Directional Coronary Atherectomy in Left Main for a Pre-operative Patient

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Potential conflicts of interest

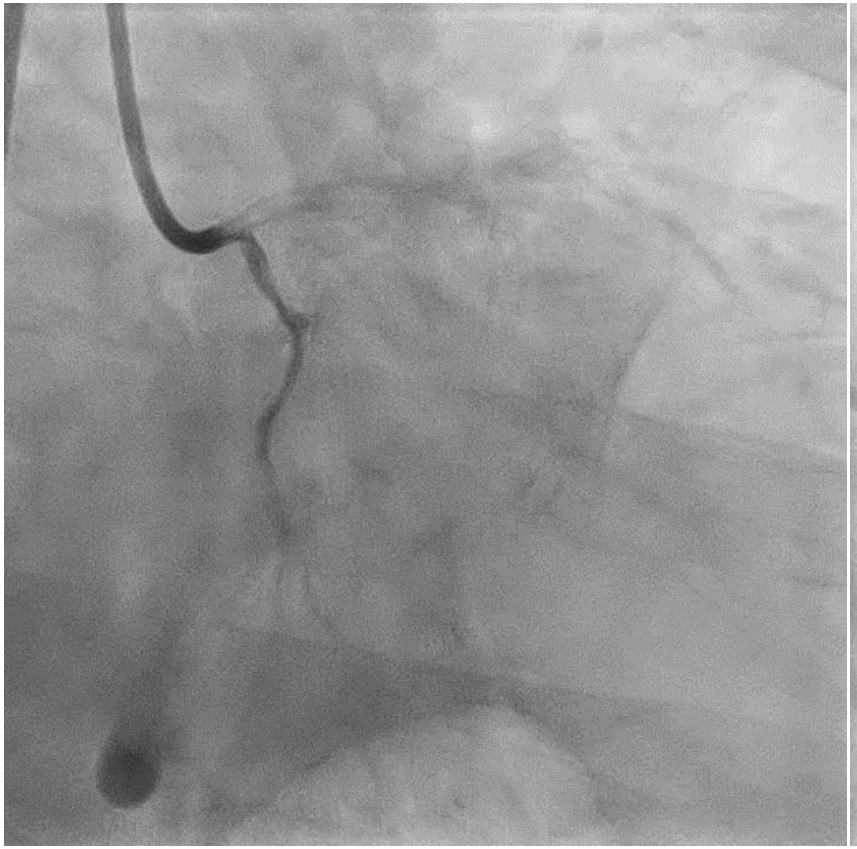
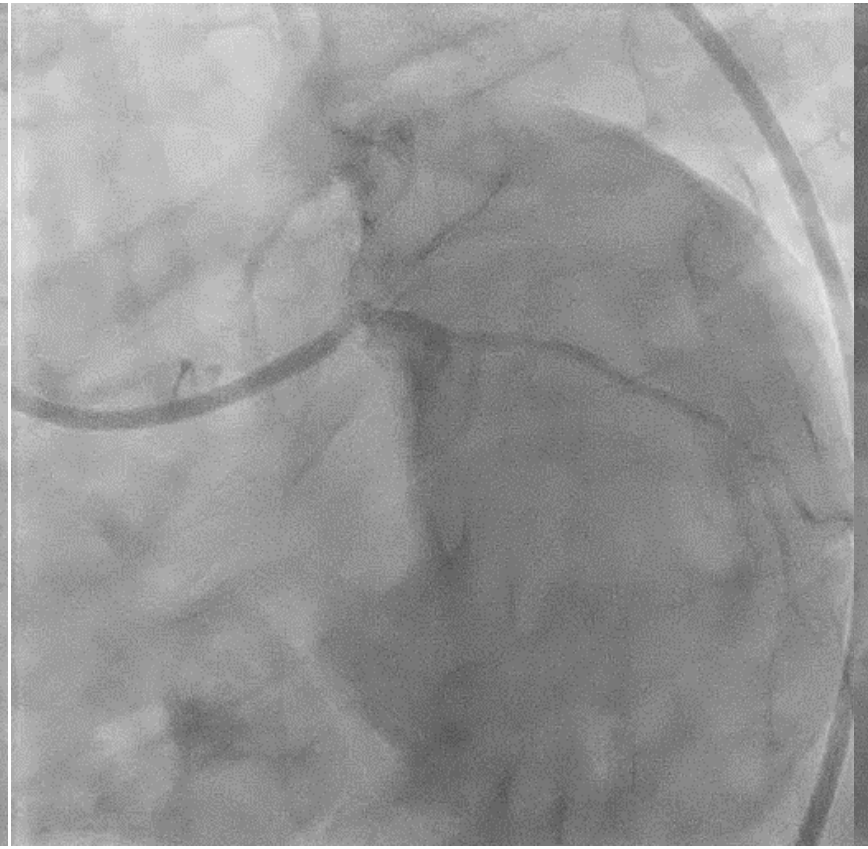
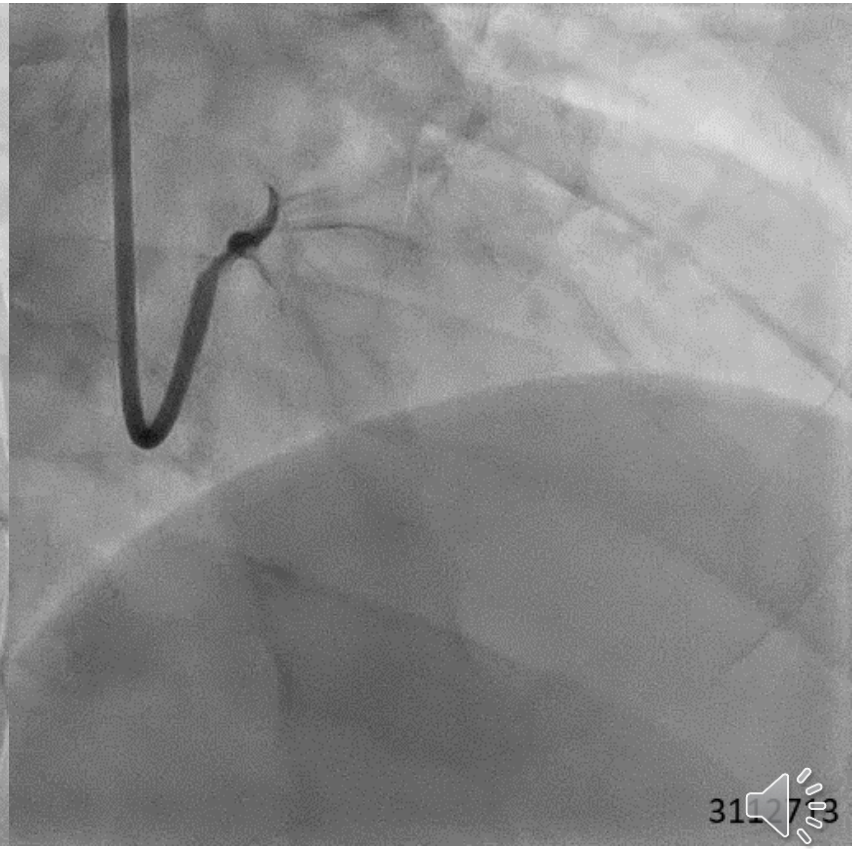
Speaker's name : Yoshinobu Murasato

