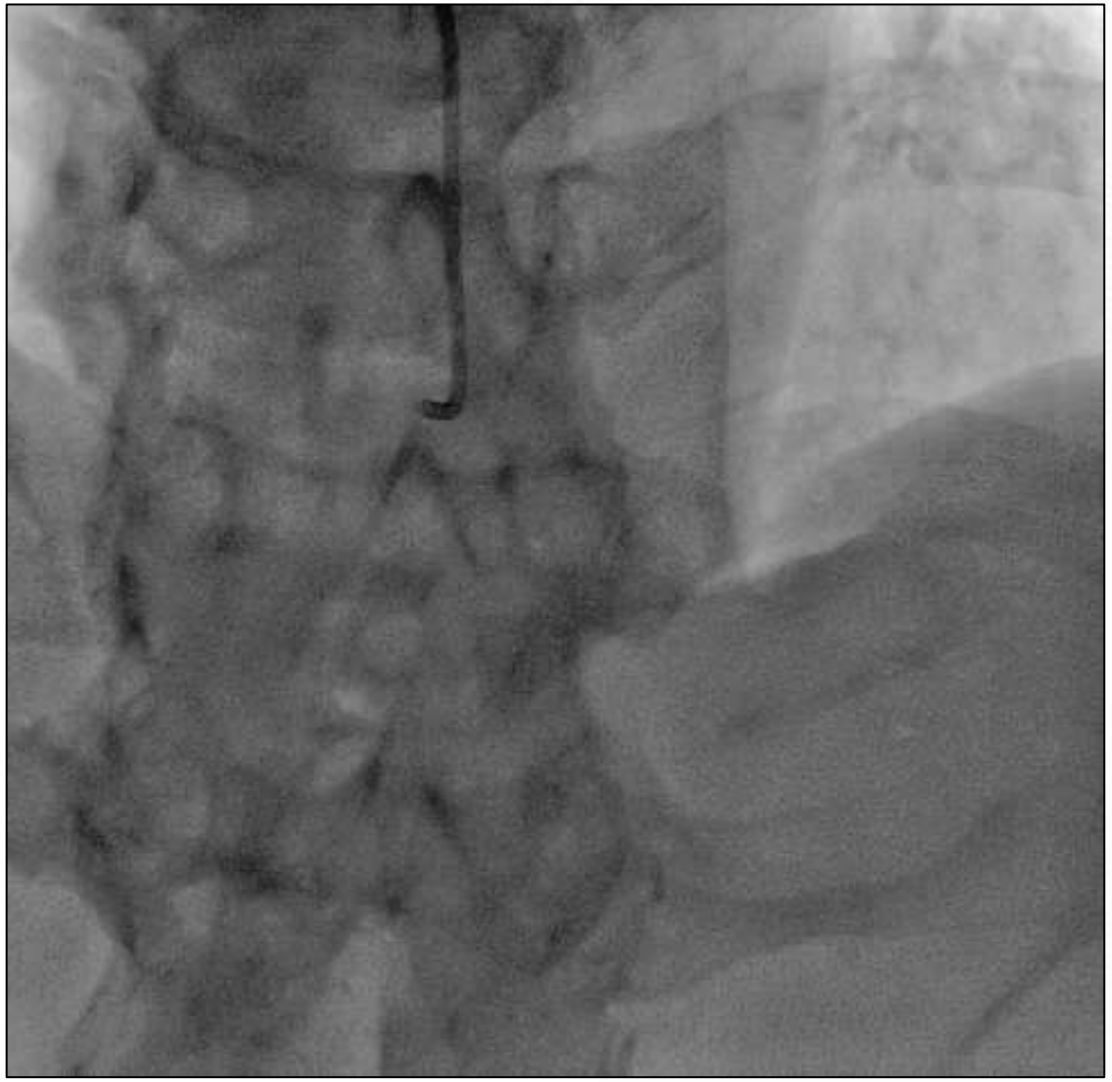


LAO CRANIAL VIEW

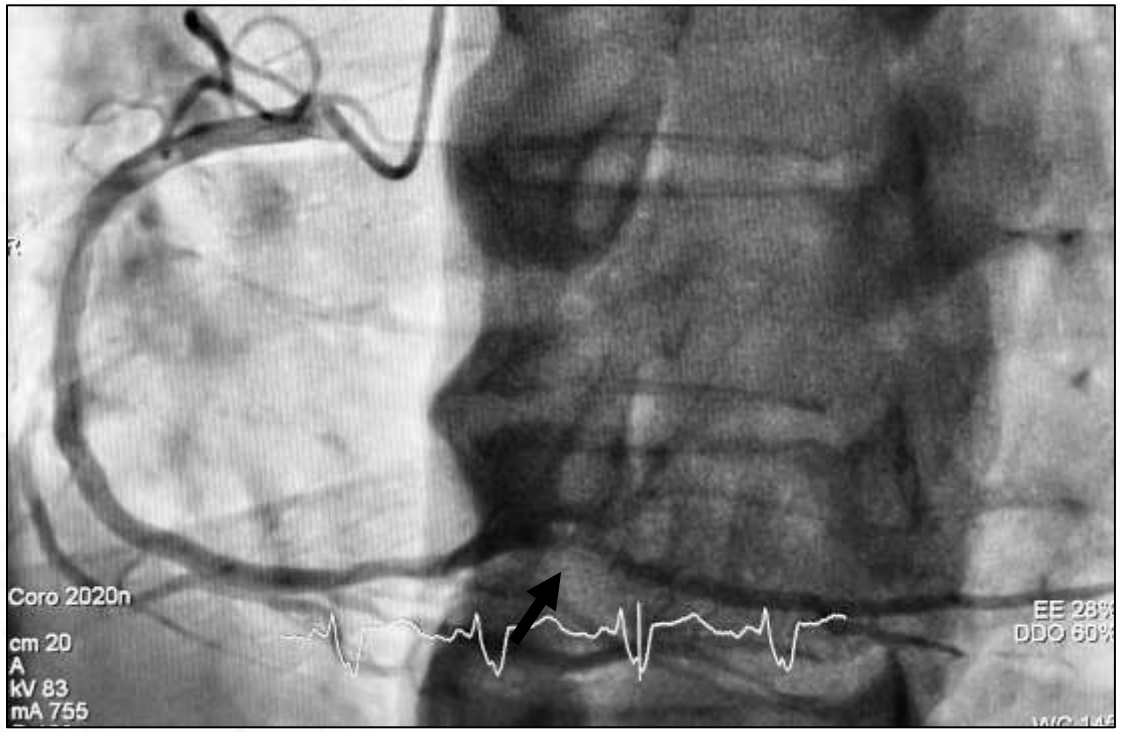
CORONARY ANGIOGRAM



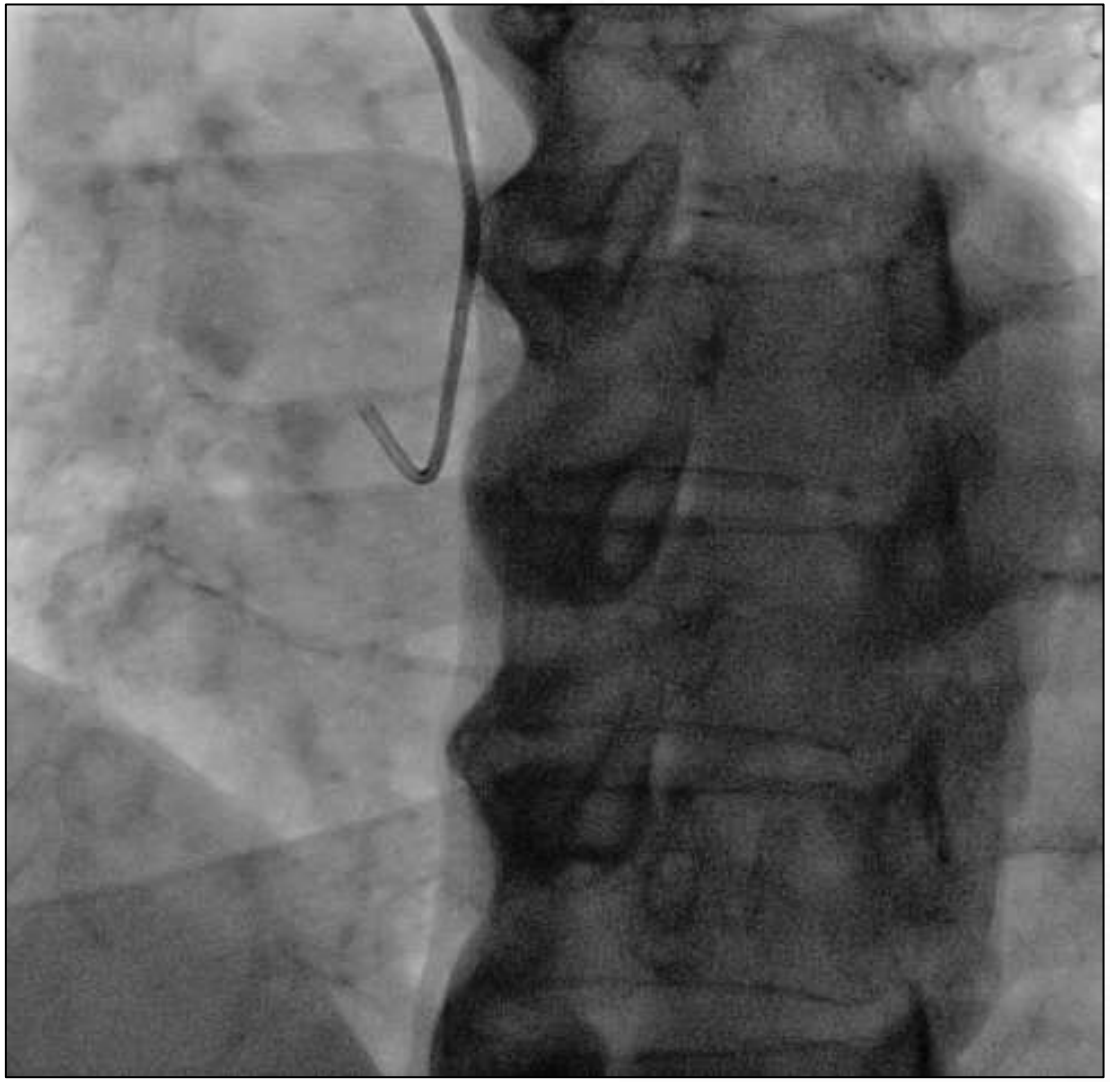
AP CRANIAL view showing the RCA with luminal irregularities and a large-sized RPLA with 70-80% focal stenosis at its mid segment



