

1028 Real time IVUS guided ostial LAD stent positioning during zero contrast percutaneous coronary intervention

A 74 year old chronic kidney disease (CKD)- stage IV patient with the estimated glomerular filtration rate (e-GFR) of 18ml/min/1.73m² developed anterior wall myocardial infarction. He was treated with standard of care but thrombolysis and referred to our institute. He underwent coronary angiogram which showed 90% stenosis of proximal left anterior descending coronary artery (LAD) at the major diagonal (D) bifurcation. Standard periprocedural hydration protocol was followed. The left ventricular ejection fraction was 38%. The Mehran's risk score was 12, which predicts 26.1% chance of developing contrast induced acute kidney injury and 1.09% chance of requiring dialysis. Hence zero contrast percutaneous coronary intervention (PCI) using intravascular ultrasound (IVUS) guidance was planned after a week as the patient was stable.

PCI was done through right femoral artery access with an 8F sheath. A 8F Judkins left 3.5 guide catheter was used to engage the left coronary artery. Guide engagement was confirmed by the synchronized movement of guide with cardiac movements and passage of a 0.014" balanced middle weight (BMW) wire into the LAD course. LAD, D and left circumflex (LCX) were wired with three BMW wires to create a metallic silhouette. Predilatation was done using 2 x 10 mm tazuna at 8 atm and IVUS pullback from distal LAD to ostial LMCA was done. IVUS showed fibrotic plaque with distal reference diameter of 2.75mm, proximal reference diameter of 3 mm and the length need to be stented as 26mm. A 2.5 x 10 mm non compliant (NC) balloon dilatation at the lesion site was done at 14 atm. As the clean proximal reference was at the LAD ostium, it was decided to place the stent at the same place. Stent was positioned precisely at the LAD ostium using real time IVUS at the LCX ostium and deployed at 12 atm. IVUS run was done for LAD which showed well apposed at distal edge, malapposition at proximal edge and under-expansion at the lesion site. Post dilatation was done using 3 x 10mm NC balloon at 20 atm. Final IVUS run showed well expanded and apposed stent struts without any complications. Check angiogram was done in two views finally for insurance purposes. At one month follow-up patient neither experienced MACE nor required dialysis.