☑ I do not have any potential conflict of interest to declare

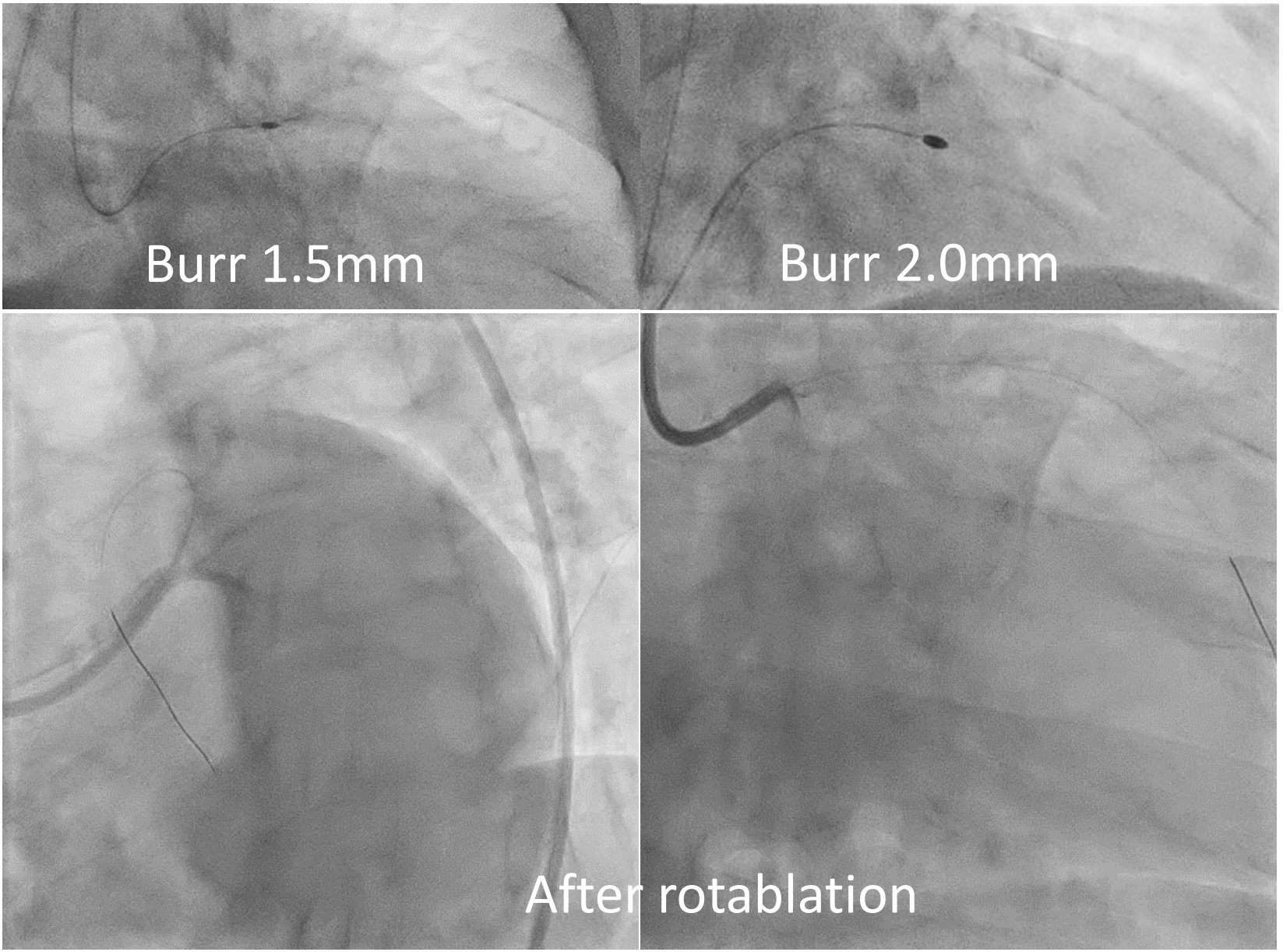
Case: 60y.o. male, Silent myocardial ischemia

The patient had been suffered from numbness and pain in upper extremities due to posterior longitudinal ligament ossification in cervical spine and planned to undergo the operation. Although he had not felt chest symptom, ECG showed ischemic ST-T change in chest leads and UCG showed hypokinesis of anterior wall. Left CAG showed 75% stenosis in LM, diffuse calcified lesion in LAD and diffuse lesions in diagonal and Ramus branches. Right CAG showed no significant stenosis.