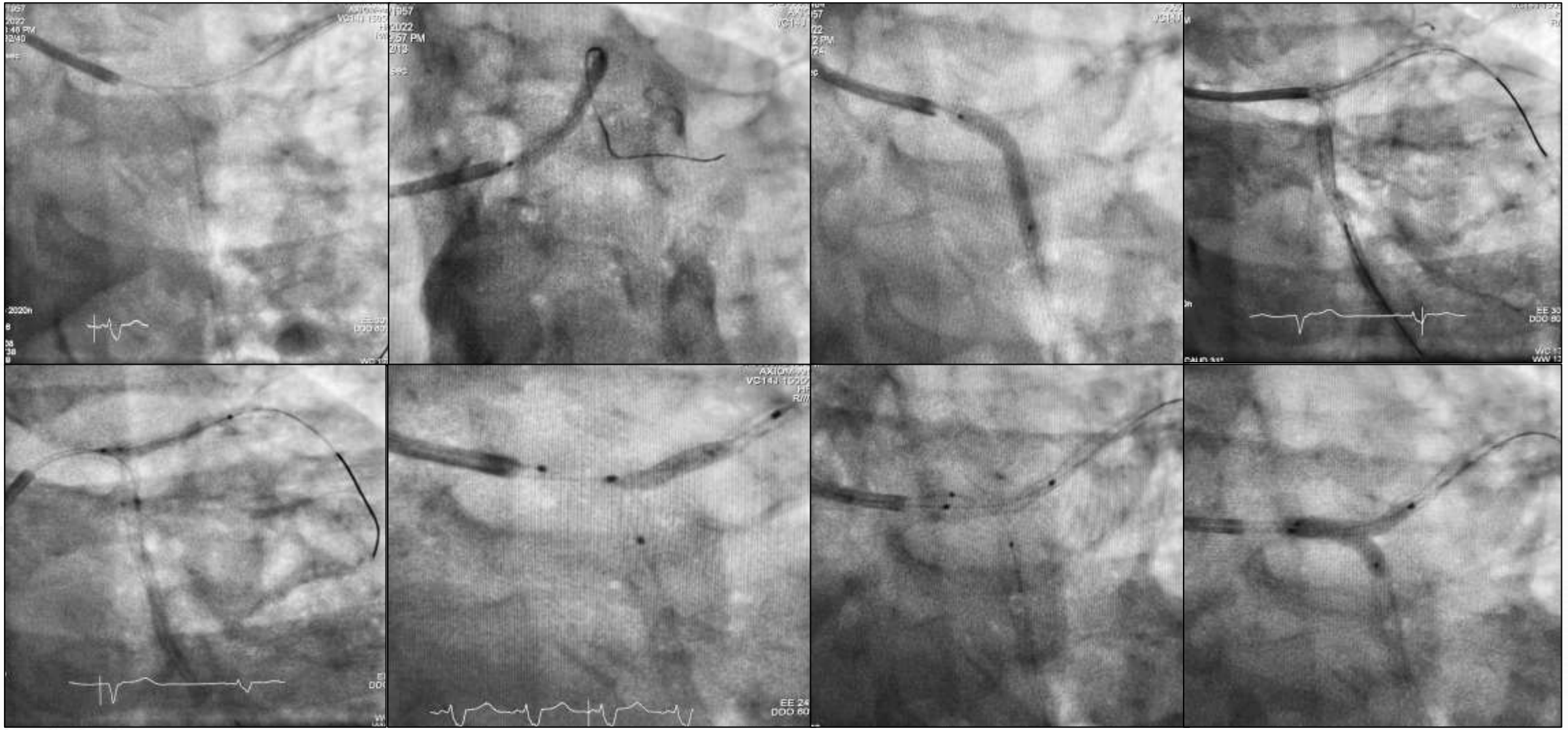
CORONARY ANGIOGRAM



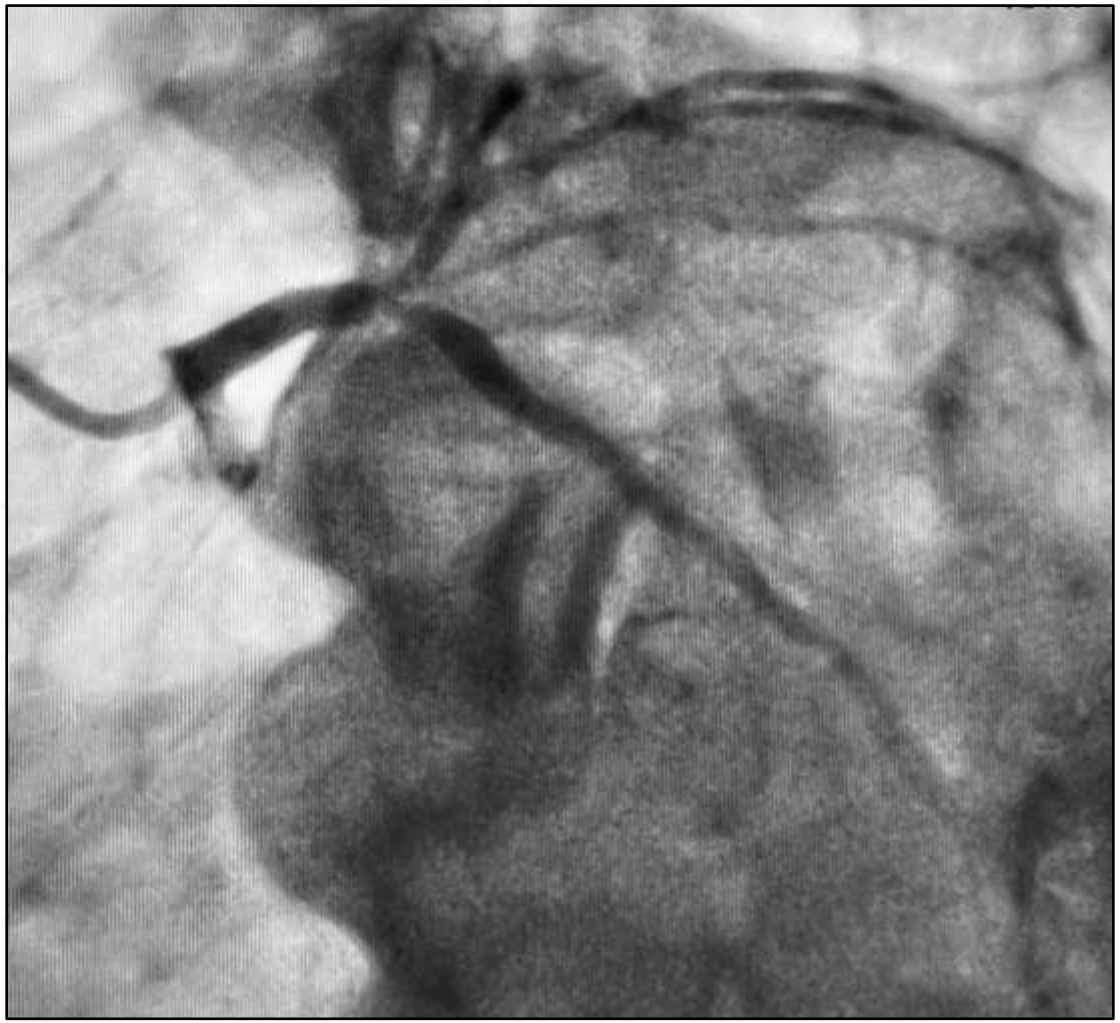
LAO view



LEFT MAIN BIFURCATION STENTING USING TAP



LEFT MAIN CORONARY ARTERY (LM)



