

65yrs old lady an old case of CAD with Anterior wall myocardial infarction on medical management presented with class III angina and dyspnea. Evaluation revealed LVEF of 35% on echocardiography with hypokinetic LAD territory. Her CAG revealed Left main with triple vessel disease with LM distal 30% and Ostio-proximal LAD severely calcific 80% lesion, Mid LAD angulated and tortuous 90% lesion. LCX-non dominant distal -CTO and RCA-dominant distal discrete 90% lesion. She was planned for PCI to RCA,LAD and medical management for LCX-CTO lesion.

Initially, her RCA lesion was addressed and then PCI to LAD attempted. Wire crossed in the mid LAD angulated lesion with difficulty and Mid LAD lesion sequentially dilated with semi -compliant followed by Non-compliant balloon(0.85X10 Nic Nano, followed by 1.25X12 Semi compliant balloon,1.5X10 Semi compliant balloon, 2.5X10 non compliant balloon ,3.0X10 Semi compliant balloon), encountering difficulty every time in crossing the larger balloon due to extreme tortuosity and angulation. (Initially Rota-ablation was not considered in view of severely angulated lesion). As no balloon was crossing the lesion second time once used, it was decided to abandon the procedure in favor of stenting at later date in Mid LAD and PCI in Proximal LAD.DEB was also not considered due to its bulky profile, so we planned to attempt PCI to LAD again after 30 days with use of plaque modification tools in proximal and mid LAD lesion.

After a period of 45days, check angiogram revealed significant improvement in MID LAD luminal area which was now looking noncritical. So, It was decided to address the proximal calcified LAD lesion only with Orbital atherectomy under OCT guidance. Pre PCI OCT revealed proximally calcified lesion with calcium score of 4, so we decided do use orbital atherectomy for plaque modification. We did multiple runs of Orbital atherectomy at 80K RPM. Post atherectomy OCT pullback showed some plaque shaved off with mild gain in luminal area. After that lesion was post dilated with NC balloon 3.5X10 at high pressure followed by OCT pullback. OCT revealed that calcium was still present at ostial LAD without significant modification, so we decided to prepare the bed with IVL. IVL was performed with 3.5 x 12 balloon following which OCT pullback revealed significant calcium cracks/fractures.

After that we deployed 3.5X23 DES in LM-LAD, followed by post dilation with non-compliant balloon 3.5X10 and POT with 4.5X 8 in LM stented segment. Final OCT pullback was taken which revealed 98 % Expansion, LAD MSA-9.80mm² , LM MSA -12.50mm² with TIMI III flow in LAD.