Risk factors: HT, DM, DLp

Rotablation



Severe calcified lesion in the LAD was ablated with burrs of 1.5 and 2.0mm, subsequently.

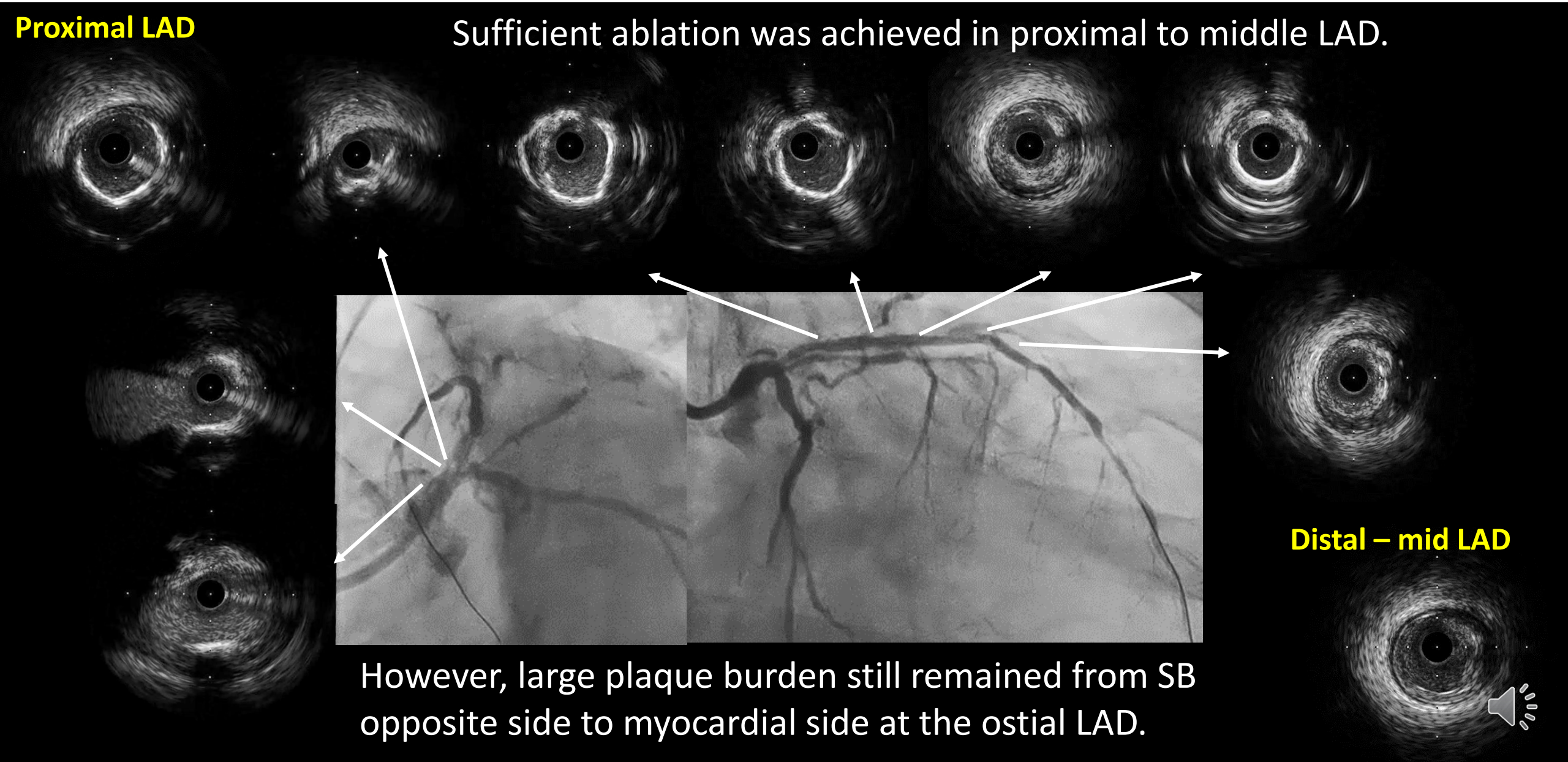
However, ostial LAD lesion had not yet been modified sufficiently.

Approach: Rt femoral, 8Fr
GC: Roadmaster CL3.5-SH
GW: Rota floppy, Abyss support

IVUS post-rotablation

Proximal LAD

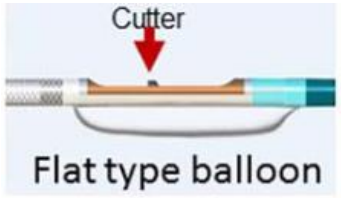
Sufficient ablation was achieved in proximal to middle LAD.