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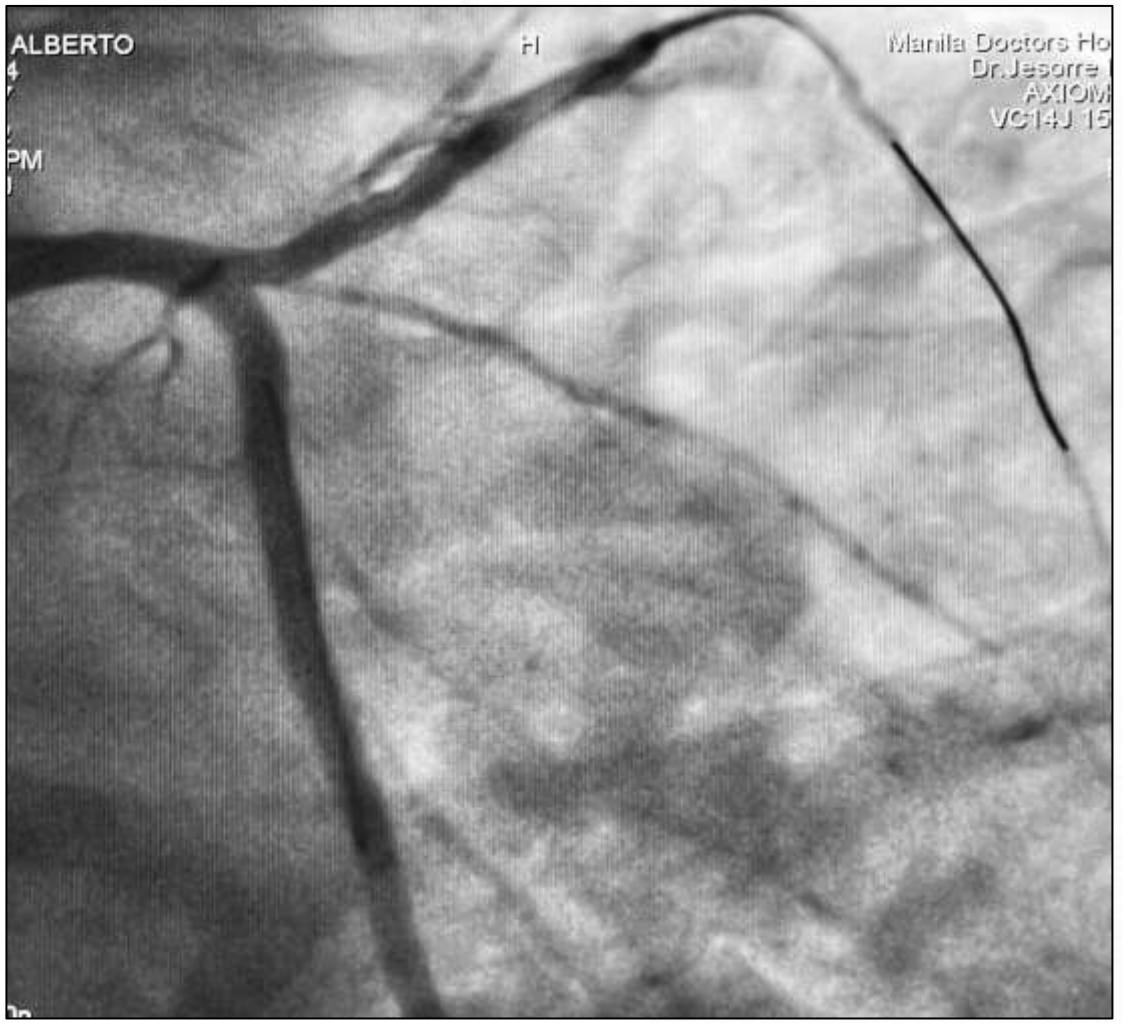

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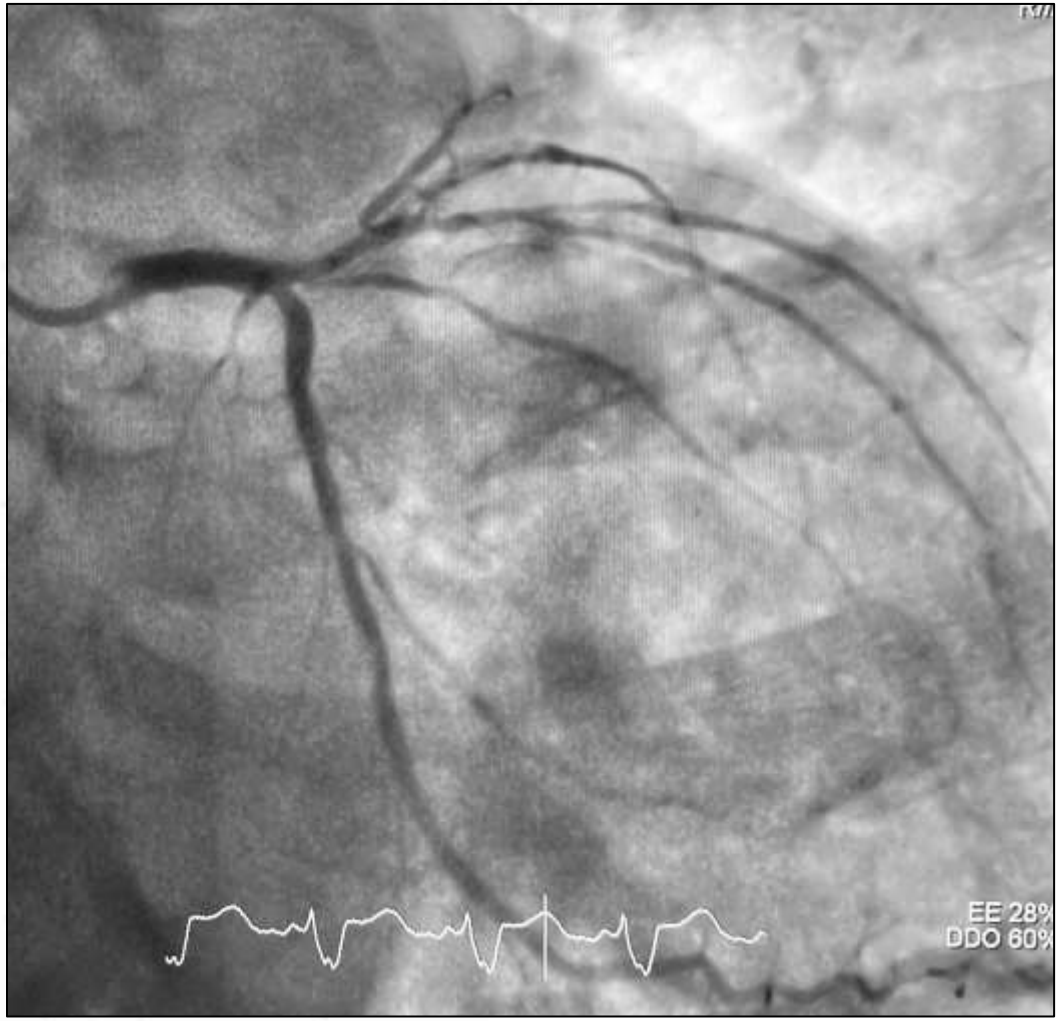
LEFT CIRCUMFLEX ARTERY (LCx)



