

IMAGING GUIDED PCI WITHOUT STENT IN A YOUNG MALE PRESENTING WITH HEART ATTACK

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A 21 year old male, with family history of premature coronary artery disease presented to ER with acute chest discomfort that began 4 hours prior to arrival. ECG showed ST elevation in leads v1 – v4 with RBBB and reciprocal changes in inferior leads. 2D Echocardiogram showed hypokinetic anterior wall, septum and LV apex with moderate LV dysfunction (EF 45%). After stabilisation, Coronary Angiogram was performed which showed 100% occluded proximal LAD. Other vessels were unremarkable. Thrombus aspiration of LAD was done and TIMI III flow established. OCT (optical coherence tomography) showed plaque erosion with red thrombus and fibrofatty plaque in the mid LAD. Therefore it was decided not to deploy stent and to treat conservatively in this young patient. He received antiplatelets and anticoagulation during hospital stay for 3 days and discharged with single antiplatelet and NOAC (rivaroxaban) besides other medication.

Repeat Coronary angiogram was performed after 4 weeks which showed mild atheroma of mid LAD. OCT showed complete resolution of thrombus. Rivaroxaban was stopped and antiplatelet therapy was de-escalated.

This case is an example of how intracoronary imaging helps in avoiding stenting in certain conditions, such as plaque erosion causing thrombotic occlusion, especially in young people, thereby avoiding long term antiplatelets or any stent related complications. The most common intracoronary imaging modalities used in day to day practice are IVUS (intravascular ultrasound) and OCT. Studies have shown imaging guided PCI is superior to angiography guided PCI. Imaging guidance has many advantages starting from lesion assessment, appropriate stent sizing, optimisation to identifying stent related complications accurately, thereby avoiding repeat revascularisation.

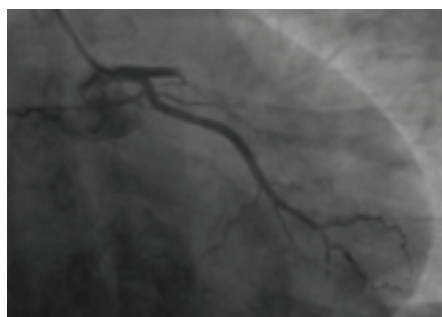


Figure 1 – 100% occluded proximal LAD



Figure 2 – TIMI III flow after thrombus aspiration

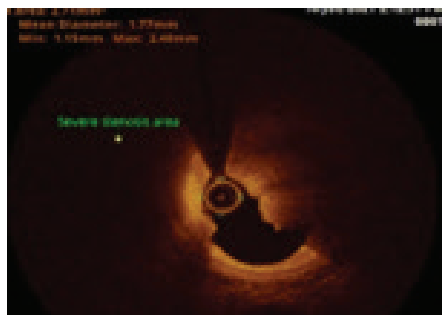


Fig 3- OCT image showing red thrombus in LAD protruding into the lumen

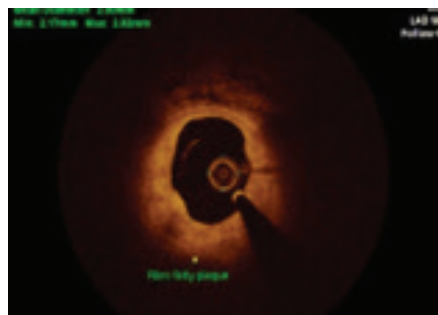


Fig 4- OCT at 4 weeks – mild plaque with no residual thrombus

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