Distal – mid LAD

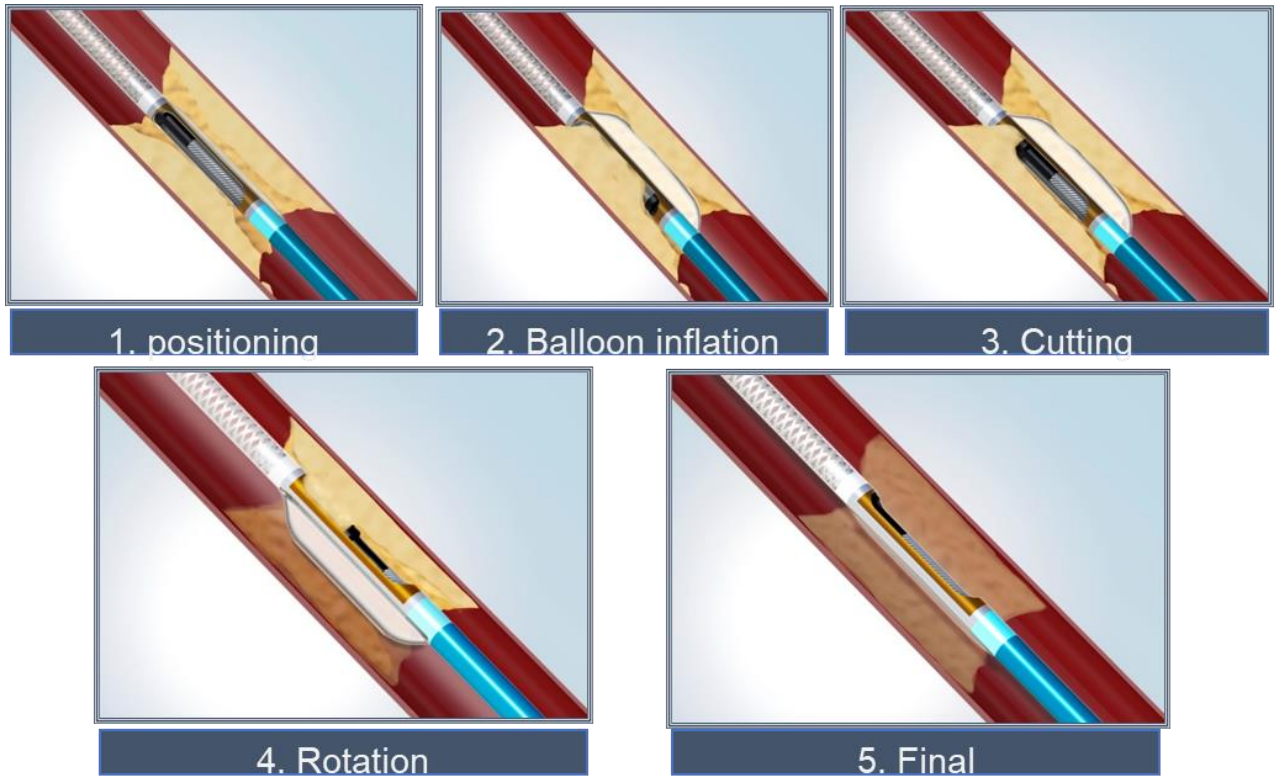
However, large plaque burden still remained from SB opposite side to myocardial side at the ostial LAD.

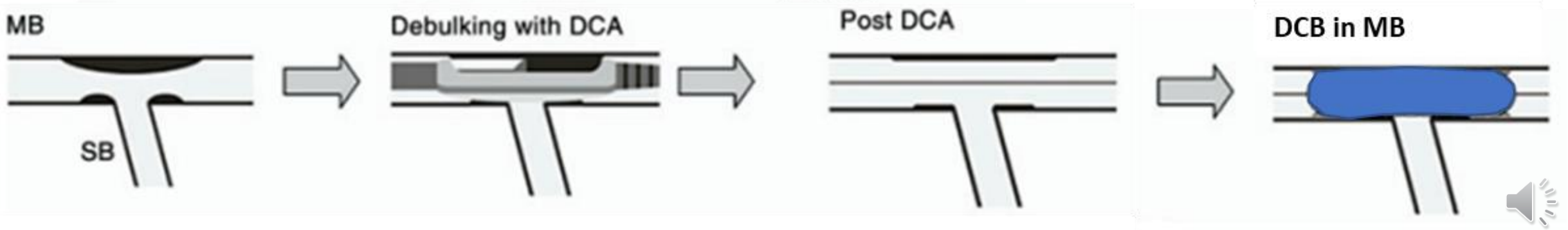
Stent-less treatment in LM bifurcation: Directional Coronary Atherectome (DCA) + DCB