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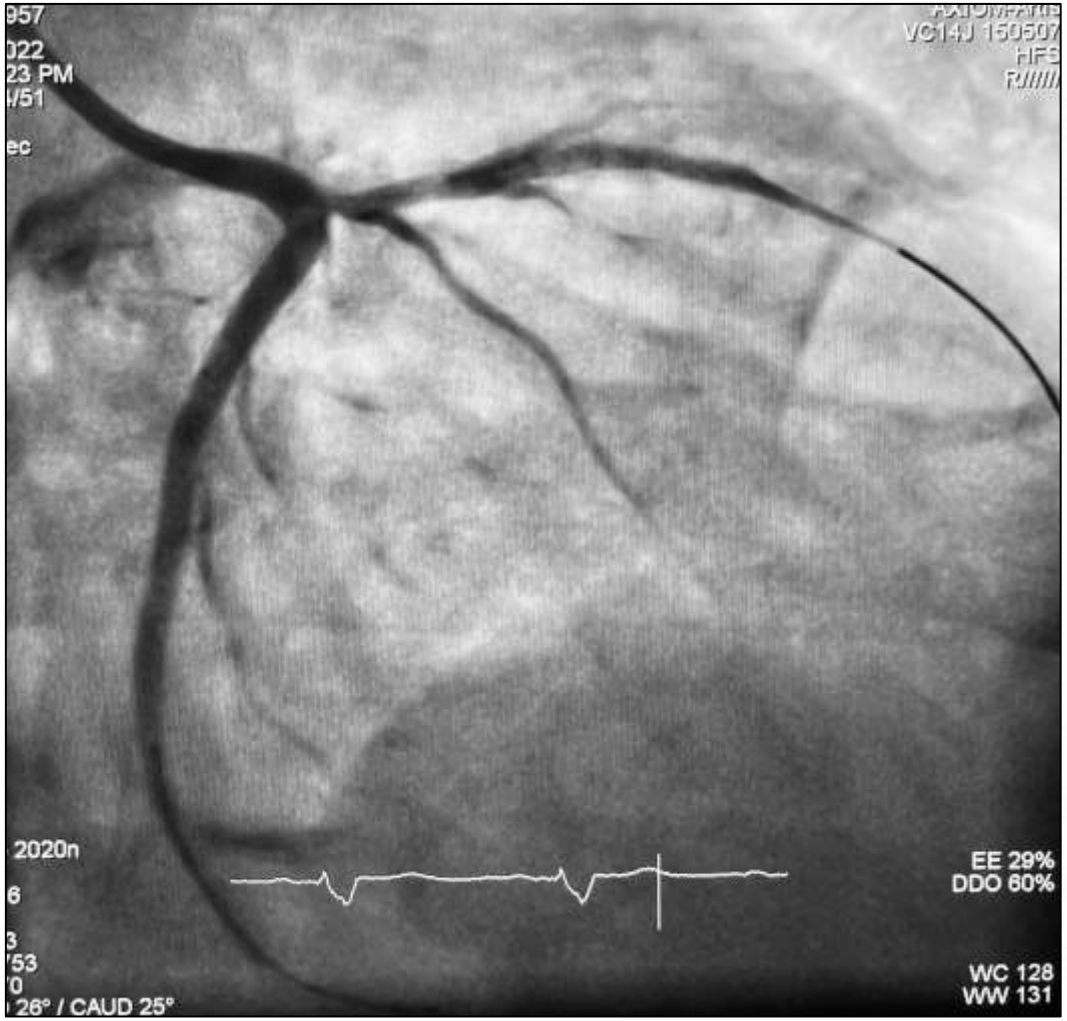

