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Optical coherence tomography definite plaque erosion causing non ST-segment elevation myocardial infarction imaged by intracoronary multi modalities including near infrared spectroscopy

A 59-year old man presented to the emergency department with non ST-segment elevation myocardial infarction. He was referred for urgent coronary angiography, which showed 90% stenosis in the proximal left anterior descending artery. We utilized multi modalities to assess the morphology of culprit lesion. Frequency domain optical coherence tomography (OCT) documented a small thrombus and no fibrous cap disruption. Culprit lesion was mainly composed of fibrous plaque and without acute signal drop. Coronary angioscopy demonstrated white plaque with a small red thrombus. Near infrared spectroscopy (NIRS) showed almost “zero” lipid core burden index (LCBI). Gray-scale intra vascular ultrasound presented high echoic plaque which may represent a fibrous plaque in general. Based on OCT and CAS findings, pathogenesis of coronary thrombus, was thought to be plaque erosion. We performed percutaneous coronary intervention (PCI) and he had a good clinical course after PCI. It was reported that plaque erosion accounts for 30% of underlying of pathogenesis of acute coronary syndrome. In this case, we observed OCT-defined plaque erosion by using NIRS, which help understand on coronary morphology of plaque erosion.