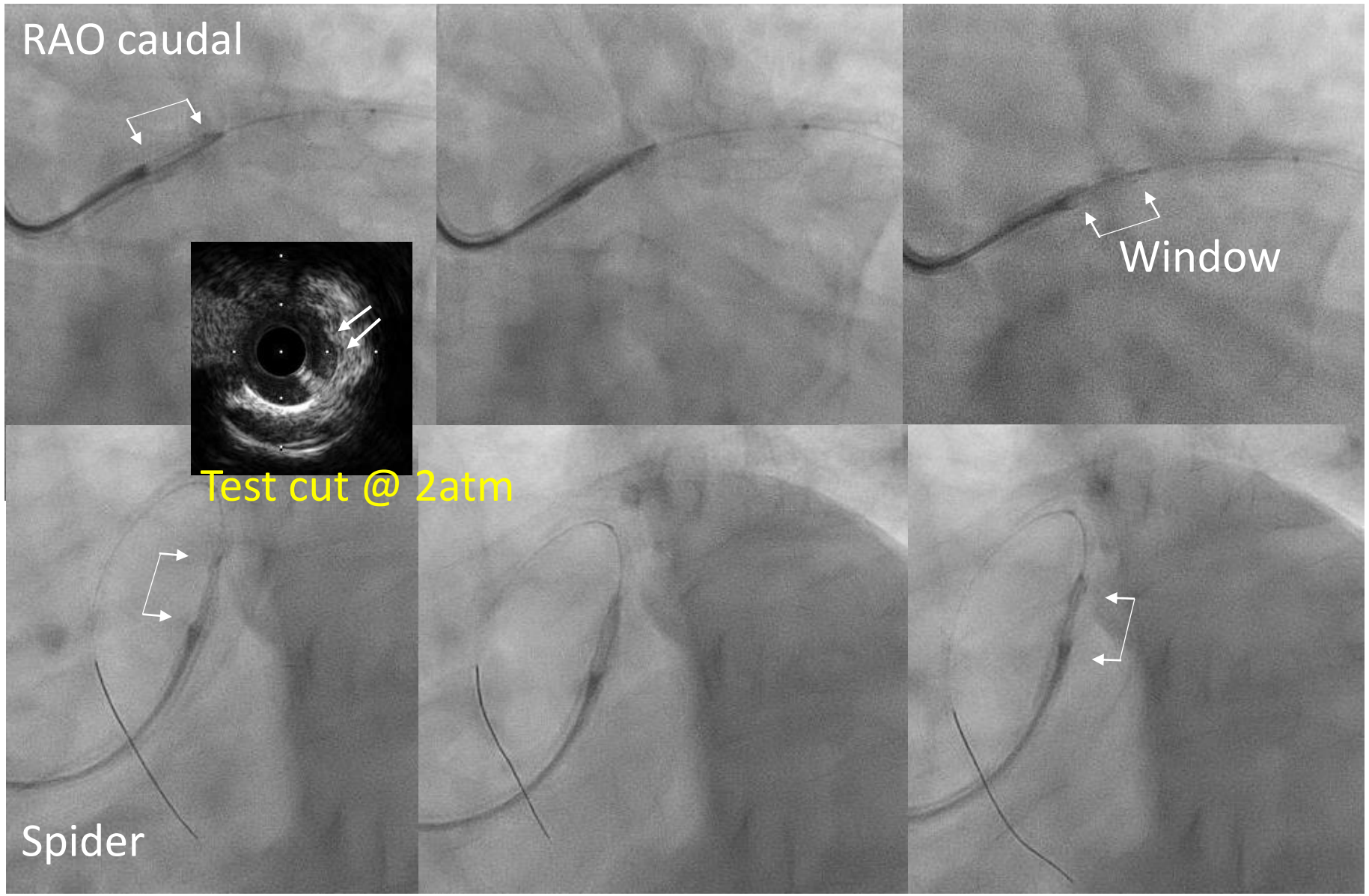
Atherocut (Nipro)

Complex stenting in LM should be avoid in a pre-operative patient. DCA+DCB is a good option for stent-less treatment in LM bifurcation.



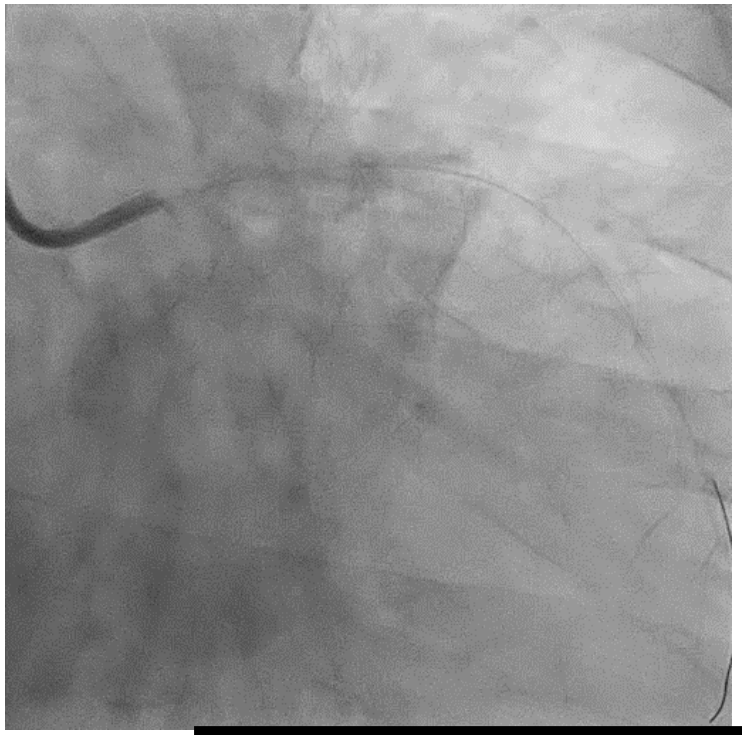


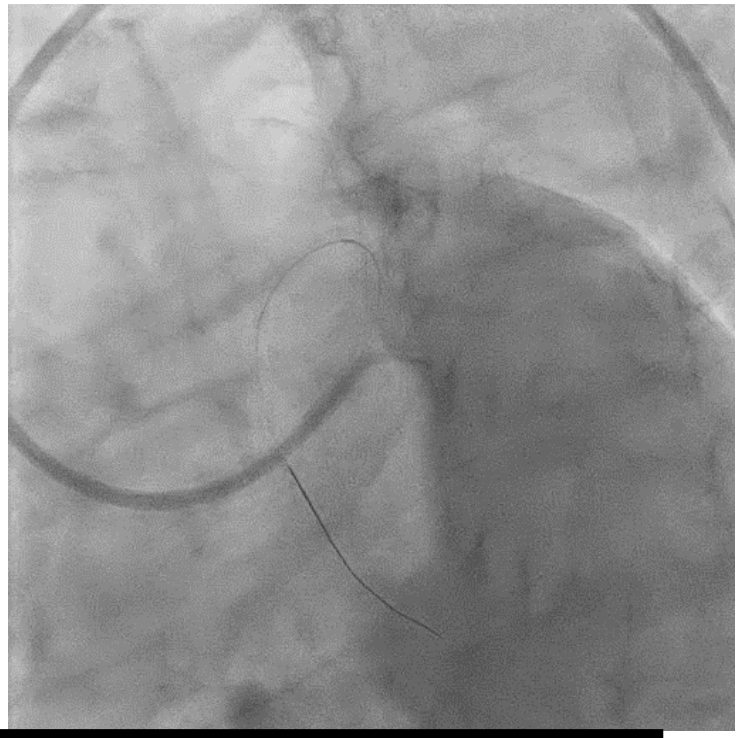
Directional Coronary Atherectomy (DCA)