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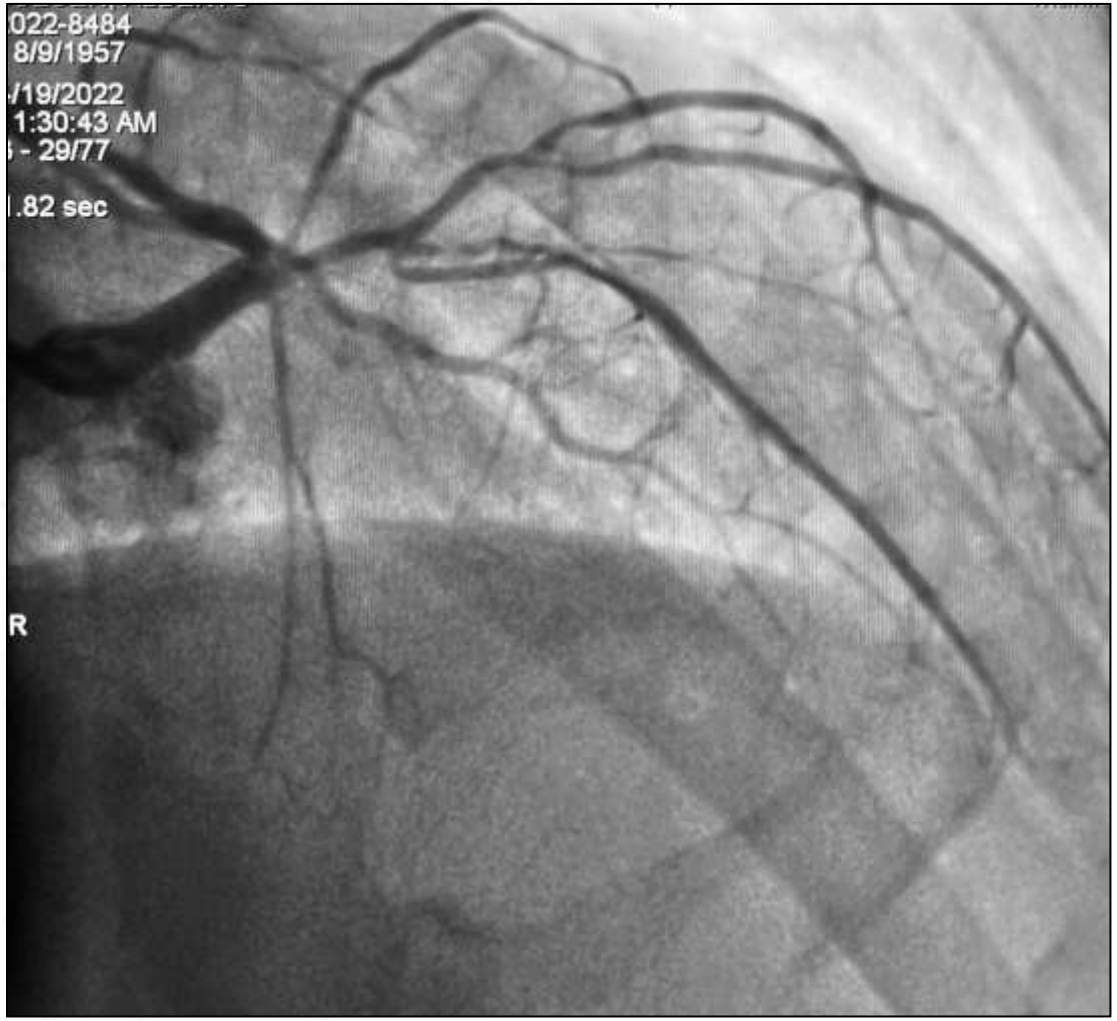
LEFT ANTERIOR DESCENDING ARTERY (LAD)



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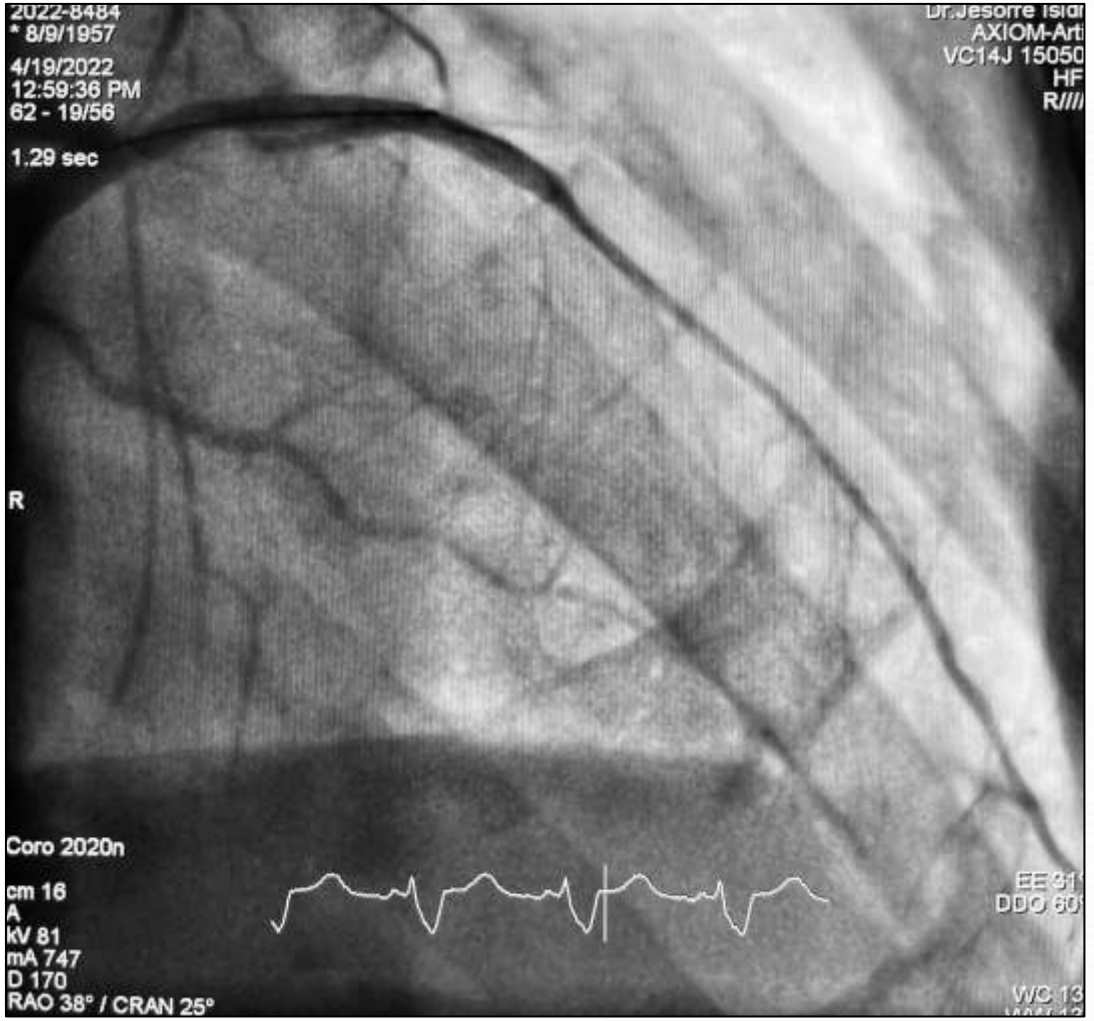

