



Research Letter

Utility of OCT In a patient with chronic stable angina— “All that is seen using dye is not true”



Coronary angiogram is still considered the gold standard imaging modality to study the anatomy of coronary arteries.¹ It assesses two dimensional anatomy of coronary arteries which is one of its inherent limitations.² Utility of sound waves in intravascular ultrasonogram (IVUS) and infra red waves in optical coherence topography (OCT) have allowed interventional cardiologists to assess and interpret the coronary anatomy better especially if the angiogram is equivocal.³ Optical coherence topography, with its excellent spatial and temporal resolution, provides images of exceptional qualities to identify the characteristics of plaque and to assess the results of interventions.⁴ A 56 year old male presented to us with recent worsening of exertional angina. He was diagnosed to have non ST elevation myocardial infarction (NSTEMI) 5 years ago. He underwent angiogram elsewhere, and was diagnosed to have spontaneous coronary artery dissection in left anterior descending artery (LAD). He was started on maximal medical therapy. He was doing fine till 3 months ago, when he started having exertional angina for which an exercise stress test was done which was found to be positive for stress induced ischemia at moderate workload. An Angiogram was repeated. It revealed significant left anterior descending artery (LAD) disease astride first septal and diagonal artery with translucencies across the entire segment of lesion (Fig. 1 and Videos 1 and 2 in Supplementary materials) along with mild disease in left circumflex and right coronary arteries. It also

showed bridging collaterals like vessels running across the lesion. Hence possibility of recanalised thrombi or spontaneous coronary artery dissection was kept. Optical coherence topography(Dragonfly imaging catheter, Ilumien, system St Judes, USA) was used to

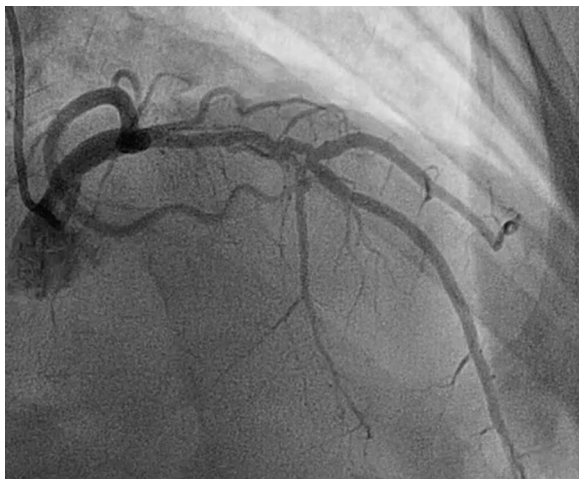


Fig 1. Right anterior oblique with cranial angulation of left coronary artery showed significant left anterior descending artery disease astride first septal and diagonal artery with translucencies across the entire segment of lesion.

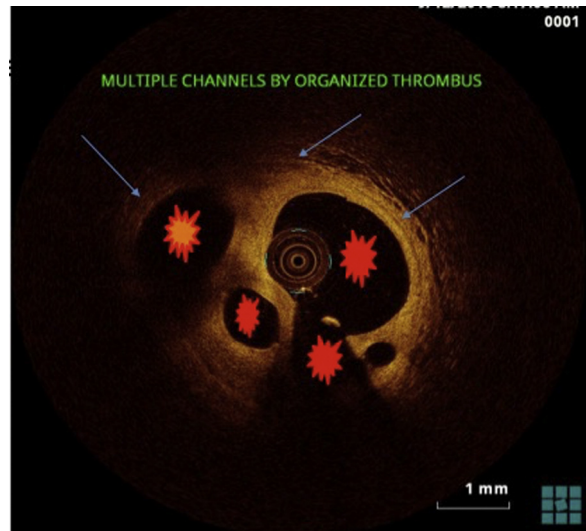


Fig. 2. It shows multiple well circumscribed lumens with intact tri-structure of vessel wall in its distal segment suggestive of recanalised thrombi.

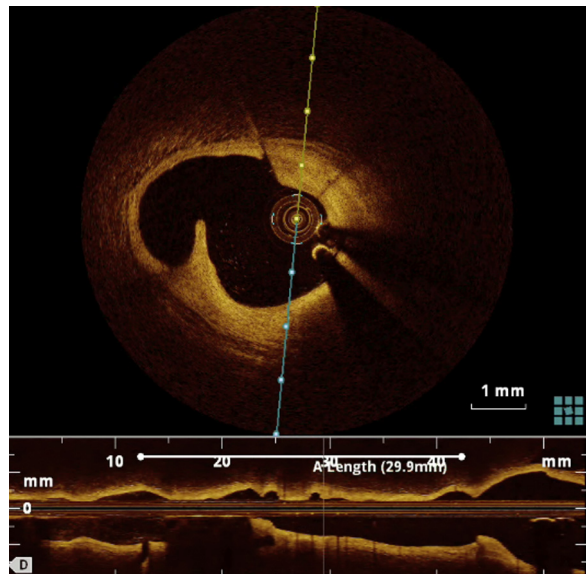


Fig. 3. It showed disruption of vessel wall at the proximal end which was suggestive of a dissection flap.

identify the nature of the lesion in LAD. It showed significant plaque burden at lesion site with multiple well circumscribed lumen with intact tri-structure of vessel wall in its distal segment suggestive of recanalised thrombi (Fig. 2 and Video 3 in Supplementary materials). It also revealed disrupted vessel wall at the proximal end suggestive of a dissection flap (Fig. 3 and Video 3 in Supplementary materials). He underwent a successful OCT guided percutaneous coronary intervention (PCI) with good result (Fig. 3, Videos 4–6 in Supplementary materials). He remains asymptomatic one year after the procedure. This report highlights the utility of image guided PCI in circumstances where angiogram is dubious. Hence “all that is seen using dye is not true”. We need to use imaging modalities in such situations.

Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <https://doi.org/10.1016/j.ihj.2017.11.008>.

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