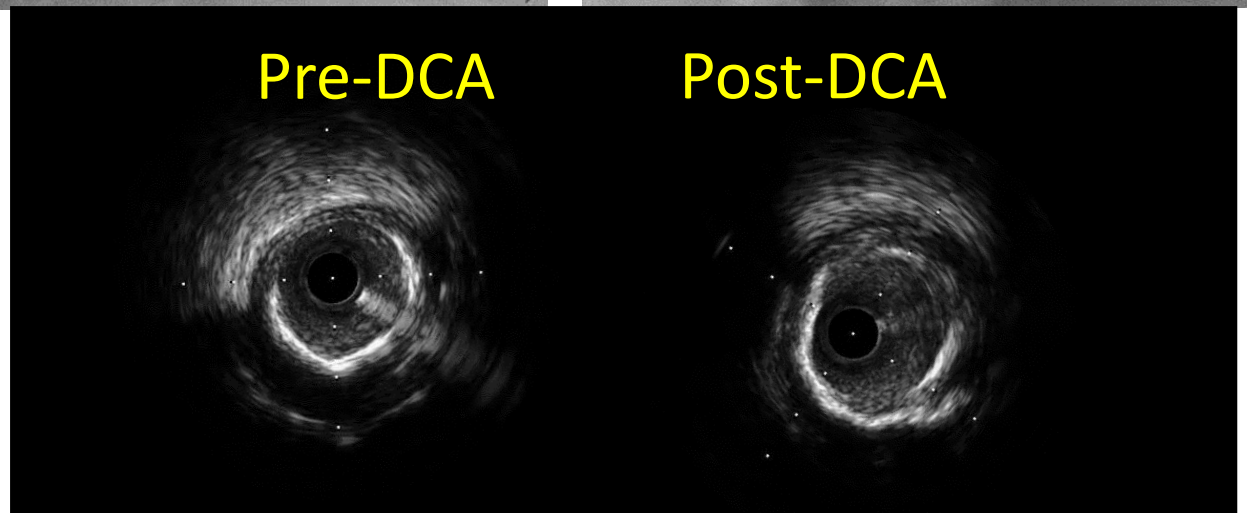


Clock-wise rotation of the catheter led to effective debulking the plaque.

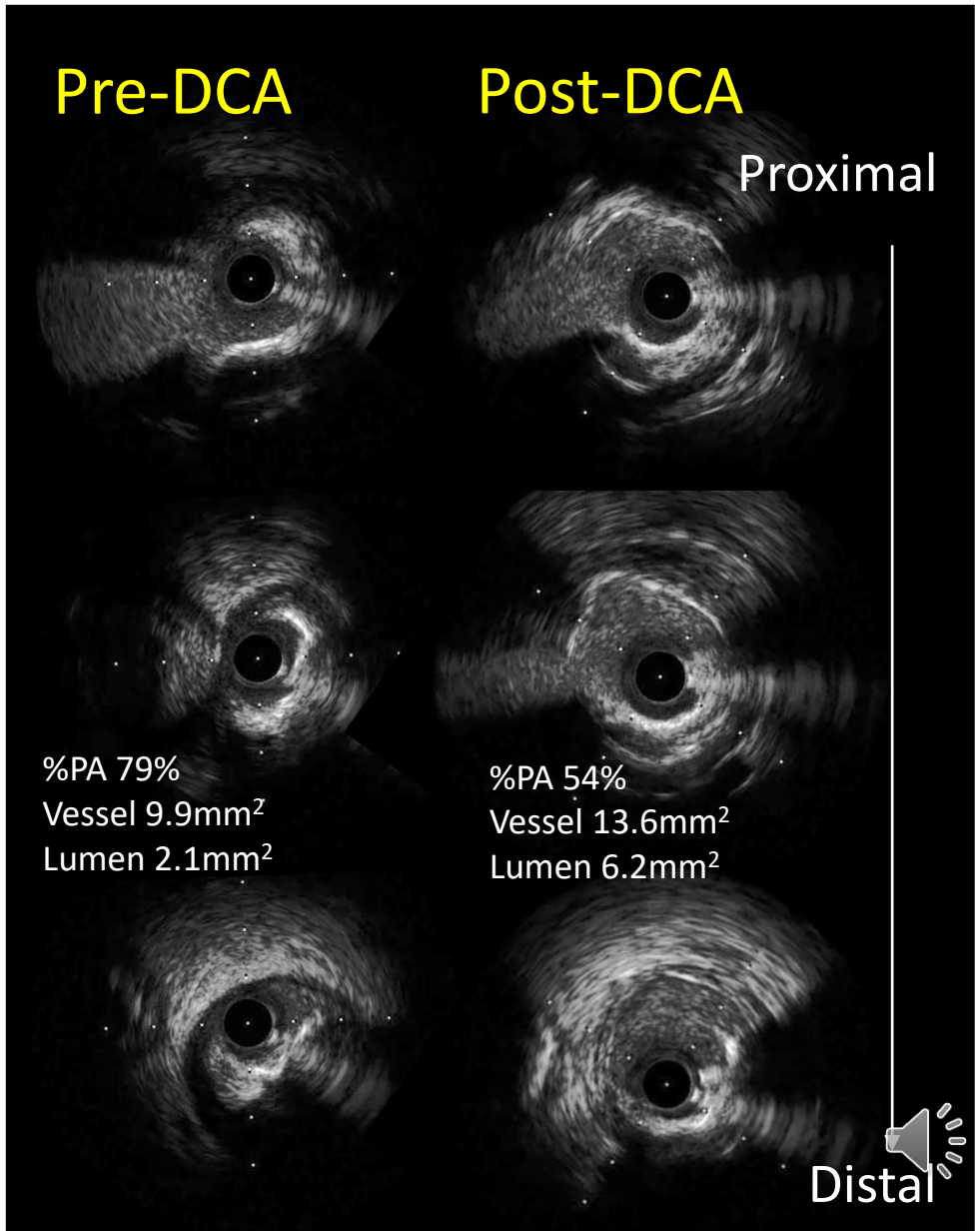
DCA effectively worked for the ablation of plaque in ostial LAD with reduction of % plaque area (PA) from 79% to 54%.