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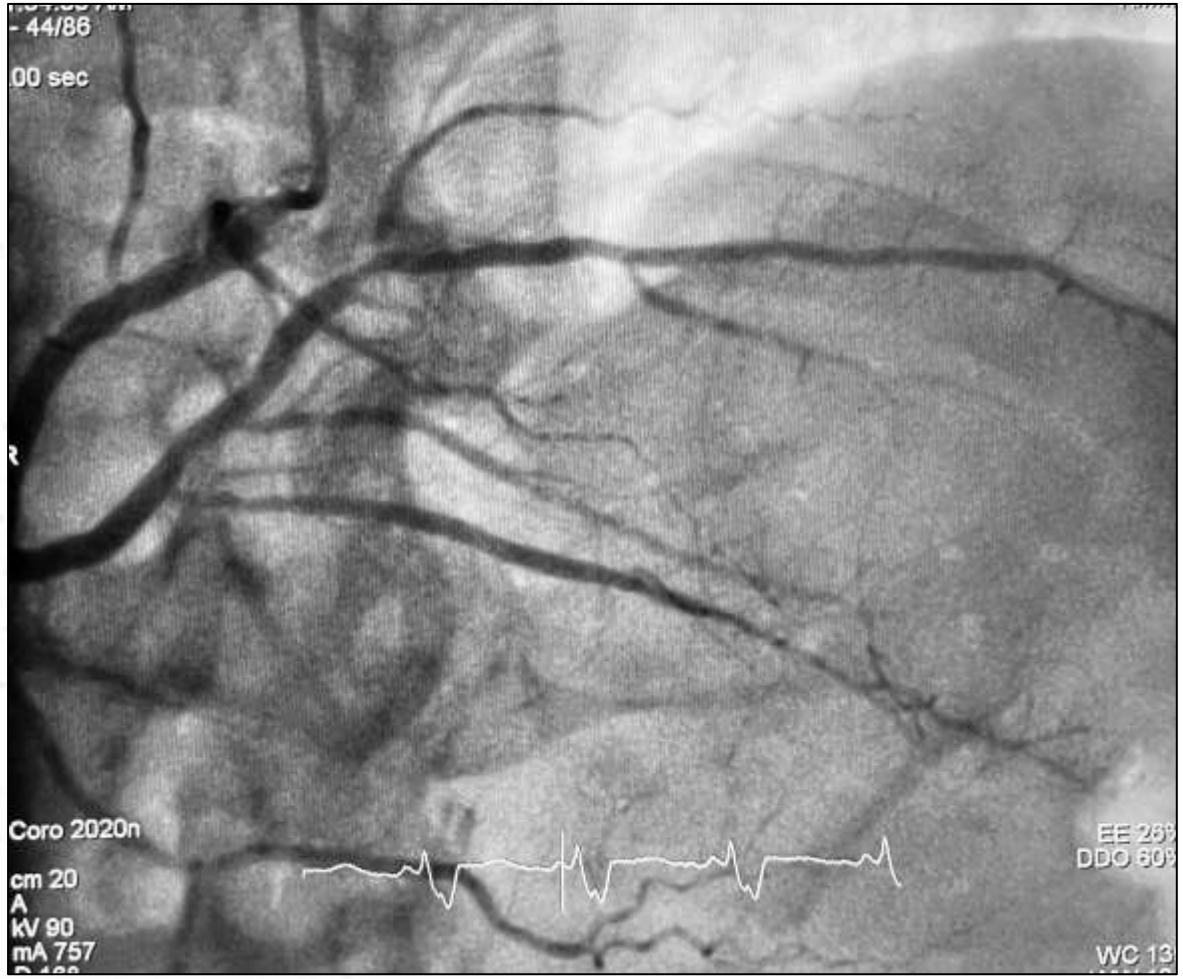
RIGHT CORONARY ARTERY (RCA)



