Seeing Is Believing: Optical Computed Tomography (OCT) and Histologic Analysis To Define Pathophysiology Of “Very”, Very Late Stent Thrombosis Occurring More Than 7 Years After Drug Eluting Stent Implantation

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Case Presentation

- 58-year-old male with prior non-ST elevation MI with PCI performed using a sirolimus eluting stent placed in a large OM1 branch 86 months prior presented with five hours chest pain similar to prior MI >7 years earlier.
- Additional history of hypertension, hyperlipidemia, non-compliance with antiplatelet therapy and active tobacco abuse at time of presentation.
- Patient reported self-discontinuation of medications (aspirin (time unknown), statin, beta blocker) and resumed smoking.
- Clopidogrel was discontinued by his primary physician 97 days prior to presentation.
- Initial electrocardiogram revealed a lateral ST elevation MI and the patient was taken to the cardiac catheterization lab for urgent coronary angiography.

Conclusions

- We demonstrate a case of “very” very late stent thrombosis (VVLST) presenting beyond 7 years after initial implantation of first-generation DES related to non-compliance with antiplatelet therapy and non-adherence to smoking cessation.
- OCT analysis was critical for assessing lesion characteristics and confirming adequate stent apposition during the case without need for additional stent placement.
- Histologic analysis of extracted thrombus demonstrated platelet abundance.
- Prior case series of 7 patients demonstrating “very” very late stent thrombosis at our institution was limited by a lack of imaging and histologic analysis to define the mechanism of stent thrombosis which we demonstrate in this case.