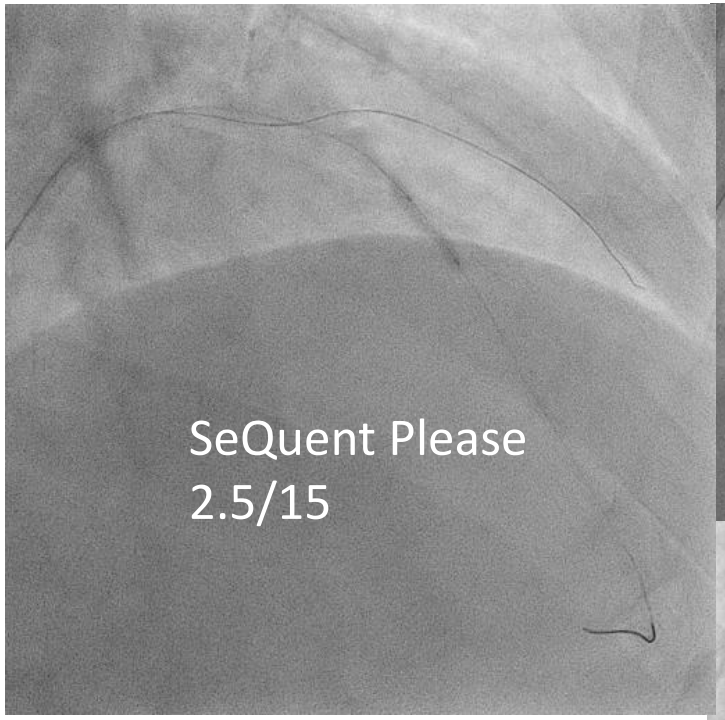


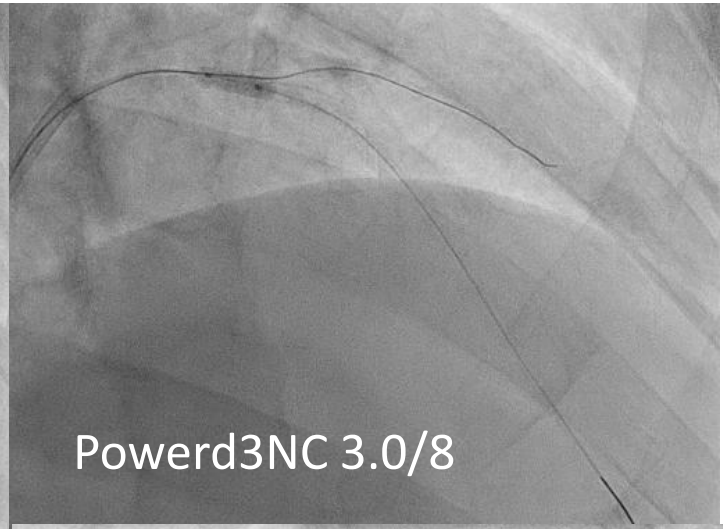


Post DCA

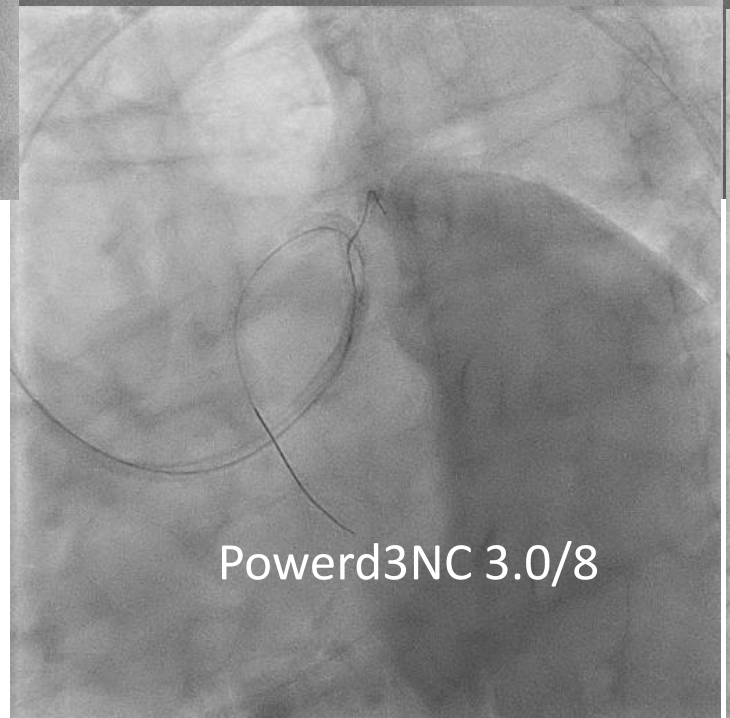


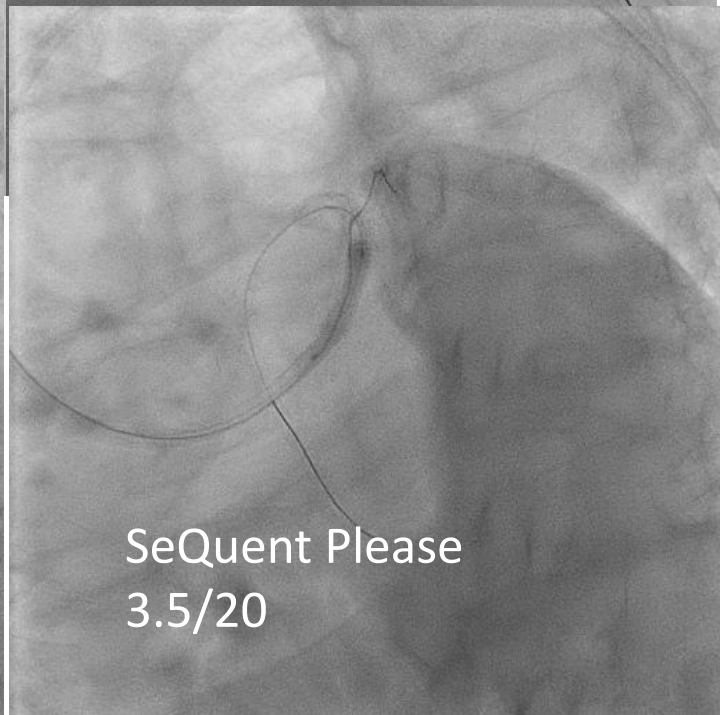
DES deployment was limited in mid LAD-Dx bifurcation.



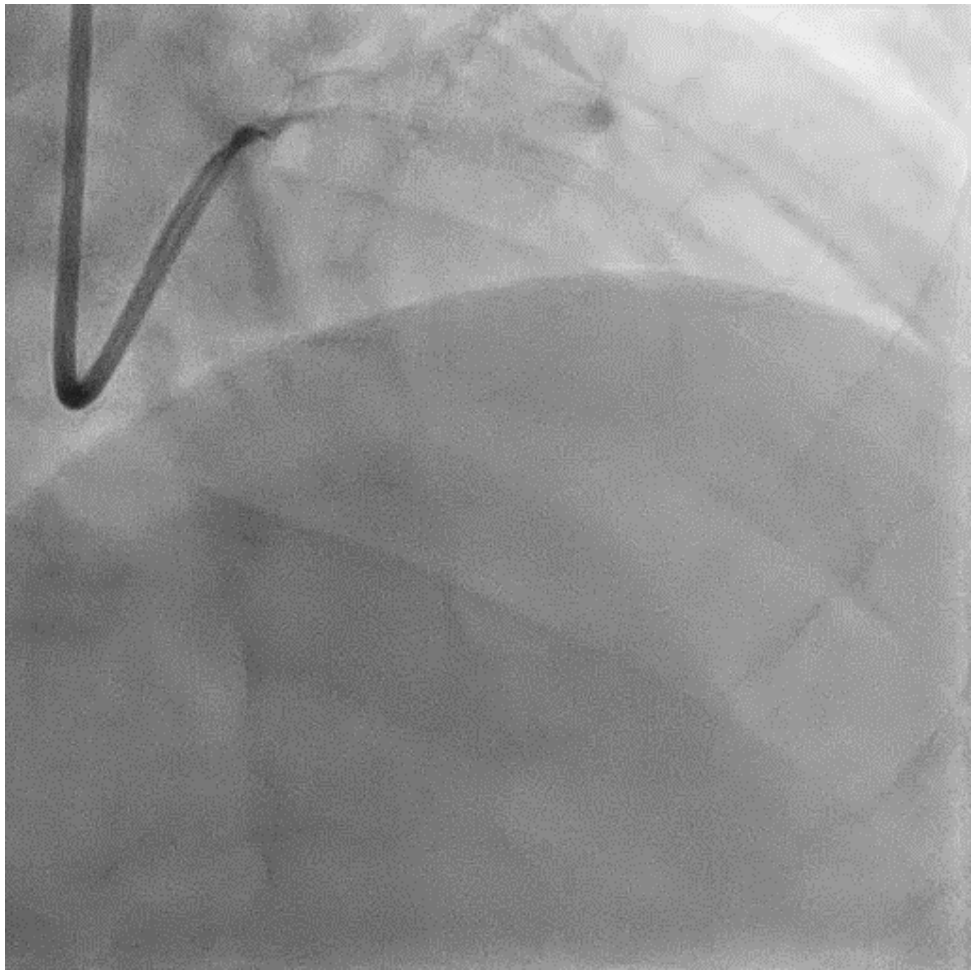


Proximal and distal LAD were treated with DCB.





Final CAG



Revascularization in LM-LAD was completed, that was enough to tolerate systemic anesthesia. The patient was sent to surgery after 1mo DAPT and it was safely completed.

Conclusion

- In a pre-operative patient with severe symptom of cervical spine disease, severe coronary stenoses were found in LM and LAD.
- Severe calcified lesion was treated with rotablation, however, highly stenotic ostial LAD lesion still remained.
- Subsequent treatment with DCA followed by DCB under the IVUS guidance was safely performed and effective to avoid complex LM stenting which required long-term dual anti-platelet therapy.
- Stent-less procedure with DCA followed by DCB in the LM bifurcation lesion is a safe and feasible treatment for a pre-operative patient.