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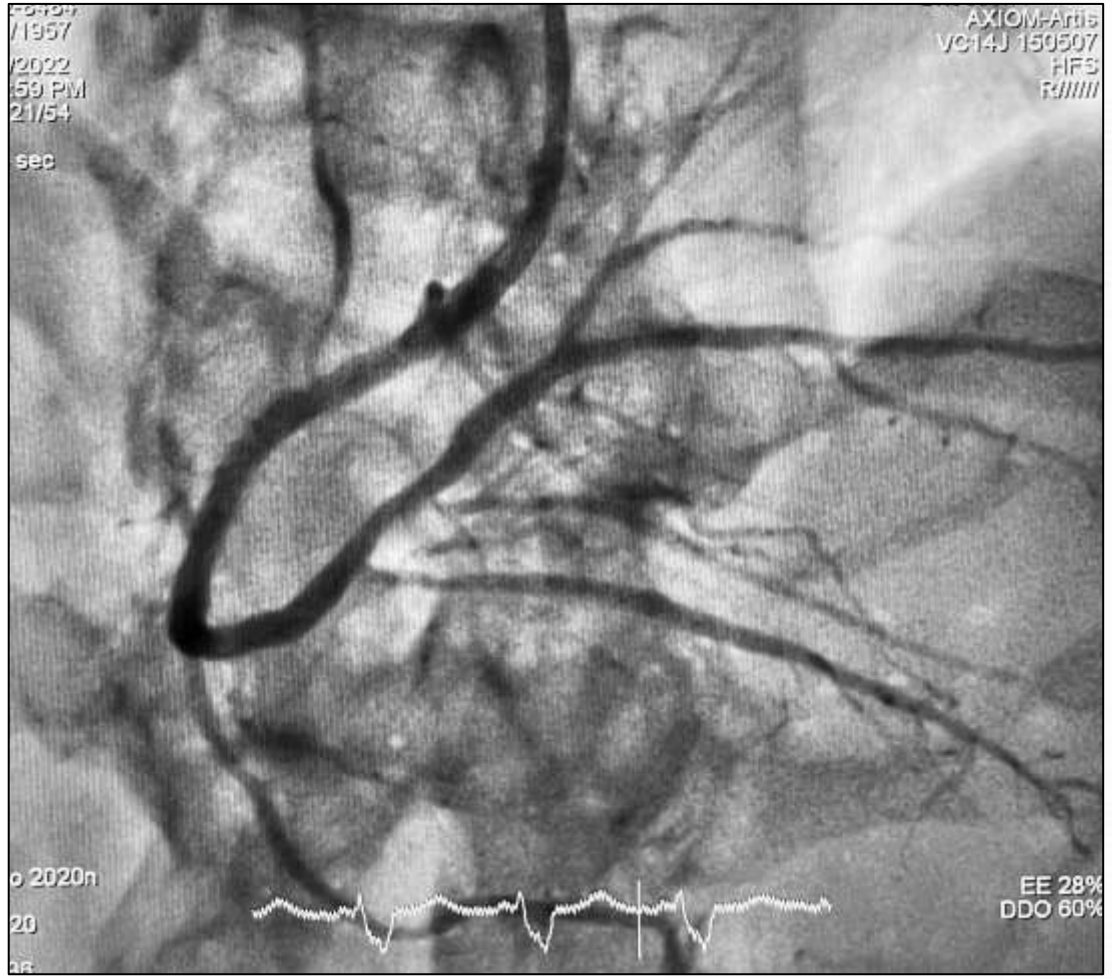

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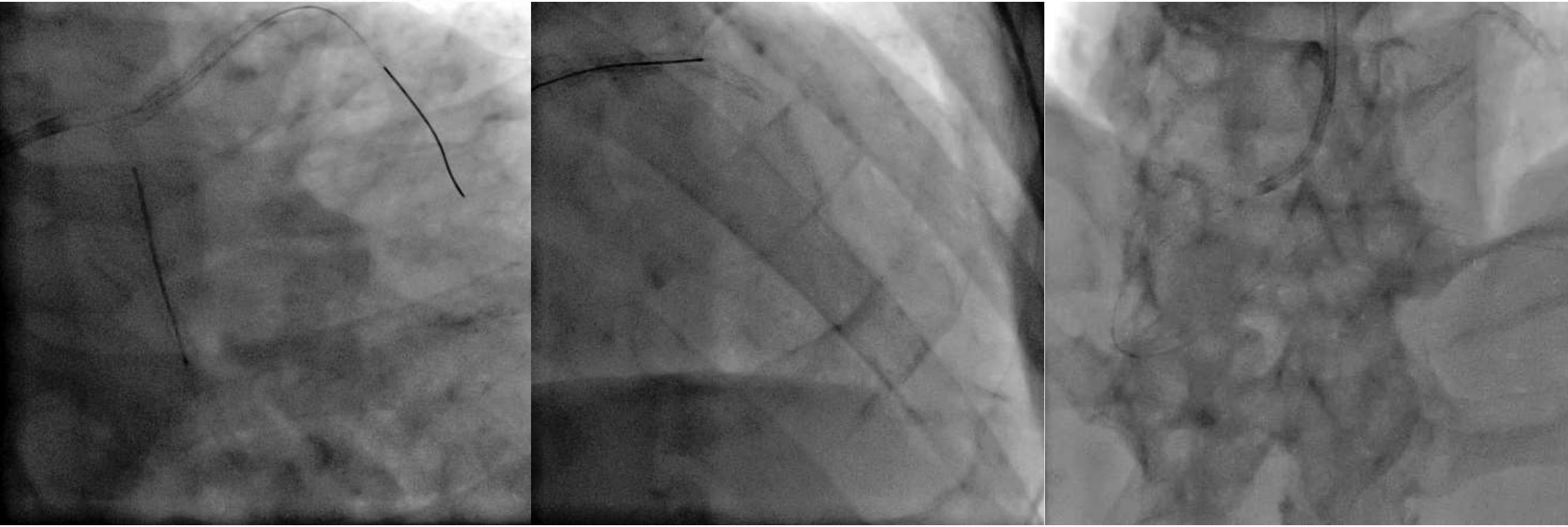
FINAL CORONARY ANGIOGRAM



- Patient tolerated the procedure with no hemodynamic instability
- Discharged improved and stable on day 3 of hospitalization
- Maintained on dual anti-platelet therapy (Aspirin and Ticagrelor)
- 2D echocardiogram after 6 months of revascularization showed marked improvement in LV function with EF- 45% from 22%

Discussion

- High-risk patients presenting with increasing ischemic symptoms such as angina refractory to medical treatment or heart failure are thought to be appropriate candidates for coronary revascularization

- Benefit of achieving more complete revascularization in high-risk PCI patients presenting with multivessel coronary artery disease and low LV ejection fraction

- One stent vs two stent strategy : TAP-stenting (**T** **A**nd small **P**rotrusion) technique is relatively simple, as it allows full coverage of bifurcation lesions and facilitates the final kissing balloon

Conclusion

- 64 year old male known hypertensive and diabetic presented with heart failure symptoms with severely reduced LV function (EF- 22%)
- Coronary angiogram showed severe three vessel disease with left main involvement (Medina 1,1,1)
- Refused CABG and underwent multivessel PCI with left main bifurcation stenting using TAP technique
- TAP technique was used for the following reasons, bifurcation angle > 70 degrees and long side branch lesion
- Successful complete revascularization of a complex high risk bifurcation lesion using a two-stent TAP technique